LABORATORY TEST INFORMATION GUIDE

AN ALPHABETICAL LISTING OF TESTS WITH PROTOCOL INFORMATION

JAN 2013

USING THE LABORATORY TEST INFORMAION GUIDE

Content Provided Within Guide: Includes MAMC "In-House" tests as well as frequently performed tests done by Quest Diagnostics and other testing labs for the Madigan Healthcare System. It would not be practical to attempt to list all commercial testing available and therefore only frequently requested send-out test are listed within this guide. Contact this lab, Quest Diagnostics, and/or other testing labs for tests and information not found within this guide.

Laboratory Test Information Provided

- **Test Name** – The CHCS test name will also be given if different that display name.
  - If the test is a panel (comprised of multiple test components), the "P" symbol will be displayed after the name in this guide. This symbol can be found displayed with "in-house" tests as well as combined with other symbols for send-out tests.
  - The majority of Send-out testing is done at Quest Diagnostics. If test displayed is a Quest Diagnostics test, the "Q" symbol will be displayed.
  - Other symbols displayed that make up the remaining total send-out labs used by MAMC:
    - CH - Children's Hospital
    - UW - University of Washington
    - G – Genzyme Genetics
    - TG – Tacoma General
    - SG – Signature Genomic
    - O – "Other" could indicate any of the following: AFIOH, Athena, BAMC, HIV Diagnostics, Keesler AFB, National Medical Services, Oregon State Public Health Laboratory, St. Josephs, USACHPPM, Washington State Public Lab or others. The exact testing location will be provided in the administrative text for that respective test.

Note: Tests are orderable in CHCS either under the same Quest name or under another similar name. For tests not found in CHCS, the test must be ordered under test name: **MISCELLANEOUS SHIPPING**. It is imperative that the name of the test being requested is entered at the prompt to "Enter comment for Miscellaneous Referral Test", otherwise the test and samples cannot be collected and processed.

- **Synonyms** – Alternate names by which a test may be known by but more used to find/search for a test within CHCS. Commom synonyms also appear in the Alphabetical/Cross-Reference Index for convenience in locating a test by an alternative name that is not necessarily listed by that name within CHCS.
- **CHCS IEN** – Internal Entry Number specific to that respective test; used in Composit Healthcare System as an identifier for all tests available in CHCS.
- **Test Code** – Indicates that test is shipped and performed at Quest Diagnosics. This test code is displayed for ease of locating and identifying a specific test in the Quest catalog and/or Quest website.
- **Components** – A listings of all tests included in a panel. Panel Component tests may include: orderable tests and/or non-orderable tests, confirmatory tests, calculated tests and/or even other panels.
- **Container** - Type of container or Color-coded container (includes appropriate preservative, anticoagulant, or other medium) into which specimens are to drawn, stored and/or transported. May also list alternate container types.
- **Specimen & Volume Required** – The specific preferred specimen type and alternate specimen type required. Provide volume and minium volume of specimen material collected to perform a particular test.
- **Instructions** – Provides Patient Preparation, Collection Procedures, Specimen Processing and Transportation / Storage Temperature
- **Rejection Criteria** – Critical factors that impact specimen integrity and/or accuracy of test results therefore causing rejection of specimen.
- **Administrative Notes**: Provides the following:
- Testing location and Methodology
- Ordering methods and forms required
- Test availability- Average time interval that normally takes for a specific test procedure to be completed based on factors such as: processing time, available ordering priority for that test, batch testing frequency, location of testing and methodology used, growth of organisms, shipping time,

	confirmatory testing and any other factors affecting testing. • Turn-around Time (TAT)- The approximate time for the test procedure to be completed and results reported and/or entered in the patient's electronic record. • **Interpretive –**Any MAMC established reference ranges, Panic Values, Critical Values ranges will be displayed here. Please reference test reference ranges, panic values and critical values provided simultaneously with test results given and maintained in the patient's electronic record (CHCS). A Clinical Significance is also given here in varying degrees. Please note that the Clinical Significance provided here should by no means be the only source of medical diagnostic information that the HCP utilizes for ordering a test, interpretation of test results and subsequent treatment of the patient.

1,25-DIHYDROXY VITAMIN D

Order Note: Do not order **1,25-Dihydroxy Vitamin D** to determinee Vitamin D status. It is a poor indicator of vitamin D status due to its short half-life and the regulatory influence of parathormone, calcium and phosphate. **25-HYDROXY VITAMIN D** is the correct choice for determineing Vitamin D status as it has a 15 day half life and reflects Vitamin D availability.
Synonyms: VITAMIN D, 1,25-DIHYDROXY LC/MS/MS (Quest Name)
CHCS IEN: 2279
Test Code: 16558
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw. Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL / 2 mL Serum
Minimum volume: 1 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport and ship at room temperature. Specimen Stability: 28 days at room temperature, 28 days 2-8 °C, 28 days Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **1,25-DIHYDROXY VITAMIN D**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

10-HYDROXYCARBAZEPINE

Synonyms:
CHCS IEN: 6183
Test Code: 36637
Components:
Container (Preferred/Alternate): Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL / 1 mL Serum
Minimum volume: 0.25 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship specimen on cold packs at 2-8 °C. Specimen Stability: 72

hours at room temperature, 14 days 2-8 °C, 60 days Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **10-OH CARBAZEPINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:

Clinical Significance:

17-HYDROXYPREGNENOLONE (LC/MS/MS) Q

Synonyms:

CHCS IEN: 1875

Test Code: 8352

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 2 mL Serum

Minimum volume: 0.4 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 24 hours at room temperature; 5 days at 2-8 ºC; 28 days frozen.

Rejection Criteria: Plasma, SST ® tubes

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

Order Method: CHCS order entry under: **17-OH PREGNENOLONE**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up Tues, Fri p.m.; Report available Thurs-Sat, Mon, Tue

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: 17-Hydroxypregnenolone is useful in the diagnosis of 3-Beta-Hydroxylase enzyme deficiency, a rare cause of congenital adrenal hyperplasia, and 17-Hydroxylase (P450c17) enzyme deficiency. Infants with 21-hydroxylase deficiency may present with non-elevated results.

17-KETO W/ CREATININE, 24 HOUR URINE Q

Synonyms:

CHCS IEN: 1874

Test Code: 15201

Components:

Container (Preferred/Alternate): 24 hour urine container(s) with lid. Ship in plastic urine container with screw-top cap

Specimen and Volume Required

Type(s): Urine/24 hour

Volume: 20 mL of 24 hour urine.

Minimum volume: 10 mL

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.

Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Collect with 10 grams boric acid or 25 mL 50% acetic acid or 30 mL 6N HCl to maintain pH below 7.5

Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE while collecting specimen. Specimen container should be transported to the lab on ice. Ships to Quest refrigerated on cold packs at 2-8 °C. Specimen Stability: 8 hours at room temperature, 7 days 2-8 °C, 30 days Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **Q 17-KETOSTEROIDS TOTAL (U)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

17-OH PROGESTERONE Q

Synonyms: 17-OHPROGEST.LC/MS (Quest Name)
CHCS IEN: 1874
Test Code: 17180
Components:
Container (Preferred/Alternate): Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL / 1 mL Serum
Minimum volume: 0.25 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship serum on cold packs at 2-8 °C. Specimen Stability: 48 hours at room temperature, 7 days 2-8 °C, 2 years Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **17-OH PROGESTERONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

25-HYDROXY VITAMIN D

Order Note: **25-HYDROXY VITAMIN D** is the correct choice for determineing Vitamin D status as it has a 15 day half life and reflects Vitamin D availability. Do not order **1,25-DIHYDROXY VITAMIN D** to determine Vitamin D status. It is a poor indicator of vitamin D status due to its short half-life and the regulatory influence of parathormone, calcium and phosphate.
Synonyms: Vitamin D, 25-Hydroxy
CHCS IEN: 3737
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation). Ship serum in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Fasting preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately. Must separated from Serum Separator Tube (SST ®) gel or clot within 48 hours.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship serum on cold packs at 2-8 °C . Specimen Stability: 7 days at 2-8 °C, 1 year Frozen at -20 C.
Rejection Criteria: Gross hemolysis, Gross lipemia, Heparinized or EDTA plasma, Serum not separated from Serum Separator Tube (SST ®) gel or clot within 48 hours
Admin Notes
Testing Location/Methodology: Special Chemistry Section, MAMC
Order Method: CHCS order entry under: **25-HYDROXY, VITAMIN D**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24/7
TAT: Routine
Interpretive
Reference Range: Endocrine Society consensus guidelines for Vitamin D status- Sufficiency: Greater than or equal to 30 ng/mL; Insufficiency: 10-29 ng/mL; Deficiency: Less than 10 ng/mL; Potential Toxicity: Greater than 100 ng/mL .J Clin Endocrinol metab. 2011; 96(7): 1911-1930.
Critical Value:
Clinical Significance: Measurement of serum 25-OH vitamin D concentrations provide a good index of circulating vitamin D activity in patients not suffering from renal disease. Lower than normal 25-OH vitamin D levels can result from a dietary deficiency, poor absorption of the vitamin or impaired metabolism of the sterol in the liver. A 25-OH vitamin D deficiency can lead to bone diseases such as rickets and osteomalacia. Above normal levels can lead to hypercalcemia. This assay employs liquid chromatography tandem mass spectrometry to independently measure and report the two common forms of 25-hydroxy vitamin D: 25OHD $_3$ the endogenous form of the vitamin and 25OHD $_2$ - the analog form used to treat 25OH vitamin D $_3$ deficiency.

5-HYDROXYINDOLEACETIC ACID (5-HIAA), 24-HOUR URINE Q
Synonyms:
CHCS IEN: 2572
Test Code: 523
Components:
Container (Preferred/Alternate): 24 hour urine container(s) with lid. Plastic urine container with screw-top cap.
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 10 mL of 24 hour urine
Minimum volume: 4.5 mL
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. Patient should avoid food high in indoles, avocados, banana, tomato, plum, walnut, pineapple, and eggplant. Patient should also avoid tobacco, tea and coffee 3 days prior to specimen collection.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Collect urine with 25 mL 6N HCL to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and sample is shipped frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE specimen while collecting. Specimen container should be transported to the lab on ice. Ships to Quest at room temperature if urine preserved; Ship frozen if unpreserved. Specimen Stability: 1 week at room temperature, 30 days 2-8 °C, 1 month Frozen.
Rejection Criteria: Unpreserved urine shipped at room temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **Q 5-HIAA QUANT 24 HR URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance:

5' NUCLEOTIDASE Q

Synonyms:
CHCS IEN: 4996
Test Code: 671
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; 7 days at 2-8 ºC; 14 days frozen.
Rejection Criteria: Room Temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Colorimetric, Kinetic
Order Method: CHCS order entry under: **5'-NUCLEOTIDASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 0-10 U/L
Critical Value:
Clinical Significance:

A-1-ANTITRYPSIN

Synonyms: A1A, AAT
CHCS IEN: 3247
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store refrigerated at 2-8 °C
Rejection Criteria: Gross Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **A-1-ANTITRYPSIN** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	88	183			mg/dL

Critical Value: None
Clinical Significance: Alpha-1-Antitrypsin level may be increased in normal pregnancy and in several diseases including chronic pulmonary disease; hereditary angioedema; renal, gastric, liver and pancreatic diseases; diabetes; carcinomas and rheumatoid disease. Alpha-1-Antitrypsin may be decreased in emphysema, hepatic cirrhosis, respiratory distress syndrome of the newborn, nephrosis, malnutrition and cachexia.

A-2-ANTIPLASMIN ACTIVITY *See:* **ALPHA-2-ANTIPLASMIN ACTIVITY** in this laboratory test information guide.

A/G RATIO *See:* **OB PANEL** in this laboratory test information guide.

ABG *See:* **BLOOD GAS (MAMC)** in this laboratory information guide.

ABL KINASE DOMAIN MUTATION IN CML, CELL-BASE
Synonyms:
CHCS IEN: 2139
Test Code: 16029
Components:
Container (Preferred/Alternate): Lavender-Top tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole or Bone Marrow
Volume: 4 mL whole blood or 2.1 mL Bone Marrow
Minimum volume: 4 mL whole blood/1 mL Bone Marrow
Instructions
Patient Preparation: See appropriate clinical procedure on collection.
Collection: Routine venipuncture procedures. See appropriate clinical procedure on collection of bone marrow. Must indicate specimen type, draw date and time on tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship specimen to Quest immdedately on cold packs at 2-8 °C. Specimen Stability: 3 days at room temperature, 3 days 2-8 °C. DO NOT FREEZE.
Rejection Criteria: When stability of specimen can not be determineed, no time and date of collection recorded.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ABL T315I MUTATION IN CML, CELL-BASE
Synonyms:
CHCS IEN: 2139
Test Code: 19783
Components:
Container (Preferred/Alternate): Lavender-Top tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole or Bone Marrow
Volume: 6 mL whole blood or 3 mL Bone Marrow
Minimum volume: 4 mL whole blood/1 mL Bone Marrow
Instructions
Patient Preparation: See appropriate clinical procedure on collection.
Collection: Routine venipuncture procedures. See appropriate clinical procedure on collection of bone marrow. Must indicate specimen type, draw date and time on tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship specimen to Quest immdedately on cold packs at 2-8 °C. Specimen Stability: 72 hours at room temperature, 72 hours 2-8 °C. DO NOT FREEZE.
Rejection Criteria: When stability of specimen can not be determineed, no time and date of collection recorded.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ABO/RH GROUP - CHCS

Synonyms: ABO group/Rh type; Type, Blood; Blood Type
CHCS IEN: 6458
Components: N/A
Container (Preferred/Alternate): Pink-Top tube (K_2EDTA) 6 mL

Specimen and Volume Required

Type(s): Blood, Cord Blood
Volume: 6 mL
Minimum volume:

Instructions

Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately, if delayed more than 12 hours, specimen must be centrifuged and serum separated from red cells.
Special Instructions:
Transport/Storage Temperature: Specimen must be refrigerated. DO NOT FREEZE. Store Refrigerated 2-8 °C. Specimen kept in blood bank for 1 week.

Rejection Criteria: Frozen specimen, mislabeled specimen, grossly hemolyzed specimen, specimen drawn in a serum separator tube.

Admin Notes

Testing Location/Methodology: Transfusion Service, MAMC
Order Method: CHCS order entry under: **ABO/RH GROUP – CHCS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: *:* Blood Type: A, B, AB, or O Rh: Positive or negative
Critical Value:
Clinical Significance: ABO type and Rh are needed to identify candidates for Rh immune globulin and to assess the risk of hemolytic disease of the newborn.

ABSOLUTE EOSINOPHIL COUNT

Synonyms: ABS EOS
CHCS IEN: 2017
Components:
Container (Preferred/Alternate): Lavender-Top Tube (K_2EDTA) or pediatric bulltet tube (Microtainer)

Specimen and Volume Required

Type(s): Blood/Whole blood
Volume: 3 mL (tube must be filled at least 2/3 of stated volume)
Minimum volume: 250 µL for Microtainer

Instructions

Patient Preparation: None
Collection: Routine venipuncture. Allow vacutainer to draw to the level of its vacuum, not over or underfilling the tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately.
Special Instructions: Specimen must be received within 8 hours of collection. For pediatric EDTA Microtainer, mix blood during collection to ensure anticoagulant is effective***.***
Transport/Storage Temperature: Transport at room temperature. DO NOT FREEZE. Store refrigerated at 2-8 °C.

Rejection Criteria: Mislabeled specimen, Tube not at least 2/3 full, incorrect Tube, clotted

Admin Notes

Testing Location/Methodology: Test performed in Hematology Section, MAMC/
Order method: CHCS order entry: **ABSOLUTE EOSINOPHIL COUNT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours/7days a week
TAT: ASAP, Routine
Other: An automated differential also provides an absolute eosinophil, which is part of test panel: **CBC**

Interpretive

Reference Range: *:*
Critical Value:
Clinical Significance:

ACETAMINOPHEN
Synonyms: Tylenol, APAP
CHCS IEN: 303
Components:
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Pink-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 7 mL
Minimum volume: 3 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion.
Collection: Routine venipuncture. For overdose testing, collect sample 4 hours after dose. Collecting overdose samples for peak values before 4 hours post-ingestion may lead to false interpretation
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Transport to laboratory ASAP.
Special Instructions: Indicate time of ingestion on lab request form.
Transport/Storage Temperature: Transport at room temperature/ Store Refrigerated at 2-8 °C
Rejection Criteria: Improperly labeled specimen; grossly lipemic; hemolyzed specimen.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **ACETAMINOPHEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	10	30		150	µg/mL

Critical Value: Toxic if >150 µg/mL at 4 hours or >50 µg/mL at 12 hours. Hepatotoxicity is seen with serum values greater than 150 µg/mL at 4 hours.
Clinical Significance: Acetaminophen is an analgesic/anti-inflammatory agent that may be hepatotoxic when ingested in quantities exceeding 150 µg/mL

ACETYLCHOLINE RECEPTOR ANTIBODY Q
Synonyms:
CHCS IEN: 1824
Test Code: 206
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Plastic Screw-cap vial for shipping.
Specimen and Volume Require
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Transport to laboratory. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport/ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 1 year Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry: **ACETYLCHOLINE REC BINDING AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ACETYLCHOLINE RECEPTOR BLOCKING ANTIBODY Q

Synonyms:
CHCS IEN: 2139
Test Code: 34459
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Plastic Screw-cap vial for shipping.
Specimen and Volume Require
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Transport to laboratory. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport/ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 1 year Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ACETYLCHOLINE RECEPTOR MODULATING ANTIBODY Q

Synonyms:
CHCS IEN: 2139
Test Code: 26474
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Plastic Screw-cap vial for shipping.
Specimen and Volume Require
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ships to Quest on ice packs at 2-8 ºC. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 1 year Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ACID FAST CULTURE (AFB) *See*: **AFB CULTURE + SMEAR** in this laboratory test information guide.

ACID PHOS, PROS, IMM Q
Synonyms:
CHCS IEN: 3223
Test Code: 208
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Plastic Screw-cap vial for shipping.
Specimen and Volume Require
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion. Draw before rectal examination, biopsy, prostatectomy, or prostatic massage. Manipulating the prostate gland may elevat PAP levels persisting upt o 24-48 hours.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately. Freeze serum if delivery to lab is to be delayed longer than 24 hours after collection.
Special Instructions:
Transport/Storage Temperature: Ships to Quest Frozen. Specimen stability: 24 hours at room temperature; 24 hours at 2-8 ºC; 28 days Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ACID PHOSPHATES PROSTATIC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ACTH Q *See:* **ADRENOCORTICO HORMONE** in this laboratory test information guide.

ACTIN ANTIBODY (IGG) Q
Synonyms:
CHCS IEN: 3622
Test Code: 15043
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation), Plastic Screw-cap vial for shipping.
Specimen and Volume Require
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw blood above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ships to Quest on ice packs at 2-8 ºC. Specimen stability: 8 hours at room temperature; 14 days at 2-8 ºC; 1 month Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **SMOOTH MUSCLE AB SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure

Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

ACTINOMYCES CULTURE Q

Synonyms:
CHCS IEN: 2139
Test Code: 3900
Container (Preferred/Alternate): 1 Anaerobic Transport Swab or Device.

Specimen and Volume Require

Type(s): Pus or drainage from sinus tracts containing sulfur granules, exudates, sputum, tissue or body fluid submitted under anaerobic conditions.
Volume: Transport media and swab appropriate for anaerobic bacteria or IUD in sterile leak-proof container.
Minimum volume:

Instructions

Patient Preparation:
Collection: Do not submit syringe with needle attached. Indicate source of specimen on both the requisition and specimen transport device.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ships to Quest at room temperature. Stability of Swab in transport media: 2 days at room temperature.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

ACTIVATED PROTEIN C RESISTANCE P *See*: **APC-R (MAMC)** in CHCS

Synonyms: APC; APC-R; Factor V Leiden Screen
CHCS IEN: 4045

Components:

APC-R Interpretation
APC-R Result

Container (Preferred/Alternate): Requires 1 Light Blue-Top (Sodium Citrate) + 1 Lavendar-Top Tube (EDTA)

Specimen and Volume Required

Type(s): Blood
Volume: Light Blue-Top: 4.5 mL and Lavendar-Top: 3 mL
Minimum Volume:

Instructions

Patient Preparation: Patient must be inactive for at least 10 minutes just before sample collection.
Collection: Routine Venipuncture. Allow the Lt. Blue-Top Tube to fill by vacuum. Do not over or underfill the tube. The Lavendar-Top Tube then collected.
Specimen Processing: Gently invert Lt. Blue-Top tube 8 times and the Lavendar-Top tube 10 times to mix blood with additive. Transport to laboratory immediately.
Special Instructions: If testing is delayed, separate plasma from the Lt.Blue-Top Tube and Store Frozen at -70 °C. Do not freeze the Lavendar-Top Tube. Store Lavendar-Top Refrigerated at 2-8 °C.
Transport / Storage Temperature: Transport to lab at Room Temperature; Store Lavendar-Top Refrigerated at 2-8 °C. For storage of Lt. Blue-Top Tube: centrifuge to separate plasma and Store Frozen at -70 °C.

Rejection Criteria: Improper mixing of blood with tube additive; Frozen whole blood, Clotted, Grossly Hemolyzed.

Admin Notes

Testing Location/Methodology: Cogulation / Special Hematology Section, MAMC /
Order Method: *CHCS order entry under:* ***APC-R (MAMC)***; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. please include brief patient's clinical history with request.
Availability:
TAT: Notify and Routine: up to 7 days (Batch tested)
Other: Please include brief patient's clinical history with request. Patients on Coumadin or Heparin therapy are acceptable for this assay.

Interpretive
Reference Range: Ratio > 2.3
Critical Value:
Clinical Significance: Factor V (Leiden) Mutation is a point mutation that causes resistance of Factor V protein degradation by activated protein C (APC). This mutation is associated with increased risk of venous thrombosis. Abnormal Factor V has been identified as the molecular defect most often associated with APC resistance.

ACYLCARNITINE PLASMA Q

Synonyms:
CHCS IEN: 2139
Test Code: 14531
Components:
Container (Preferred/Alternate): 7 mL Green-Top tube (Sodium Heparin); Plasma ships in Plastic Screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL
Minimum Volume: 0.2 mL plasma
Instructions
Patient Preparation: Patient should be in a well-fed stae.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate plasma from cells ASAP. Freeze immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature; Plasma ships to Quest Frozen. Specimen stability: 1 hour at room temperature; 1 hour at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis; Anticoagulants other than heparin.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS.
Availability: 24 Hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ADENOSINE DEAMINASE, PLEURAL Q

Synonyms:
CHCS IEN: 2139
Test Code: 17696
Components:
Container (Preferred/Alternate): Sterile Plastic leak proof container
Specimen and Volume Require
Type(s): Pleural fluid
Volume: 0.5 mL
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Do not submit syringe with needle attached. Indicate source of specimen on both the requisition and specimen transport device.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ships to Quest frozen. Specimen stability: 24 hours at room temperature; 72 hours at 2-8 ºC; 6 months frozen.
Rejection Criteria: Room temperature.

Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: *CHCS* order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

ADENOVIRUS AB, SERUM Q
Synonyms:
CHCS IEN: 2139
Test Code: 686
Components:
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation); Plastic screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL
Minimum volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Transport to laboratory ASAP. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature/ Store Refrigerated at 2-8 °C. Ships to Quest at room temperature. Specimen stability: 24 hours at room temperature; 14 day at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Units
All/All
Critical Value:
Clinical Significance:

ADENOVIRUS PCR
Synonyms: Adeno PCR
CHCS IEN: 6469
Components:
Container (Preferred/Alternate): See table below
Specimen and Volume Required : See table below
Type(s): See table below
Volume:
Minimum volume:
Instructions
Patient Preparation: See appropriate clinical procedure for each type of specimen collection
Collection:
Specimen Processing: Transport specimen to Laboratory immediately.
Special Instructions: For questions please call: Molecular Diagnostics Section at (253) 968-1724
Transport Temperature:
Rejection Criteria: Improper collection and/or collection container. Green-Top Tube (Heparinized).
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / PCR

Order Method: CHCS order entry under: **ADENOVIRUS PCR;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT:

Interpretive

Reference Range:
Critical Value:
Clinical Significance: This test is intended for enteric samples only**.** Adenovirus causes respiratory tract infections, conjunctivitis and diarrhea. Infections are most common in individuals who are immunocompromised and in young children. Detection is useful in diagnosis of adenovirus infection in patients with gastroenteritis.

The Adenovirus Real-time PCR targets the degerate sequence of hexon protein gene. There are more than 50 different serotypes of adenoviruses. This adenovirus PCR does not group or type the differenct adenoviruses. This assay was developed by the Molecular Diagnostics Laboratory at MAMC and has not been cleared or approved by the U.S. Food and Drug Administrations (FDA). The FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

Bronchial Alveolar Lavage	***Container:*** Viral Transport Media (VTM) ***Volume:*** 1.0 mL ***Minimum volume:*** 0.5 mL ***Patient Preparation:*** ***Collection:*** ***Labeling Instructions:*** ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 C if DNA isolation is to be delayed for more than 3 days. Contact Molecular Diagnostics, if shipping from outside of MAMC at (253) 968-1724 or 968-1743 for special instructions.
Cerebrospinal Fluid	***Container:*** Sterile Container ***Volume:*** >0.5 mL ***Minimum volume:*** 0.2 mL ***Patient Preparation:*** ***Collection:*** ***Labeling Instructions:*** ***Specimen Processing:*** If shipping from outside of MAMC, please freeze specimen at -18 C or colder and transport frozen on dry ice.
Feces	***Container:*** Sterile Container ***Volume:*** ≥ 1.0 gram of raw stool ***Minimum volume:*** 1.0 gm ***Patient Preparation:*** Follow instructions for collecting raw stool specimen. See: General Collection Instruction for All Stool Specimens procecures found in Appendix C-2 of the Directory of Services, Testing and Specimen Submission guide. ***Collection:*** Follow instruction for collecting raw stool specimen. See: General Collection Instruction for All Stool Specimens procecures found in Appendix C-2 of the Directory of Services, Testing and Specimen Submission guide. ***Labeling Instructions:*** ***Specimen Processing:***
Plasma	***Container:*** Lavendar-Top tube ***Volume:*** ***Minimum volume:*** 0.5 mL ***Patient Preparation:*** ***Collection:*** Routine venipuncture ***Labeling Instructions:*** ***Specimen Processing:*** Separate plasma from the whole blood specimen with 24 hours of collection and freeze at -18 C or colder. Do not split samples. Do not freeze whole blood. For specimens being shipped from outside MAMC, please separate plasma from red blood cells within 1 hour from collection and freeze plasma at -18 C or colder. Transport frozen on dry ice. Do not allow sample to thaw. ***Rejection Criteria:*** Green-Top tube (heparinized); Frozen whole bood.
Swab	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE**.** Contact Molecular Diagnostics, MAMC prior to ordering test at (253) 968-1724 or 968-1743. ***Container:*** Swab samples in regular Viral Transport Media ***Volume:*** ***Minimum volume:*** 0.5 mL ***Patient Preparation:*** ***Collection:*** Swab samples placed in regular Viral Transport Media

	Labeling Instructions: ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 C if DNA isolation is to be delayed for more than 3 days. Contact Molecular Diagnostics, if shipping from outside of MAMC at (253) 968-1724 or 968-1743 for special instructions.
Urine, Random	***Container:*** Sterile ***Volume:*** > 1 mL ***Minimum volume:*** ***Patient Preparation:*** ***Collection:*** ***Labeling Instructions:*** ***Specimen Processing:***Transport specimen promptly at room temperature to Molecular Diagnostics section, MAMC. Samples that will take longer than 1 hour to transport should be refrigerated. Freeze samples≤ 18 C if DNA isolation will be delayed for more than 3 days. Transport on dry ice and do not allow thawing of sample.
Other Misc (Specify Source)	***Order Note:*** Order required data set: Body Fluid Type. Contact Molecular Diagnostics, MAMC prior to ordering test at (253) 968-1724 or 968-1743. ***Minimum volume:*** 0.5 mL ***Container:*** ***Patient Preparation:*** ***Collection:*** ***Labeling Instructions:*** Identify source and body fluid type of specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 C if DNA isolation is to be delayed for more than 3 days. Contact Molecular Diagnostics, if shipping from outside of MAMC at (253) 968-1724 or 968-1743 for special instructions.

ADRENAL ANTIBODY SCREEN WITH REFLEX TO TITER

Synonyms:
CHCS IEN: 2139
Test Code: 4645
Components:
Container (Preferred/Alternate): 7 ml Red-Top Tube / SST (clot activator with get for serum separation); Serum ships in Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2mL serum
Minimum volume: 0.5 mL serum
Instructions
Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Transport to laboratory ASAP. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature/ Store Refrigerated at 2-8 °C. Ships to Quest on cold pack 2-8 ºC. Specimen stability: 2 days at room temperature; 14 day at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ADRENOCORTICO HORMONE Q

Synonyms: ACTH, Q ACTH
CHCS IEN: 2034
Test Code: 211
Container (Preferred/Alternate): 3 mL Lavender-Top Tube (K_2EDTA); Ship plasma in Plastic Screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 3 mL blood (tube must be filled at least 2/3 of stated volume); 1.5 mL Plasma required
Minimum volume: 0.5 mL plasma
Instructions
Patient Preparation: Draw specimen between 7 a.m. and 10 a.m. If drawn during any other time, reference ranges do not apply.
Collection: Routine venipuncture. Allow vacutainer to draw to the level of its vacuum, not over or underfilling the tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately. Centrifuge and separate plasma from cells immediately.
Special Instructions:
Transport/Storage Temperature: Plasma ships to Quest Frozen. Specimen stability: 16 hour room temperature; 24 hours at 2-8 ºC; 28 day frozen.
Rejection Criteria: Thawed specimen received at Quest.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order method: CHCS order entry under: **ACTH;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: Routine
Interpretive
Reference Range: *:*
Critical Value:
Clinical Significance:

AEROBIC CULTURE

Order Note: This test is for aerobic cultures only. Aerobic cultures are automatically included in all Anaerobic Culture requests. If both are desired, order **ANAEROBIC CULTURE** in CHCS only.
Synonyms: Culture Aerobic, Culture Wound, Aero Cul
CHCS IEN: 2358
Components:
Container (Preferred/Alternate): Source specific: Sterile Swab(s), Sterile Culturette and/or Sterile Container. Avoid tubes with preservatives (anti-bacterials) additives. See specimen source chart below.
Specimen and Volume Required
Type(s): See chart below
Volume: Submit maximum amount of any obtainable material using appropriate swab, asparate or collection method.
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Transport all specimens to Laboratory Immediately.
Special Instructions: For questions, advance media coordination and direct inoculation of culture media at clinics, please call: Microbiology Section at (253) 968-1753 from 0700-2030 hours or the Pathology Lead Technologists at (253) 968-1182 during all other hours.
Safety Note: If screening for agents of bioterrorism, the lab must be contacted at 253 968-1753 before submission. For bioterrorism screening DO NOT send specimen(s) to the lab via the pheumatic tube or cart system! Please double bag the specimen(s) and hand carry to Microbiology Section.
Transport Temperature: Transport at Room Temperature
Rejection Criteria*: Incorrect specimen collection, containers and/or use of tubes with preservative (anti-bacterial) additives*
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **AEROBIC CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7day a week
TAT: Routine: 2-5 days
Interpretive
Reference Range:
Critical Value:

Clinical Significance: This test is for aerobic cultures only. Aerobic cultures are automatically included in all Anaerobic Culture requests. If both are desired, order **ANAEROBIC CULTURE** only. The significance of any isolate(s), in pure or mixed culture, must be assessed with respect to the source cultured, the organism's pathogenic potential, the possibility of colonization versus infection, and the number of other organisms recovered from the same culture.

Amniotic Fluid	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Catheter Tip (Arterial Lines, Hickman, Swan-Ganz, Cordis, Broviac, Subclavian, Others)	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** Apply 10% povidone iodaphor solution to the catheter insertion site for 2 to 4 minutes. Remove with 70% isopropyl alcohol. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. **Do not** submit foley tips. Specimens of choice are: Arterial lines, Hickman, Swan-Ganz, Cordis, Broviac, Subclavian, Others (please specify in request form / CHCS Order Comment). Collect 2 segments of catheter 2-5 cm in length: 1 segment from the skin-catheter interface and 1 segment of the indwelling section of the catheter. For long catheters or other suspicious sections, collect additional segments as desired. ***Labeling Instructions:*** Clearly label type of catheter and section on each specimen. ***Specimen Processing:*** Place the different segments in separate, clearly labeled sterile containers. For long catheters or other suspicious sections, submit additional segments as desired in separate, clearly labeled sterile containers. ***Clinical Significance:*** A finding of less than 15 CFU per culture site is considered contamination, but identification of isolates will be provided. A finding of more than 15 CFU indicates possible colonization, in which case isolates will be identified and susceptibilities will also be anlysed (when possible).
Cervical Swab	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in CHCS Order Comment. ***Specimen Processing:***
Corneal Scrapings	***Container:*** Sterile Container - without preservative (anti-bacterial) additives or contact Microbiology Section for media to direct inoculation of the specimen. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form/CHCS Order Comment. Indicate L or R eye in Order Comment. ***Specimen Processing:***
Ear	***Order Note***: Ear cultures for obligate anaerobes must be requested as Anaerobic Culture. ***Container:*** Culturette or Aspirate ***Patient Preparation:*** For internal ear specimens, cleanse external canal with mild antiseptic. ***Collection:*** Use sterile funnel and swab and/or aspirate specimen from ear drum or beyond. ***Labeling Instructions:*** Specify Internal vs. External; specify R ear or L ear for each specimen. Cultures for agents such as Pseudomonas, Haemophilus, or yeast should be indicated in the request form/CHCS Order Comment. ***Specimen Processing:***
Eye	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. Specify R or L eye for each specimen in Order Comment. ***Specimen Processing:***
Other Misc (Specify Source)	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE ***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Pleural Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment.

	Specimen Processing:
Sputum	**Do not** submit sputum specimens under this test. Order **Lower Respiratory Culture** for sputums.
Tissue	***Container:*** Sterile Swab / Culturette ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Vaginal	***Container:*** Sterile Swab / Culturette ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Wound	***Order Note:*** Order required CHCS data set: GS LAB SPECIMEN SOURCE; ***Container:*** Swab; 2 swabs required if a gram stain is being requested ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

AFB BLOOD CULTURE

Synonyms: TB Blood Culture, Culture Blood AFB, AFBBC, AFB BC, Blood Culture AFB, Acid Fast Culture, Tuberculosis, Mycobacterium tuberculosis

CHCS IEN: 2479

Components:

Container (Preferred/Alternate): Two (2) - Grey Label Aerobic BACT/ALERT - Blood Culture Bottles

Specimen and Volume Required

Type(s): Blood

Volume: 10 ml each bottle

Minimum Volume: 5 ml each bottle

Instructions

Patient Preparation: Prepare as for routine blood draw and blood culture

Collection: Inject 5-10ml blood sample into each of two (2) aerobic BACT/ALERT blood culture bottles. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.

Specimen Processing: When labeling bottles do not cover any part of the printed barcode or the sensor located in the base of the bottle. See: Blood Culture Collection Procedural Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.

Special Instructions: The anaerobic blood culture bottle is not inoculated unless anaerobic infection is also suspected.

Transport/Storage Temperature: Transport at Room Temperature

Rejection Criteria: Improperly labeled specimen, contaminated specimen

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.

Order Method: CHCS order entry under: **AFB BLOOD CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.

Availability: 24 hour / 7 days a week

TAT: Routine turnaround time is up to 9 weeks. Positive smears and/or cultures are reported immediately after detection.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: The significance of any isolate(s), in pure or mixed culture, must be assessed with respect to the source cultured, the organism's pathogenic potential, the possibility of colonization versus infection, and the number of other organisms recovered from the same culture.

AFB CULTURE + SMEAR

Order Note: Direct smears cannot be performed on Urine specimens and specimens obtained using swabs/culturettes.

Synonyms: Culture AFB & Smear, AFB Smear & Culture

CHCS IEN: 2917

Components: Culture and direct smear.

Container (Preferred/Alternate): Collection containers are *source specific.* See Specimen chart below. Note: When specimen is collected using culturette(s) a direct smear for AFB cannot be performed.

Specimen and Volume Required

Type(s): See chart below.

Volume: Submit maximum amount of any obtainable material using the appropriate collection container and Method.
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Treat all MTB specimens with standard precautions. Transport all specimens to Laboratory Immediately.
Special Instructions: Specify collection sample source in the request form / CHCS Order Entry Comment.
Transport Temperature: Transport at Room Temperature / Store Refrigerated at 2-8 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under*:* **AFB CULTURE + SMEAR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: 24 hours / 7 days a week
TAT: Routine Smear: 24-72 hours; Culture up to 9 weeks

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Used to determinee an active Mycobacterium Tuberculosis infection or infections due to another member of the Mycobacterium family or TB-like symptoms due to another cause. Used to determinee whether M. Tuberculosis is confined to the lungs (pulmonary) or has spread to organs outside the lungs (extrapulmonary). AFB cultures can be used to monitor the effectiveness of treatment and can help determinee when a patient is no longer infectious and can also help track and minimize the spread of TB in those populations suspeptable and/or vulnerable.

Abscess	***Container:*** Sterile Container / 3 to 5 Culturette - without preservative (anti-bacterial) additives. **Optimal Volume:** 1 to 5 mL specimen or 3 to 5 culturettes if unable to obtain fluid. ***Patient Preparation:*** *See* appropriate clinical procedure for collection. ***Collection:*** Collect fluid or exudate using culturettes. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on swabs/culturettes.
Body Fluid / Other	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Bone Marrow	***Container: :*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** *See* appropriate clinical procedure for collection of bone marrow. ***Collection:*** A single Bact T Alert MB bottle is inoculated after collection of specimen using appropriate clinical procedure for collection of bone marrow. Utilize sterile technique and avoid contamination with normal flora. Do not collect in EDTA Tube. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver specimen immediately to Room G-45-14.
Bronchoalveolar Lavage	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Bronchoalveolar lavage specimen. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Bronchial Washing	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of bronchial washing. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment.

	Specimen Processing:
CSF	***Container:*** Sterile Tube #4 **Optimum Volume:** 50 mL – A larger volume increases likelihood of isolation. ***Minimum Volume:*** 2 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of CSF using Lumbar puncture procedures***.*** ***Collection:*** See appropriate clinical procedure for collection of CSF using lumbar puncture procedures***.*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Gastric Aspirate	***Container:*** Sterile Container with 100 mg of Sodium Bicarbonate ***Minimum Volume:*** 10 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Gastric Aspirate. Gastic specimens requires early morning fasting stomach. ***Collection:*** Obtain Sodium Carbonate tube from Mycobacteriology Section before collection. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Submit neutralized specimen to laboratory. ***Special Instructions:*** A gastric specimen is recommended when sputum is not readily obtainable.
Other Misc (Specify Source)	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. **Volume:** Submit maximum amount of any obtainable material using the appropriate collection container and Method. ***Patient Preparation:*** See appropriate clinical procedure for collection. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Other:*** If swab is submitted, a smear will not be done.
Pericardial Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 5 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Pericardial Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Peritoneal Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 5 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Peritoneal Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Pleural Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 10 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Pleural Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Sputum / Expectorated	***Container:*** *3 separate* Sterile Containers - without preservative (anti-bacterial) additives. **Optimal Volume:** 10 mL for each specimen **Minium Volume:** 5 mL for each specimen ***Patient Preparation:*** Provide patient with instructions and materials to properly collect first morning sputums (coughed-up mucous from lungs) for three consecutive days. ***Collection:*** 3 separate first morning sputums collected over 3 consecutive days. *3 specimens submitted after all is collected.* Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Special Instructions:*** Refrigerate all specimens until submission to laboratory. A gastric specimen is recommended when sputum is not readily obtainable.

Sputum / Induced	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Special Instructions:*** A gastric specimen is recommended when sputum is not readily obtainable.
Stool	***Test Not available for this specimen source.***
Synovial Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Volume:** 2-5 mL ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Tissue	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. Do not use culturette. Add just enough sterile saline to container to cover tissue. **Volume:** Submit largest amount possible. Varies based to tissue source ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Tracheal Aspirate	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Tracheal Aspirate. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Urine	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 50 mL ***Patient Preparation:*** ***Collection:*** Single, clean, first morning voided specimen**.** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct AFB smear can not be perfermed on urine specimens.
Wound	***Container:*** Submit 3 to 5 culturettes ***Patient Preparation:*** ***Collection:*** Collect fluid or exudate using culturettes. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on swab/culturettes.

AFB SMEAR [NO CULTURE]
Synonyms: TB Smear, AFB SMR
CHCS IEN: 546
Components:
Container (Preferred/Alternate): Collection containers are s*ource specific.* See Specimen chart below. Note: When specimen is collected using culturette(s) a direct smear for AFB cannot be performed.
Specimen and Volume Required
Type(s): See chart below. Direct smears cannot be performed on Urine specimens and specimens obtained using Culturettes.
Volume: Submit maximum amount of any obtainable material using the appropriate collection container and Method. See chart below.
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Treat all MTB specimens with standard precautions. Transport all specimens to Laboratory Immediately.
Special Instructions: Specify collection sample source in the request form / CHCS Order Entry Comment.
Transport Temperature: Transport at Room Temperature / Store Refrigerated at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Screening using the Auramine M stain and Kinyoun
Order Method: CHCS order entry under: **AFB SMEAR [NO CULTURE]**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: Monday thru Friday / 8 a.m. to 4 p.m.
TAT: Routine Smear: 24-72 hours
Other: When specimen is collected using swab/culturette(s) a direct smear for AFB cannot be performed.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Used to determinee an active Mycobacterium Tuberculosis infection or infections due to another member of the Mycobacterium family or TB-like symptoms due to another cause. Used to determinee whether M. Tuberculosis is confined to the lungs (pulmonary) or has spread to organs outside the lungs (extrapulmonary). Used to determinee most effective antimicrobial agents to treat patient. Used to determinee multi-drug resistant TB (MDR TB) and organisms resistant to multiple first and second lines of therapy called extensively drug-resistant TB (XDR TB). AFB cultures can be used to monitor the effectiveness of treatment and can help determinee when a patient is no longer infectious and can also help track and minimize the spread of TB in those populations suspeptable and/or vulnerable.

Abscess	***Container:*** Sterile Container without preservative (anti-bacterial) additives. Do not use Culturettes. **Optimal Volume:** 1 to 5 mL specimen ***Patient Preparation:*** *See* appropriate clinical procedure for collection. ***Collection:*** Collect fluid. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on culturettes.
Body Fluid / Other	**Body Fluid is not recommended for this test.** See: **AFB CULTURE + SMEAR**
Bone Marrow	**Bone Marrow is not recommend for this test**. See: **AFB CULTURE + SMEAR**
Bronchoalveolar Lavage	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Bronchoalveolar lavage specimen. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Bronchial Washing	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of bronchial washing. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered

	fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
CSF	**CSF is not recommended for this test.** See: **AFB CULTURE + SMEAR**
Gastric Aspirate	**Gastric Aspriate is not recommended for this test**. See: **AFB CULTURE + SMEAR**
Other Misc (Specify Source)	**This test is not recommended for specimens other than respiratory.** ***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Volume:** Submit maximum amount of any obtainable material using the appropriate collection container and Method. ***Patient Preparation:*** See appropriate clinical procedure for collection. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Sputum / Expectorated	***Container:*** Sterile Containers - without preservative (anti-bacterial) additives. **Optimal Volume:** 10 mL **Minium Volume:** 5 mL ***Patient Preparation:*** Provide patient with instructions and materials to properly collect first morning sputum (coughed-up mucous from lungs). ***Collection:*** Collect 1 specimen- first morning sputum. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If a culture is desired do not order this test. ***See:*** **AFB CULTURE + SMEAR** ***Special Instructions:*** Refrigerate all specimens until submission to laboratory. A gastric specimen is recommended when sputum is not readily obtainable.
Sputum / Induced	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Special Instructions:*** A gastric specimen is recommended when sputum is not readily obtainable.
Stool	***Order Note:*** This is the only AFB test done on stool specimens. ***Container:*** Sterile Container. Do not use a culturette swab. **Minimum Volume:** 3 grams ***Patient Preparation:*** Delay 5-10 days for specimen collection if Barium, Mineral Oil, Bismuth or Nonabsorbable Anti-diarrheal preparations are administered to the patient. ***Collection:*** ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Submit specimen immediately to Laboratory.
Tissue	***Container:*** Sterile Container / Slide - without preservative (anti-bacterial) additives. Do not use culturette. Add just enough sterile saline to container to cover tissue. **Volume:** Submit largest amount possible. Varies based to tissue source ***Patient Preparation:*** See appropriate clinical procedure for collection of tissue. ***Collection:*** *Procedure for formalin-fixed, paraffin-embedded tissue: Tissue shoud be embedded, sectioned and on slide for AFB stain.* Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Tracheal Aspirate	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Tracheal Aspirate. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Urine	A direct AFB smear can not be perfermed on urine specimens. See: **AFB CULTURE + SMEAR**

Wound	***Container:*** Sterile Container. Do not use culturettes. ***Patient Preparation:*** *See* appropriate clinical procedure for collection. ***Collection:*** Collect fluid only. If collection is only possible using culturettes, order: **AFB CULTURE + SMEAR**. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on culturettes. See: **AFB CULTURE + SMEAR**

AFP, TUMOR MARKER
Synonyms: Tumor Marker AFP, Alpha Fetoprotein Tumormark
CHCS IEN: 2353
Components:
Container (Preferred/Alternate): Gold-top/SST Tube (clot activator and gel for serum separation), 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood / Serum
Volume: 5 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions: Avoid prolonged exposure to RBC's.
Transport Temperature: Transport Room Temperature, Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross hemolysis, EDTA or heparinized plasma
Admin Notes
Testing Location/Methodology: Immuno Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under*:* **AFP, TUMOR MARKER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 Hours / 7 days a week
TAT: ASAP, Routine
Other: The concentration of AFP in a given specimen determineed with assays from different manufacturers can vary due to differences in assay methods and reagent specificity. Values obtained from different assay methods cannot be used interchangeably.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0.5	8.9			ng/m

Critical Value: N/A
Clinical Significance: This test is for males and nonpregnant females only. Elevation of serum AFP are found in several malignant diseases, most notably nonseminomatous testicular cancer and primary hepatocellular carcinoma. AFP is not recommended as a screening procedure to detect cancer in the general population.

ALANINE AMINOTRANSFERASE.
Synonyms: ALT, SGPT, GPT
CHCS IEN: 191
Components:
Container (Preferred/Alternate): Specific for Specimen type
Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.
Body Fluid: Sterile container
Specimen and Volume Required
Type(s): Blood/Serum, Blood/Plasma or Body Fluid
Volume: 6 mL Serum, 7 mL Plasma, 0.5 mL Body Fluiid
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine venipuncture
Specimen Processing: : Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions: Avoid prolonged exposure to RBC's.
Transport/Storage Temperature: Transport at Room Temperature; store at 2-8 °C.
Rejection Criteria: Gross hemolysis; Anticoagulants other than heparin.
Admin Notes
Testing Location/Methodology: Chemistry Section
Order Method: CHCS order entry under: **ALANINE AMINOTRANSFERASE.** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 Hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance: ALT measurements are particularly useful in the diagnosis and management of certain liver diseases. ALT activity in tissue is generally much lower than aspartate aminotransferase (AST) activity and is found in highest concentrations in the liver. ALT is often measured in conjunction with AST to determinee whether the source of the AST is the liver or the heart. ALT is normally not elevated in cases of myocardial infarction. A normal ALT in conjuction with an elevated AST, tends to suggest cardiac disease. However slight elevations of ALT may occur if an infarct destroys a very large volume of heart muscle.

ALBUMIN
Synonyms: ALB
CHCS IEN: 185
Components:
Container (Preferred/Alternate): Specific for Specimen type
Preferred*:* Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Alternate: Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.
***Other Sources*:**
Specimen and Volume Required: Varies based on specimen source
Type(s): Blood/Serum; Blood/Plasma
Volume: 5 mL Serum or Plasma,
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine venipuncture
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature; store Refrigerated at 2-8 °C.
Rejection Criteria: Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Sectiion, MAMC /Vitros 5600
Order Method: CHCS order entry under: **ALBUMIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive **Serum**
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	3.5	5.0			

Critical Value:
Clinical Significance: Albumin is the principle osmotically active component of plasma. As the major plasma protein, albumin acts as a nitrogen pool. Use: Evaluation of nutritional status, blood oncotic pressure, evaluation of renal disease with proteinuria, and other chronic diseases.

ALCOHOL, MEDICAL (MAMC,BREM,EVT)
Synonyms: Blood Alcohol, BA, Ethanol, ETOH
CHCS IEN: 195
Components: Test For Medical Testing only. Not for Legal Blood Alcohol purposes.
Container (Preferred/Alternate): Specific for Specimen type
Preferred*:* Gray-Top Tube (Potassium Oxalate/Sodium Fluoride)
Alternate: Gold-Top/SST (Clot activator and gel for serum separation) or Red-Top Tube (Clot activator)
Specimen and Volume Required
Type(s): Blood/Plasma; Blood/Serum
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: Do not prepare venipuncture site with alcohol swab. Hexachlorophene-based, iodine based, or mercury based antiseptics not containing alcohol may be used. Do not draw above intravenous infusion.
Collection: Routine venipuncture
Specimen Processing: Gray-Top Tube- Gently invert 8 times to mix additive with blood***.*** Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature, Store Refrigerated at 2-8 °C.
Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC/Vitros 5600
Order Method: CHCS order entry under: **ALCOHOL, MEDICAL (MAMC,BREM,EVT)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7 days a week
TAT: STAT, ASAP, Routine
Other: Test For Medical Testing and management of patients only. Command-directed blood alcohols will be drawn by the laboratory and results sent to the PAD weekly. The DPALS, MAMC does not perform legal blood alcohols.

Interpretive

Reference Range: <10 mg/dL
Critical Value: Fatalities reported >400mg/dL
Clinical Significance: Ethanol is the most often abused substance whose primary effect on the CNS varies with blood concentration. Not all individuals experience the same effects at a given blood level. Other CNS depressants have an additive effect when taken in combination with ethanol. At high concentrations, ethanol elimination is relatively constant. Fatal concentration typically exceeds 0.4 g/dL. Blood concentrations of 0.3 g/dL are associated with coma. Ethanol alcohol is present in many medicinal liquids and mouthwashes.

ALCOHOL, METHYL, BLOOD Q

Synonyms:
CHCS IEN: 2139
Test Code: 643
Components:
Container (Preferred/Alternate): 6 mL Unopened Gray-Top Tube (Potassium Oxalate/Sodium Fluoride)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume: 0.5 mL

Instructions

Patient Preparation: Do not prepare venipuncture site with alcohol swab. Hexachlorophene-based, iodine based, or mercury based antiseptics not containing alcohol may be used.
Collection: Routine venipuncture. Do not open vacutainer tube during or after venipuncture. Keep tube tightly sealed to prevent exposure to air.
Specimen Processing: Gray-Top Tube- Gently invert 8 times to mix additive with blood**.** Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14days at room temperature; 14 days at 2-8 ºC

Rejection Criteria

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ALDER IGE *Not orderable as a single test. See*: **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

ALDOLASE Q

Synonyms: Q ALDOLASE
CHCS IEN: 1825
Test Code: 227
Container (Preferred/Alternate): 7 mL Gold-Top /SST Tube (clot activator and gel separator); Plastic screw-cap vial for shipping to Quest.

Specimen and Volume Required:

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: None
Collection: Routine venipuncture
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells. Freeze serum for shipping.
Special Instructions:
Transport/Storage Temperature: Ship serum to Quest Frozen. Store Refrigerated at 2-8 °C or Frozen. Specimen stability: room temp not established; 5 day at 2-8 ºC; 14 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ALDOLASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

ALDOSTERONE Q

Synonyms: Aldosterone
CHCS IEN: 1825
Test Code: 230
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion. Draw patient in the upright position at least 30 mins after patient sits up.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship serum on cold packs at 2-8 °C. Specimen Stability: 4 days at room temperature, 7 days 2-8 °C, 28 days Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ALDOSTERONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive: Reference ranges based on normal sodium intake of 100-200 meq/day

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All Supine		<16			NG/dL
Upright	4	31			

Critical Value:
Clinical Significance:

ALDOSTERONE, 24 HOUR URINE PANEL Q P

Synonyms: 229
CHCS IEN: 6232
Test Code: 000229
Components:
Total Volume
Aldosterone
Creatinine UA
Container (Preferred/Alternate): 24 hour urine container(s) with lid. Plastic screw-cap vial for shipping.

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 5 mL of 24 hour urine

Minimum volume: 1 mL

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.

Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Collect urine with 10 grams of Boric Acid to maintain a pH below 7.5. Urine without preservative is acceptable if kept at 2-8 ºC during collection. Preservative may also be added after collection if specimen was kept at 2-8 ºC during collection..

Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.

Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.

Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE specimen while collecting. Specimen container should be transported to the lab on ice. Ships to Quest on ice packe at 2-8 ºC. Specimen Stability: 2 days at room temperature, 1 week at 2-8 °C, 2 years Frozen.

Rejection Criteria: Unpreserved urine shipped at room temperature.

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **ALDOSTERONE 24HR URINE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days

TAT: Routine

Interpretive

Reference Range:

Critical Value: Reference ranges established for this collection sample do not apply to random urine samples

Clinical Significance:

ALDOSTERONE, LC/MS/MS Q

Synonyms:

CHCS IEN: 2139

Test Code: 17181

Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion. Draw patient in the upright position at least 30 mins after patient sits up.

Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells.

Special Instructions:

Transport/Storage Temperature: Transport refrigerated. Ship serum on cold packs at 2-8 °C. Specimen Stability: 4 days at room temperature, 7 days 2-8 °C, 28 days Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:

Clinical Significance:

ALKALINE PHOSPHATASE

Synonyms: Alk, Alk Phos

CHCS IEN: 188

Components:
Container (Preferred/Alternate): Specific for Specimen type
***Preferred**:* Gold-Top/SST (Clot activator and gel for serum separation); 1 Amber or Red-Top Top microtainer Tube for pediatric draw.
Alternate: Red-Top Tube (Clot activator) or Green-Top Tube (Lithium or Sodium Heparin); 1 Green-Top microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum; Blood/Plasma
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gold-Top Tube**-** Gently invert tube 5 times to mix the clot activator with blood. Green-Top Tube– Gently invert tube 8 times to mix with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions:
Transport / Storate Temperature: Transport at Room Temperature, store Refrigerated at 2-8 °C.
Rejection Criteria: Hemolysis, anticoagulants other than heparin
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: *CHCS order entry under:* **ALKALINE PHOSPHATASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value: N/A
Clinical Significance: Serum levels are of interest in the diagnosis of hepatobiliary disorders and bone disease associated with increased osteoblastic activity. Moderate elevations of alkaline phosphatase may be seen in several conditions that do not involve the liver or bone (i.e., Hodgkin's disease, congestive heart failure, ulcerative colitis, regional enteritis, and intra-abdominal bacterial infections. Elevations are also observed during the third trimester of pregnancy, 2 to 4 hours after a fatty meal, in bone growth, healing of a fracture, acromegaly, osteogenic sarcoma, liver or bone metastases, leukemia or myelofibrosis. Alkaline phosphatase is used as a tumor marker.

ALKALINE PHOSPHATASE, BONE SPECIFIC Q
Synonyms:
CHCS IEN: 6504
Test Code: 29498
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Allow specimen to clot completely at room temp, centrifuge and separate serum. Freeze ASAP.
Special Instructions:
Transport/Storage Temperature: Ship serum frozen to Quest Diagnostics
Rejection Criteria*:* Received at room temperature, Gross hemolysis, Gross Lipemia, Grossly icteric, non-serum samples.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ALK PHOS BONE/TOTAL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Used for the therapeutic monitoring of post menopausal osteoporosis and Paget's disease.

ALKALINE PHOSPHATASE ISOENZYMES Q P

Synonyms: Q Alkaline Phos Isoenzymes, 231
CHCS IEN: 4213
Test Code: 231
Components:
Alk Phos isoenzymes
Alk Phos Intestinal
Alk Phos Bone
Alk Phos Liver
Alk Phos Placental
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); Plastic screw-cap vial for shipping to Quest.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. Overnight fasting is preferred.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge and separate serum.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen stability: 7 days at room temperature; 21 days at 2-8 ºC; 21 days frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **Q ALKALINE PHOS ISOENZYMES***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ALLERGY 11, PCS, MOLD Q
Synonyms:
CHCS IEN: 6161
Test Code: 7911
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) Plastic screw-cap vial for shipping to Quest.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge and separate serum.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MOLD ALLERGEN PANEL***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ALLERGY 12, PCS ANIMAL Q

Synonyms:
CHCS IEN: 6157
Test Code: 7912
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) Plastic screw-cap vial for shipping to Quest.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge and separate serum.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **RAST ANIMAL GROUP 12***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ALMOND IGE *Not orderable as a single test. See*: **NUT FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

ALMOND (F20) IGE *Q*
Synonyms:
CHCS IEN: 6095
Test Code: 2820
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) Plastic screw-cap vial for shipping to Quest.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge and separate serum.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ALMOND IGE PANEL***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ALPHA-1-ANTITRYPSIN
Synonyms: A1A, AAT
CHCS IEN: 3247

Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store refrigerated at 2-8 °C
Rejection Criteria: Gross Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **A-1-ANTITRYPSIN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	88	183			mg/dL

Critical Value: None
Clinical Significance: Alpha-1-Antitrypsin level may be increased in normal pregnancy and in several diseases including chronic pulmonary disease; hereditary angioedema; renal, gastric, liver and pancreatic diseases; diabetes; carcinomas and rheumatoid disease. Alpha-1-Antitrypsin may be decreased in emphysema, hepatic cirrhosis, respiratory distress syndrome of the newborn, nephrosis, malnutrition and cachexia.

ALPHA-1-ANTITRYPSIN (AAT) MUTATION ANALYSIS, GENOTYPE

Synonyms:
CHCS IEN: 5039
Test Code: 15340
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL whole blood (tube must be filled at least 2/3 of stated volume)
Minimum volume: 2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture. Allow vacutainer to draw to the level of its vacuum, not over or underfilling the tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately.
Special Instructions: Specimen stabliltiy is crucial. Store and ship immediately after collection. Do not freeze.
Transport/Storage Temperature: Ship whole blood to Quest at room temperature. Specimen stability: 8 days at room temperature; 8 days at 2-8 ºC; Unacceptable frozen.
Rejection Criteria: Frozen specimen.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order method: CHCS order entry under: **A-1-ANTITRYPSIN MUTATION***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: Routine
Interpretive
Reference Range: *:*
Critical Value:
Clinical Significance:

ALPHA-1-ANTITRYPSIN , 24 HR FECES

Synonyms:
CHCS IEN: 4075
Test Code: 30523
Container (Preferred/Alternate): Large Plastic leakproof collection container with lid. Plastic Screw-cap vial for shipping.
Specimen and Volume Required

Type(s): 24 Hour Feces
Volume: 10 grams of 24 hour specimen
Minimum volume: 2 grams of 24 hour specimen

Instructions

Patient Preparation:
Collection: See: Patient Instruction Handout for General Collection Instructions for all Stool Specimens and pickup collection container at Laboratory front desk within MAMC. Keep specimen as cool as possible to avoid odor and bacterial growth.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship specimen frozen. Specimen stability: Unacceptable at room temperature; Indefinitely at 2-8 ºC; Indefinitely frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order method: CHCS order entry under: **Q ALPHA-1-ANTITRYPSIN, FECAL***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: Routine

Interpretive

Reference Range: *:*
Critical Value:
Clinical Significance:

ALPHA-1-ANTITRYPSIN RANDOM FECES Q

Synonyms:
CHCS IEN: 2139
Test Code: 14628
Components:
Container (Preferred/Alternate): Plastic leakproof collection container with lid. Plastic Screw-cap vial for shipping.

Specimen and Volume Required

Type(s): Random Feces
Volume: 10 grams of Random specimen
Minimum volume: 2 grams of 24 hour specimen

Instructions

Patient Preparation:
Collection: See: Patient Instruction Handout for General Collection Instructions for all Stool Specimens and pickup collection container at Laboratory front desk within MAMC. Collect fresh stool in a plastic leakprood container. Adults and children can collect specimen by passing feces into plastic wrap stretched loosely over the toilet bowl and then transfer 10 grams of the stool specimen into the plastic container. Young children and infants wearing diapers can be lined with clean plastic wrap to prevent absorption. A pediatric urine bag can be attached to the child to ensure that the stool specimen is not contaminated with urine. Do not submit the diaper. Freeze specimen.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship specimen frozen. Specimen stability: Unacceptable at room temperature; Indefinitely at 2-8 ºC; Indefinitely frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order method: *CHCS* order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: Routine

Interpretive

Reference Range: *:*
Critical Value:
Clinical Significance:

ALPHA-2-ANTIPLASMIN ACTIVITY Q

Synonyms: A-2-Antiplasmin
CHCS IEN: 2139
Test Code: 4953
Components:
Container (Preferred/Alternate): 4.5 mL Light Blue-Top Tube (3.2% Sodium Citrate); Plastic screw-cap vial for shipping.

Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL Plasma
Minimum volume: 0.6 mL Plasma
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures
Specimen Processing: Gently invert tube 8 times to mix activator with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells. Freeze Plasma immediately.
Special Instructions:
Transport/Storage Temperature: Ships Frozen to Quest. Specimen stability: 8 hours room temperature; 24 hours at 2-8 ºC; 14 days Frozen.
Rejection Criteria: Room Temperature, Refrigerated.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:.

ALPHA-FETOPROTEIN
Synonyms: Tumor Marker AFP, Alpha Fetoprotein Tumormark
CHCS IEN: 2353
Components:
Container (Preferred/Alternate): Gold-top/SST Tube (clot activator and gel for serum separation), 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood / Serum
Volume: 5 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions: Avoid prolonged exposure to RBC's.
Transport Temperature: Transport Room Temperature, Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross hemolysis, EDTA or heparinized plasma
Admin Notes
Testing Location/Methodology: Immuno Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry: **AFP, TUMOR MARKER ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: *24 Hours / 7 days a week*
TAT: ASAP, Routine
Other: The concentration of AFP in a given specimen determineed with assays from different manufacturers can vary due to differences in assay methods and reagent specificity. Values obtained from different assay methods cannot be used interchangeably.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0.5	8.9			ng/m

Critical Value: N/A
Clinical Significance: This test is for males and nonpregnant females only. Elevation of serum AFP are found in several malignant diseases, most notably nonseminomatous testicular cancer and primary hepatocellular carcinoma. AFP is not recommended as a screening procedure to detect cancer in the general population.

ALPHA-FETOPROTEIN, AMNIOTIC FLUID G
Synonyms:
CHCS IEN: 2139
Components:

Container (Preferred/Alternate): Brown Sterile Tube with Screw-Top Cap.
Specimen and Volume Required
Type(s): Amiotic Fluid
Volume: 2 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of specimen type.
Collection: See appropriate clinical procedure for collection of specimen type.
Specimen Processing:
Special Instructions: Protect Amniotic fluid from light. Gestational information is required with request.
Transport Temperature: Store at Room Temperature**.** Ship Refrigerated or at Room Temperature
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Elevated AFP concentrations in amniotic fluid provide laboratory support for the diagnosis of neural tube lesion in the fetus.

ALPHA-GALACTOSIDASE Q

Synonyms:
CHCS IEN: 6172
Test Code: 1629
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) Plastic screw-cap vial for shipping to Quest.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge, separate serum and freeze immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum frozen. Specimen stability: Unacceptable at room temperature; 48 hours at 2-8 ºC; 14 days frozen; 60 days frozen at -70 ºC.
Rejection Criteria*:* room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **A-GALACTOSIDASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ALPHA-GLOBIN COMMON MUTATION ANALYSIS Q

Synonyms:
CHCS IEN: 2139
Test Code: 11175
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL whole blood (tube must be filled at least 2/3 of stated volume)

Minimum volume: 3 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture. Allow vacutainer to draw to the level of its vacuum, not over or underfilling the tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood. Transport to lab immediately.
Special Instructions: Store and ship immediately after collection. Do not freeze.
Transport/Storage Temperature: Ship whole blood to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; Unacceptable frozen.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ALPHA SUBUNIT *Q*

Synonyms:
CHCS IEN: 1954
Test Code: 8658
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) Plastic screw-cap vial for shipping to Quest.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Allow specimen 30 mins to clot completely at room temp, centrifuge and separate serum.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 4 weeks frozen.

Rejection Criteria*:*

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ALPHA SUBUNIT*;*** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ALT *See:* **ALANINE AMINOTRANSFERASE** in this laboratory test information guide***.***

ALTERNARIA SP IGE *Not* orderable as a single test. See: **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide

AMIKACIN O
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot activator). Do not use Gel separator tube.
Specimen and Volume Required
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after collection.
Special Instructions:
Transport/Storage Temperature: Transport/Store Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at St Josephs Hospital
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

AMIKACIN Q
Synonyms:
CHCS IEN: 2139
Test Code: 236
Components:
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion. Collect Trough just prior to next dose. Collect Peak at the end of 60 minute IV infusion or 30 minutes after end of 30 minute IV infusion or 60 minutes after IM dose.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport and Ship to Quest at room temperature. Specimen Stability: 5 days at room temperature, 7 days 2-8 °C.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All					

Critical Value:
Clinical Significance:

AMINO ACID UW
Synonyms:
CHCS IEN: 2139

Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin); 24-Hour Urine Container with Screw-Top cap (No Preservative); Sterile container with Screw-Top Cap
Specimen and Volume Required
Blood/Plasma
24-Hour Urine
Radum Urine
Volume: 10 mL Green Top-Tube; 24 mL aliquot of 24-Hour Urine with No preservative; 24 mL aliquot of Random Urine.
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube. For Urine collection: See 24-hour urine collection and random urines procedures in the appendices of the Laboratory Services Manual.
Specimen Processing: Gently invert tube 8 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Transport/Store and ship at Refrigerated Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at University of Washington
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

AMINO ACID ANALYSIS, LC/MS, PLASMA Q
Synonyms:
CHCS IEN: 6404
Test Code: 767
Container (Preferred/Alternate): 10 mL Green-Top Tube (Sodium Heparin); Use Plastic screw-cap vial for shipping.
Specimen and Volume Required
Type: Blood/Plasma
Volume: 2 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting required. Non-fasting samples are acceptable for dediatric patients.
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible. Centrifuge and separate plasma from cells. Freeze plasma at -20 ºC immediately.
Special Instructions:
Transport/Storage Temperature: Plasma ships to Quest Frozen (-20 ºC). Specimen stablility: Unacceptable at room temperature; 7 days 2-8 ºC; 30 days frozen.
Rejection Criteria: Room temperature; Plasma collected in Lt. Blue-top tube (3.2% Sodium Citrate) or Gray-top tube (Sodium Fluoride) is not acceptable.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **AMINO ACIDS, PLASMA QN***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

AMINO ACID QUANT, PLASMA CH P
Synonyms:
CHCS IEN: 2342
Components: Test panel preformed at Children's Hospital

Alanine
Arginine
Asparagine
Aspartate
Citrulline
Cystine
Glutamate
Glutamine
Glycine
Histidine
Hydroxyproline
Isoleucine
Leucine
Lysine
Methionine
Ornithine
Phenylalanine
Proline
Serine
Taurine
Threonine
Tyrosine
Valine

Container (Preferred/Alternate):
***Preferred**:* Green-Top Tube (Sodium Heparin)
Alternate: Lavender-Top Tube (EDTA)

Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 10 mL
Minimum Volume: 1 mL frozen plasma

Instructions
Patient Preparation: Fasting is required. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.
Collection: Routine Venipuncture
Specimen Processing: Green-Top Tube– Gently invert tube 8 times to mix with additive. Tranport to lab shipping section immediately. Centrifuge within 30 minutes to separate plasma from cells. Freeze plasma immediately.
Special Instructions: Laboratory: Plasma ships frozen to Children's Hospital
Transport / Storage Temperature: Transport to MAMC Lab shipping area at Room Temperature***.*** Plasma Specimen stores and Ships Frozen -20 °C to Children's Hospital.

Rejection Criteria: Serum, Room temperature or thawed specimen received at CH testing laboratory

Admin Notes
Testing Location/Methodology: Children's Hosptial, Seattle WA / Liquid chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **CH AMINO ACID QUANT, PLASMA**; This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:
TAT: Routine
Other: Patient's age is required for correct reference range as well as sex, and a brief clinical history, tentative diagnosis, and the therapy over the last three days.

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Amino Acids serve many functions including as building blocks for proteins, neurotransmitters, precursors to hormones, and enzyme co-factors. More than 70 disorders of amino acid metabolism have been described. The clinical manifestations of these disorders are diverse.

AMINO ACID SCREEN, URINE CH P

Synonyms: Urine Amino Acid
CHCS IEN: 3203
Components: Test panel preformed at Children's Hospital
Container (Preferred/Alternate): Sterile Container, No preservatives

Specimen and Volume Required
Type(s): Urine (Random)
Volume:
Minimum Volume: 2 mL

Instructions

Patient Preparation: None
Collection: Single, clean, first morning voided specimen
Specimen Processing: No preservatives
Special Instructions: Laboratory: Specimen ships frozen to Children's Hospital
Transport / Storage Temperature: Transport to MAMC Lab shipping area at Room Temperature***.*** Urine Specimen stores and Ships Frozen -20 °C to Children's Hospital.

Rejection Criteria: Room temperature or thawed specimen received at CH Testing Laboratory; pH <2.0

Admin Notes

Testing Location/Methodology: Children's Hosptial, Seattle WA / Liquid chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **CH AMINO ACID SCR, URINE**; This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:
TAT: Routine
Other: Patient's age is required for correct reference range as well as sex, and a brief clinical history, tentative diagnosis, and the therapy over the last three days.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Amino Acids serve many functions including as building blocks for proteins, neurotransmitters, precursors to hormones, and enzyme co-factors. More than 70 disorders of amino acid metabolism have been described. The clinical manifestations of these disorders are diverse.

AMINO ACIDS, PLASMA QN CH P

Synonyms: 767; Amino Acids, Plasma Quant
CHCS IEN: 6404
Components: Test panel preformed at Children's Hospital

Container (Preferred/Alternate):

Preferred: Green-Top Tube (Sodium Heparin)
Alternate: Lavender-Top Tube (EDTA); Gray-Top Tube (Sodium Fluoride)

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 10 mL
Minimum Volume: 1 mL Plasma

Instructions

Patient Preparation: Fasting is required. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.
Collection: Routine Venipuncture
Specimen Processing: Green-Top Tube– Gently invert tube 8 times to mix with additive. Tranport to lab shipping section immediately. Centrifuge within 30 minutes to separate plasma from cells. Freeze plasma immediately.
Special Instructions:
Transport Temperature: Transport to MAMC Lab shipping area at Room Temperature***.*** Plasma Specimen stores and Ships Frozen -20 °C to Children's Hospital.

Rejection Criteria: Room Temperature or Thawed specimen received at CH testing laboratory.

Admin Notes

Testing Location/Methodology: Children's Hosptial, Seattle WA / Liquid chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **AMINO ACIDS, PLASMA QN .** This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:
TAT: Routine
Other: Patient's age is required for correct reference range as well as sex, and a brief clinical history, tentative diagnosis, and the therapy over the last three days.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Amino Acids serve many functions including as building blocks for proteins, neurotransmitters, precursors to hormones, and enzyme co-factors. More than 70 disorders of amino acid metabolism have been described. The clinical manifestations of these disorders are diverse.

AMINO ACIDS QUANT, URINE CH P

Synonyms:
CHCS IEN: 2512
Components: Test panel preformed at Children's Hospital

Total Volume
Amino Acids Quant Urine (Comp)

Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum Volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote 100 mL to plastic screw cap container and Freeze -20 °C.
Special Instructions:
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator 2-8 °C.or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Aliquote is stored and shipped Frozen at -20°C .
Rejection Criteria: Room Temperature or Thawed specimen received at CH testing laboratory.
Admin Notes
Testing Location/Methodology: Children's Hosptial, Seattle WA / Liquid chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **CH AMINO ACIDS QUANT, URINE**; This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:
TAT: Routine
Other: Patient's age is required for correct reference range as well as sex, and a brief clinical history, tentative diagnosis, and the therapy over the last three days.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Amino Acids serve many functions including as building blocks for proteins, neurotransmitters, precursors to hormones, and enzyme co-factors. More than 70 disorders of amino acid metabolism have been described. The clinical manifestations of these disorders are diverse.

AMINO ACIDS QUANT, URINE (COMP) CH P
Synonyms:
CHCS IEN: 2343
Components: Test panel preformed at Children's Hospital
Total Volume
Amino Acids Quant Urine (Comp)
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum Volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote 100 mL to plastic screw cap container and Freeze -20 °C.
Special Instructions:
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator 2-8 °C.or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Aliquote is stored and shipped Frozen at -20°C .
Rejection Criteria: Room Temperature or Thawed specimen received at CH testing laboratory.
Admin Notes
Testing Location/Methodology: Children's Hosptial, Seattle WA / Liquid chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **CH AMINO ACIDS QUANT, URINE (COMP)**; This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:

TAT: *Routine*
Other: Patient's age is required for correct reference range as well as sex, and a brief clinical history, tentative diagnosis, and the therapy over the last three days.

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Amino Acids serve many functions including as building blocks for proteins, neurotransmitters, precursors to hormones, and enzyme co-factors. More than 70 disorders of amino acid metabolism have been described. The clinical manifestations of these disorders are diverse.

AMITRIPTYLINE Q

Synonyms:
CHCS IEN: 3794
Test Code: 423
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 3 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion. Optimum time to collect is 10-14 hours post oral dose.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature. Ship serum at room temperature.
Rejection Criteria: Gross hemolysis, Lipemia, SST/Gel tube not acceptable.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **AMITRIPTYLINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

AMMONIA

Synonyms: NH3; 129
CHCS IEN: 206
Components:
Container (Preferred/Alternate): Green-Top Tube (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 10 mL
Minimum Volume:
Instructions
Patient Preparation: None. Obtain ice before draw for specimen transport.
Collection: Routine venipuncture. Do not draw above intravenous infusion. Immediately place specimen on ice.
Specimen Processing: Green-Top Tube– Gently invert tube 8 times to mix with additive. Deliver tube on ice to the laboratory immediately.
Special Instructions: Laboratory: Centrifuge within 20 minutes to separate plasma from cells. Test must be performed within 30 minutes of draw.
Transport/Storage Temperature: Transport on ice
Rejection Criteria: Hemolysis, Lipemia, Grossly Icteric, Incorrect collection; untimely delivery of specimen to laboratory, greater than 30 minutes; improperly labeled specimen.
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **AMMONIA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/ 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range:
Critical Value: >80 µmol/L
Clinical Significance: Ammonia is one of the by-products of protein metabolism. Found elevated in the following conditions: Liver disease, urinary tract infection with distention and stasis, Reyes syndrome, and inborn errors of metabolism; indicated in neonates with neurological deterioration, lethargy and/or emesis not explained, patients with possible encephalopathy, coma resulting from cirrhosis, drug hepatotoxicity. Also reported elevated in cardiac failure, azotemia and pulmonary emphysema. Correlation between plamsa ammonia and the degree of encephalopathy can be erratic.

AMPHETAMINE CONFIRMATION
Synonyms: Miscellaneous Shipping, Misc, Misc Ship
CHCS IEN: 2139
Components: Testing preformed at National Medical Services Laboratory
Container (Preferred/Alternate):
Preferred: Serum: Gold-Top / SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation:
Collection: Routine venipuncture;
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells. Store Frozen at -20 °C. Ship 2 mL Serum aliquote Frozen to NMS.
Special Instructions: It is imperative that the name of the test being requested is entered at the prompt to "Enter comment for Miscellaneous Referral Test", otherwise the test and sample(s) cannot be collected and processed. Please also enter the requested test name at the "Order Comment" field.
Transport/Storage Temperature: Transport to MAMC Laboratory for processing at Room Temperature; Store and ship Frozen at -20 °C.
Rejection Criteria: Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: National Medical Services Laboratory /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; It is imperative that the name of the test being requested is entered at the prompt to "Enter comment for Miscellaneous Referral Test", otherwise the test and sample(s) cannot be collected and processed. Please also enter the requested test name at the "Order comment" field. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. This test requires prior submission of a completed "Request for Referral to Commercial Lab" and funding forms for review and approval from the Chief of Pathology.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

AMPHETAMINES *See:* **DRUG SCREEN-UR (MAMC)** in this laboratory test information guide.

AMYLASE
Synonyms: AML; 104
CHCS IEN: 196
Components:
Container (Preferred/Alternate): Specimen specific. See chart below.
Specimen and Volume Required:
Type(s): Test may be performed on the following: See chart below.
Volume: For Timed Urine collection and Body Fluid specimens: Submit maximum amount of any obtainable material using the appropriate collection container and Method. See chart below for other specimen sources.
Minimum Volume:
Instructions
Patient Preparation: See specific specimen source in chart above.
Collection: See specific specimen source in chart above
Specimen Processing: See specific specimen source in chart above
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC/Vitros 5600
Order Method: CHCS order entry under: **AMYLASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Amylase is very unstable in acid urine. pH adjustment is necessary.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Amylase is a group of enzymes from the exocrine pancreas. Oxalate or citrate depress results. Lipemic sera may contain inhibitors which falsely depress results. Test used in work up for abdominal pain, epigastric tenderness, nausea and vomiting. Such findings characterize acute pancreatitis as well as acute surgical emergencies such as gastrointestinal perforation or bowel infarct. Amylase is used in the differential diagnosis of acute or chronic pancreatitis which may or may not, in an individual, be related to alcoholism.

Blood/Serum	***Container:*** Serum: Gold-Top / SST Tube (clot activator and gel separator); 1 Red or Amber-Top Tube for pediactric draw. ***Volume:*** 5 mL ***Patient Preparation:*** None ***Collection:*** Routine Venipuncture. Do not draw above intravenous infusion. ***Specimen Processing:*** Gently invert tube 5 times to mix blood with Clot activator immediately after draw. Tranport to lab immediately. Centrifuge to separate serum from cells.
Urine, Random	***Container:*** Sterile Cup Container with Screw-Top lid - without preservative (anti-bacterial) additives. ***Volume:*** 10 mL ***Patient Preparation:*** Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. ***Collection:*** Single, clean, first morning voided specimen. See: Instructions For Collecting a Clean Catch Urine Sample in the appendices of this laboratory information manual. ***Specimen Processing:***
Urine, 24 Hour	***Container:*** 24 hour urine container(s) with lid, No preservative ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. See: 24-Hour Urine Collection instructions in the appendices of this laboratory information guide for exact procedures. ***Specimen Processing:*** Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Laboratory: pH urine to alkaline range. Store refrigerated at 2-8 °C.
Body Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

ANA SCREEN MAMC O P

Synonyms: ANA Screen MAMC
CHCS IEN: 6203
Components:
Antinuclear Antibody Screen
Antinuclear Antibody Titer
Antinuclear Antibody Pattern
Antinuclear Antibody Titer 2
Antinuclear Antibody Pattern 2
Container (Preferred/Alternate):
Preferred: Serum: Gold-Top / SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL Serum
Instructions

Patient Preparation: None
Collection: Routine venipuncture;
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions: Transport to lab immediately.
Transport/Storage Temperature: Store Refrigerated or Frozen. Ship Serum aliquote in plastic leak-proof tube Refrigerated on wet ice or Frozen on dry ice.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing performed at BAMC laboratory
Order Method: CHCS order entry under: **ANTINUCLEAR AB PANEL (MAMC+NHOH);** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Antinuclear Antibodyies are present in Systemic Lupus Erythematosus, Sjogren's Syndrome, Mixed Connective Tissue Disease, Scleroderma, liver disease, Drug induced Lupus and Pheumatiod Arthritis.

ANAEROBIC CULTURE

Order Note: Aerobic cultures are automatically included in all Anaerobic Culture requests. If both are desired, order Anaerobic Culture only.
Synonyms: Culture Anaerobic, Ana Cult
CHCS IEN: 2360
Components:
Container (Preferred/Alternate): Source specific: Sterile Swab(s), Sterile Culturette and/or Sterile Container. Avoid tubes with preservatives (anti-bacterials) additives. See specimen source chart below.

Specimen and Volume Required

Type(s): See chart below
Volume: Submit maximum amount of any obtainable material using appropriate swab, asparate or collection method. Body fluids and Bone Marrow: 1 to 5 mL.
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Transport all specimens to Laboratory Immediately.
Special Instructions: For questions, advance media coordination and direct inoculation of culture media at clinics, please call: Microbiology Section at (253) 968-1753 from 0700-2030 hours or the Pathology Lead Technologists at (253) 968-1757 during all other hours.
Safety Note: If screening for agents of bioterrorism, notify Microbiology Section prior to submission. Please double bag the specimen(s) and hand carry to Microbiology Section. For bioterrorism screening DO NOT send specimen(s) to the lab via the pheumatic tube or cart system!
Transport Temperature: Transport at Room Temperature

Rejection Criteria*:* Incorrect specimen collection, containers and/or use of tubes with preservative (anti-bacterial) additives

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **ANAEROBIC CULTURE***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-*availability*
Availability: 24 hours / 7day a week
TAT: Routine Smear: 24-72 hours; Culture up to 9 weeks

Interpretive

Reference Range: No growth of anaerobic bacteria
Critical Value:
Clinical Significance: In open wounds, anaerobic organisms may play an etiological role whereas aerobes may represent superficial contamination. Isolate and identify aerobic and anaerobic organisms from abscess sites. For aerobic organisms, isolation and identical, aerobic culture should be submitted. Improper collection can result with contamination of anaerobes and aerobes non-pathogenic to the infection or disease process. Gram stain order should accompany an anaerobic culture.

Abscess	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube ***Patient Preparation:*** None ***Collection: :*** See appropriate clinical procedure for collection of specimen. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS

	Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately
Amniotic Fluid	***Container:*** Anaerobic transport Port-A-cul Vial ***Patient Preparation:*** ***Collection:*** See appropriate clinical procedure for collection of amniotic fluid. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately.
Bone	***Container:*** Sterile Container. Do Not use culturette swabs for culture. ***Patient Preparation:*** None ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Submit the largest amount possible in a sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Bone Marrow	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube; or BacTAlert Blood Culture Bottle; Note: If a Gram Stain is desired, submit a separate sample of bone marrow in a culturette or other steile container in addition to the other specimens. ***Volume:*** 1-5 mL bone marrow required ***Patient Preparation:*** None ***Collection: :*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. See appropriate clinical procedure for collection of bone marrow specimens. Utilize sterile technique and avoid contamination with normal flora. If a Gram Stain is desired, submit a separate sample of bone marrow in a culturette or other steile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately ***Remarks:*** A Gram Stain cannot be performed on samples already injected into blood culture bottles.
Other Misc (Specify Source)	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE ***Container:*** Anaerobic transport-Port-A-Cul Vial (will also be used for aerobic culture and gram stain) or inject directly into Anaerobic and Aerobic BacTAlert Blood Culture Bottles (also submit additional specimen for Gram Stain when submitting BacTAlert Blood Culture Bottles). ***Volume:*** 1-5 mL of normally sterile body fluids ***Patient Preparation:*** None ***Collection:*** See appropriate clinical procedure for collection of individual specimens based on source. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Sinus	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube and 2 aerobic culturettes ***Patient Preparation:*** None ***Collection: :*** See appropriate clinical procedure for collection of specimen. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately
Tissue	***Container:*** Sterile Container. Do Not use culturette swabs for culture. ***Patient Preparation:*** None ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Specimen varies with source. Submit the largest amount possible in a sterile container with enough sterile saline to just cover tissue. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Wound	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE; ***Container:*** Swab; 2 swabs required if a gram stain is being requested ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora.

	Labeling Instructions: Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately

ANCA SCREEN WITH REFLEX TO ANCA TITIER Q

Synonyms:
CHCS IEN: 5073
Test Code: 70171
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator); Use Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store and ship at room temperature. Ship Serum aliquote in plastic leak-proof tube.
Rejection Criteria: Gross Hemolysis, Gross Lipemia, Gross Icteric
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ANCA SCREEN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

ANCA VASCULIDITES Q

Synonyms:
CHCS IEN: 4415
Test Code: 36733
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator); Use Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store and ship at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ANTINEUTROPHIL CYTOPLASMIC ABS;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

ANDROSTENEDION, LC/MS/MS Q

Synonyms:

CHCS IEN:
Test Code: 70171
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion. Early morning specimen collection preferred.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature. Ship serum at room temperature. Specimen stability: 14 days at room temperature; 28 days at 2-8 ºC; 2 years frozen.
Rejection Criteria: Glass tubes, SST/Gel tubes not accepted.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ANDROSTENEDIONE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ANGELMAN SYNDROME DNA
Synonyms: Angelman DNA, Keesler
CHCS IEN: 6487
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.
Specimen and Volume Required
Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.
Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.
Admin Notes
Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **ANGELMAN SYNDROME DNA .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

ANGIOTENSIN CONVERTING ENZYME Q
Synonyms: Angio Conv Enz; 683
CHCS IEN: 1843
Test Code: 683
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.3 mL Serum
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store and ship at room temperature. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC; 60 days frozen (-20 ºC).
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Spectrophotometry (SP)
Order Method: CHCS order entry under: **ANGIOTENSIN CONVERTING ENZYME** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

ANGIOTENSIN CONVERTING ENZYME Q
Synonyms:
CHCS IEN: 2139
Test Code: 34692
Container (Preferred/Alternate): Plastic Screw-cap vial
Specimen and Volume Required
Type(s): CSF
Volume: 1 mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: See appropriate clinical procedures for collection of CSF.
Collection: See appropriate clinical procedures for collection of CSF.
Specimen Processing: Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Store and ship Frozen. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 60 days frozen (-20 ºC).
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

ANTI-DNA (DOUBLE STRAND) Q *See:* **DNA (DS) ANTIBODY** in this laboratory test information guide.

ANTI-DNASE-B ANTIBODY Q *See:* **DNASE-B ANTIBODY** in this laboratory test information guide.

ANTI-GLIADIN ANTIBODY PANEL P *See*: **CELIAC DISEASE PANEL** in this laboratory test information guide.

ANTI-HU REFLEX TO TITER / WB Q *See:* **NEURONAL NUCLEAR (HU) ANTIBODY WITH REFLEX TO TITER AND WESTERN BLOTT** in this laboratory information guide

ANTI-MULLERIAN HORMONE Q
Synonyms: Anit-Mullerian (Quest Name)
CHCS IEN: 6419
Test Code: 16842
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator); Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation:
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells. Freeze serum.
Special Instructions:
Transport/Storage Temperature: Store and ship frozen. Specimen stability: unacceptable at room temperature; 5 days at 2-8 ºC; 60 days frozen (-20 ºC).
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Spectrophotometry (SP)
Order Method: CHCS order entry under: **ANTI-MULLERIAN HORMONE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

ANTI-STREPTOLYSIN O AB *See*: **STREPTOLYSIN O AB QN** in this laboratory test information guide

ANTI-XA *See*: **HEPARIN LOW MOLECULAR WEIGHT** in this laboratory test information guide

ANTIBODY ID (MAMC ONLY) P
Synonyms: Antibody Workup, Antibody ID
CHCS IEN: 6516
Components:
Antibody Identification
Antibody Titer
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert the pink-top tube 10 times to mix blood with additive. Transport to laboratory ASAP, if delayed more than 12 hours, specimen must be refrigerated. DO NOT FREEZE. Specimen stored in Transfusion Service for 1 week.
Special Instructions:
Transport Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross hemolysis, SST, Frozen specimen; having not been stored properly or transported to lab in a timely manner.
Admin Notes
Testing Location/Methodology: Transfusion Service/
Order Method: CHCS order entry: **ANTIBODY ID (MAMC ONLY)** ***;*** MAMC Form 1787-L (Clinical Lab Test Procedure

Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive
Reference Range:
Critical Value:
***Clinical Significance*:** If a clinically significant antibody is found in a prenatal specimen, the physician will be notified. Additional samples maybe required for titration determineation. Use: To determinee if patient has a detectable antibody that could cause 1) destruction of patients own red cells (autoantibody), 2) destruction of donors red blood cells, 3) destruction of red blood cells of the female patient's fetus or newborn; Hemolytic Disease of the Newborn (HDN).

ANTIBODY IDENTIFICAITON See*:* **ANTIBODY ID (MAMC ONLY)** and **PRENATAL SCREEN (MAMC ONLY)** panels in this laboratory test information guide

ANTIBODY SCREEN - CHCS
Synonyms: AB Screen; Indirect Coombs Test
CHCS IEN: 6459
Components:
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert the pink-top tube 10 times to mix blood with additive. Transport to laboratory ASAP, if delayed more than 12 hours, specimen must be refrigerated. DO NOT FREEZE. Specimen stored in Transfusion Service for 1 week.
Special Instructions:
Transport Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross hemolysis, SST, Frozen specimen; having not been stored properly or transported to lab in a timely manner.

Admin Notes
Testing Location/Methodology: Transfusion Service/
Order Method: CHCS order entry under: **ANTIBODY SCREEN – CHCS;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other: Positive results require an antibody identification work-up. For a positive screen, the following Antibody identification workup panel is ordered automatically: **ANTIBODY ID (MAMC ONLY)**

Interpretive
Reference Range: Negative.
Critical Value:
***Clinical Significance*:** If a clinically significant antibody is found in a prenatal specimen, the physician will be notified. Additional samples may be required for titration determineation. Use: To determinee if patient has a detectable antibody that could cause 1) destruction of patients own red cells (autoantibody), 2) destruction of donors red blood cells, 3) destruction of red blood cells of the female patient's fetus or newborn; Hemolytic Disease of the Newborn (HDN).

ANTIBODY TITER See: **ANTIBODY ID (MAMC ONLY)** and **PRENATAL SCREEN (MAMC ONLY)** panels in this laboratory test information guide

ANTIFUNGAL LEVEL, ITRACONAZOLE, HPLC Q
Synonyms:
CHCS IEN: 2139
Test Code: 34973
Components:
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: List all antimicrobials being used to treat the patient.
Transport/Storage Temperature: Store and Ship serum Frozen.

Rejection Criteria: SST/Gel tubes not accepted. Room temperature and refrigerated not acceptable.

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ANTIGEN PHENOTYPE

Synonyms: Phenotype, RH Phenotype, AG Testing
CHCS IEN: 4007
Components:
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Do not centrifuge**.** Transport unspun at Room Temperature to Transfusion Service, MAMC; Store Refrigerated at 2-8 °C.
Special Instructions:. Under Order Comment in CHCS, please state: "Test for ____ antigen". A SF 556 (Immunohematology) form is required for all inpatient orders
Transport/Storage Temperature: Transport to Transfusion Service at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross hemolysis, Serum Separator Tube (SST)

Admin Notes

Testing Location/Methodology: Transfusion Service, MAMC / Immunohematology
Order Method: CHCS order entry under: **ANTIGEN PHENOTYPE**; Order Required Data Set: GS Lab Antigen Type. Under Order Comment in CHCS, please state: "Test for ____ antigen". A SF 556 (Immunohematology) form is required for all inpatient orders for this test. Routinely ordered on partner of pregnant women who have clinically significant antibodies. A free text comment will state the antigen type of the husband. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP: 2 hours; Routine: 8 hours

Interpretive

Reference Range:
Critical Value:
Clinical Significance: This test is used for assessing the risk of hemolytic disease of the newborn due to Rh factor antibodies. Also routinely ordered on partners of pregnant women who have clinically significant antibodies. A free text comment will state the antigen type of the husband.

ANTIHISTONE ANTIBODY Q

Synonyms:
CHCS IEN: 2139
Test Code: 37056
Components:
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion. Overnight fasting is preferred.
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Freeze serum immediately.
Special Instructions:
Transport/Storage Temperature: Ship frozen to Quest.. Specimen stability: 18 hours at room temperature; 1 week at 2-8 ºC; 1 month frozen.

Rejection Criteria: Avoid Hemolysis, room temp or refrigerated unacceptable.

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under*:* **HISTONE AB.** *;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ANTINUCLEAR AB PANEL (MAMC+NHOH) O P

Synonyms: ANA Screen MAMC
CHCS IEN: 6203

Components:

Antinuclear Antibody Screen
Antinuclear Antibody Titer
Antinuclear Antibody Pattern
Antinuclear Antibody Titer 2
Antinuclear Antibody Pattern 2

Container (Preferred/Alternate):

Preferred*:* Serum: Gold-Top / SST Tube (clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: None
Collection: Routine venipuncture;
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions: Transport to lab immediately.
Transport/Storage Temperature: Store Refrigerated or Frozen. Ship Serum aliquote in plastic leak-proof tube Refrigerated on wet ice or Frozen on dry ice.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing performed at BAMC laboratory
Order Method: CHCS order entry under: **ANTINUCLEAR AB PANEL (MAMC+NHOH) ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Antinuclear Antibodyies are present in Systemic Lupus Erythematosus, Sjogren's Syndrome, Mixed Connective Tissue Disease, Scleroderma, liver disease, Drug induced Lupus and Pheumatiod Arthritis.

ANTITHROMBIN III ACTIVITY Q

Order Note: This test requires Pathologist approval prior to ordering and testing. CHCS automatically prompts for the approving Pathologist's name when ordering this test.

Synonyms:
CHCS IEN: 1846
Test Code: 216
Container (Preferred/Alternate): 4.5 mL Light Blue-Top Tube (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 1 mL Plasma (Platelet Poor)
Minimum Volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Collect 1 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Within 60 mins from collection, Centrifuge specimen at 1500 g for 15 minutes, remove plasma (remaining at least 1/8 inch from the buffy coat) and then transfer the plasma to a new tube and centrifuge again at 1500 g for 15 minutes. Transfer the plasma (again remaining 1/8 from the button) to an appropriately labeled tube. Freeze the final product at -70 °C. Plasma must be <10,000/MCL)
Transport/Storage Temperature: Deliver Lt Blue-top tube to laboratory immediately. If shipping from outside MAMC, ship platetlet free Plasma Frozen. Platelet Poor Plasma ships frozen to Quest. Specimen stability: 6 hours at room temp; 48 hours at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross Hemolysis, Clotted, Serum, 3.8% sodium citrate.

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ANTITHROMBIN III ACTIVITY** ***;*** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance

APC-R (MAMC) P

Synonyms: Activated Protein C Resistance; APC; APC-R; Factor V Leiden Screen
CHCS IEN: 4045
Components:
APC-R Interpretation
APC-R Result
Container (Preferred/Alternate): Requires 1 Light Blue-Top (Sodium Citrate) + 1 Lavendar-Top Tube (EDTA)

Specimen and Volume Required

Type(s): Blood
Volume: Light Blue-Top: 3.5 mL and Lavendar-Top: 3 mL
Minimum Volume:

Instructions

Patient Preparation: Patient must be inactive for at least 10 minutes just before sample collection.
Collection: Routine Venipuncture. Discard the first few milliliters of blood then allow the Lt. Blue-Top Tube to fill by vacuum. Do not over or underfill the tube. The Lavendar-Top Tube then collected.
Specimen Processing: Gently invert Lt. Blue-Top tube 8 times and the Lavendar-Top tube 10 times to mix blood with additive. Transport to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport to lab at Room Temperature. Store Lavendar-Top tube Refrigerated or frozen. For storage of Lt. Blue-Top Tube, centrifuge and separate plasma and store Frozen at -70 °C only.

Rejection Criteria: Improper mixing of blood with tube additive. Lt. Blue-Top tube stored refrigerated.

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **APC-R (MAMC)**; please include brief patient's clinical history with request. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Notify and Routine, Routine
Other: Please include brief patient's clinical history with request. Patients on Coumadin or Heparin therapy are acceptable for this assay.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Factor V (Leiden) Mutation is a point mutation that causes resistance of Factor V protein degradation by activated protein C (APC). This mutation is associated with increased risk of venous thrombosis.

APOLIPOPROTEIN EVALUATION Q

Synonyms:

CHCS IEN: 6261
Test Code: 7018
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator); Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: Fasting for at least 12 hours is required.
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store 2-8 C. Ship at room temperature to Quest. Specimen stability: 5 days at room temperature; 10 days at 2-8 ºC; 90 days frozen (-20 ºC).
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Spectrophotometry (SP)
Order Method: CHCS order entry under: **APOLIPOPROTEIN B-100;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

APPLE (F49), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2849
Components:
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 1 month frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ARGININE VASOPRESSIN AVP, ANTIDIURETIC HORMONE Q
Synonyms:
CHCS IEN: 6276
Test Code: 252
Container (Preferred/Alternate): Requires 6mL Lavendar-Top Tubes (K_2EDTA); Plastic screw-cap vial for shipping.

Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4 mL Plasma
Minimum Volume: 1.1 mL Plasma
Instructions
Patient Preparation: None
Collection: Routine venipuncture. Collect in pre-chilled lavender-top tube. Immediately place in ice bath after drawing.
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Immediately place tube in ice bath after drawing. Tranport in ice bath to lab immediately. Laboratory: Centrifuge immediately and separate plasma from cells. Freeze plasma immediately. Do not thaw.
Special Instructions:
Transport/Storage Temperature: Transport to lab in ice bath. Store and ship plasma Frozen. Specimen stability: 1 hour at room temperature; 6 hours 2-8 C; 6 months frozen.
Rejection Criteria: Specimen received thawed, room temperature or refrigerated.
Admin Notes
Testing Location/Methodology: Quest Diagnostics.
Order Method: CHCS order entry under: **ARGININE VASOPRESSIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

ARIPIPRAZOLE; B Q
Synonyms:
CHCS IEN: 2139
Test Code: 15904
Container (Preferred/Alternate): Requires 6mL Lavendar-Top Tubes (K_2EDTA) or Gray-Top Tube.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Laboratory: Do Not Centrifuge.
Special Instructions:
Transport/Storage Temperature: Transport to lab room temperature. Store and ship blood at room temperature. Speciment stability: 14 days at room temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics.
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

ARIPIPRAZOLE; SP Q
Synonyms:
CHCS IEN: 2139
Test Code: 15922
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:

Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 2 weeks frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ARSENIC, BLOOD Q

Synonyms:
CHCS IEN: 3498
Test Code: 269
Container (Preferred/Alternate): 6 mL Royal Blue-Top tube (EDTA or Heparin)

Specimen and Volume Required

Type(s): Blood/Whole Blood
Volume: 4 mL Serum
Minimum volume: 2 mL

Instructions

Patient Preparation: Patient shoud refrain from eating shellfish, shrimp, crab, lobster and bottom-feeders such as flounder for at least three days prior to specimen collection.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 8 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 10 days at room temperature; 10 days at 2-8 ºC; Unacceptable frozen.

Rejection Criteria: Frozen unacceptable. Gross Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **ARSENIC, BLOOD ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ARSENIC, RANDOM URINE Q

Synonyms:
CHCS IEN: 3526
Test Code: 270
Container (Preferred/Alternate): Plastic-screw-cap urine container (Acid Washed)

Specimen and Volume Required

Type(s): Urine/Random
Volume: 7 mL
Minimum volume: 5 mL

Instructions

Patient Preparation: Patient shoud refrain from eating shellfish, shrimp, crab, lobster and bottom-feeders such as flounder for at least three days prior to specimen collection.
Collection: Collect second morning void in acid-washed container.
Specimen Processing: Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship refrigerated 2-8 C to Quest. Specimen stability: 48 hours at room temperature; 5

days at 2-8 ºC; 14 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **ARSENIC ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

ASPARTATE AMINOTRANSFERASE

Synonyms: AST; SGOT; 105

CHCS IEN: 3242

Components:

Container (Preferred/Alternate):

Preferred: Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Alternate: Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum or Blood/Plasma

Volume: 5 mL

Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine venipuncture

Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.

Special Instructions:

Transport/Storage Temperature: Transport to lab at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis, Anticoagulants other than heparin.

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC/Vitros 5600

Order Method: CHCS order entry: **ASPARTATE AMINOTRANSFERASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Serum and Plasma

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Unit
Male/All	17	59			U/L
Female/All	14	36			

Critical Value:

Clinical Significance: AST is widely distributed throughout the tissues with significant amounts being in the heart and liver. Lesser amounts are found in skeletal muscles, kidneys, pancreas, spleen, lungs, and brain. Injury to these tissues results in the relase of the AST enzyme to general circulation. In myocardial infarction, serum AST may begin to rise within 6-8 hours after onset, peak within two days and return to normal by the fourth or fifth day post infarction. An increase in serum AST is also found with hepatitis, liver necrosis, cirrhosis, and liver metastasis.

ASPERGILLUS ANTIBODIES, IMMUNODIFFUSION Q P

Synonyms: Aspergillus AB Immunodiffusion; Q Aspergillus AB, Immunodiffusn; 20341

CHCS IEN: 6215

Test Code: 20341

Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL

Minimum Volume: 0.1 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture

Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab

immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport to lab at Room Temperature. Store Refrigerated at 2-8 °C. Ships to Quest at room temperature. Specimen stablility: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunodiffusion
Order Method: CHCS order entry under: **Q ASPERGILLUS AB, IMMUNODIFFUSN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Unit
Critical Value:
Clinical Significance:

ASPERGILLUS ANTIGEN Q

Synonyms:
CHCS IEN: 2139
Test Code: 14950
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator); Plastic screw-cap vial for BAL specimen.

Specimen and Volume Required

Type(s): Blood/Serum
Alternate: Bronchial Alveolar Lavage (BAL)
Volume: 2 mL
Minimum Volume: 1 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture. Care is required to avoid contamination of specimen with mold during collection and processing.
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells. Do not open tube. Do not transfer to different container. Freeze
Special Instructions:
Transport/Storage Temperature: Store and ship Frozen to Quest Frozen in SST tube (Unopened). Specimen stablility: Unopened: Unacceptable at room temperature; 5 days at 2-8 ºC; >5 days frozen -70 C. Opened tube: Unacceptable at room temperature; 48 hours at 2-8 ºC; >48 hours frozen -70 C.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunodiffusion
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Unit
Critical Value:
Clinical Significance:

ASPERGILLUS FUMIGATUS (M3) IGE Q P

Synonyms:
CHCS IEN: 6065
Test Code: 2703
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture

Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport and ship at Room Temperature. Specimen stablility: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **A FUMIGATUS IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Sex/Age Group Ref Low Ref High Panic Low Panic High Unit
Critical Value:
Clinical Significance:

AST *See*: **ASPARTATE AMINOTRANSFERASE** in this laboratory test information guide.

AUTOPSY

Synonyms: Postmortem Examination
CHCS IEN: 3991
Components: Procedure includes a gross examination of the decedent with sampling of tissues for microscopical or other special examinations, as appropriate. Determineation of the cause and manner of death; issuance of a detailed written report documenting all pertinent findings. Presentation of findings to clinical colleagues, decedent's family members, and others upon request, if appropriate.
Container (Preferred/Alternate): Body Bag

Instructions

Decedent Preparation: Body must be labeled with DA 8-219 (Death Tag). In general, all tubes, needles, and other extraneous material should be left in place. The attending staff may remove tubes and other interventional equipment only if, in their opinion, there is no question of the equipment playing a role in the death of the decedent. The body should be prepared and wrapped in accordance with Nursing Service guidelines and procedures.
Release & Receipt of Remains: The morgue is located on the ground floor, Room G-34-C3. This is a controlled access area and Anatomic Pathology retains key access during duty hours. During duty hours, remains will be transported by the patient transport service. Delivery will be annotated on the SF 523A (Disposition of Body), and in the morgue Disposition log. After duty hours the AOD/SDNC will accompany the remains to the morgue, completing the aforementioned forms. For release of remains during duty hours, the mortuary attendant will obtain from PAD the Authority to Release Remains (SF607-PAD), who will present this to Anatomic Pathology personnel in the morgue. The mortuary representative will sign for the remains on the SF 523A and on the morgue Disposition log. The identity of the remains must be confirmed by examination of death tags prior to release. The SF 523A copy and SF 607-PAD are retained in the morgue. After duty hours the AOD will provide the SF 607-PAD to the mortuary representative and will accompany him to the morgue. The AOD and mortuary representative will complete the SF 523A and morgue Disposition log, and verify identity of the remains prior to release.
Autopsy Consent: An autopsy on non-active duty patients may only be performed after appropriate authorization from the legal next of kin. The responsibility for accurate completion of the SF 523 rests with the decendent affairs branch of PAD during duty hours, and with the AOD after duty hours. The legal next of kin is considered in the following order of priority: 1) Widow or widower (if not remarried or divorced). 2) Sons who have attained majority in the order of seniority. 3) Daughters who have attained majority in the order of seniority. 4) Father (unless legal custody of the decendent was granted to another by reason of a court order of statutory provision). 5) Mother (unless legal custody of the decedent was granted to another by reason of a court order of statutory provision). 6) For other priorities please see AR 638-40, or the decendent affairs branch.
Special Instructions: For special concerns about a case, please contact the prosector immediately upon receipt of the authorizing signatures so appropriate procedures can be planned.

Admin Notes

Testing Location: MAMC Autopsy suite, G-34-C3
Order Method: Required Form: SF 523, Authorization for Autopsy. Order is placed in CHCS by Anatomic Pathology personnel only! To contact MAMC Anatomic Pathology Surgical Service: 968-1696/1697/1698
Availability: Autopsies are routinely performed during regular duty days. In general, if the Anatomic Pathology Service has all the documentation required (signed, witnessed autopsy authorization (SF 523), and clinical record) prior to 1400 hours, the autopsy can be completed that duty day. Cases prepared after 1400 hours are normally performed the next duty day. In rare circumstances, autopsies may be performed outside of regular duty hours in order to meet a clinically important objective. Autopsies after normal duty hours can only be arranged by consulting with the appropriate staff pathologist.
TAT: Preliminary verbal findings are available from the prosector immediately following the dissection. Physicians are invited to come to the autopsy suite to see the findings first hand. Written preliminary results are available within 3 working days following the autopsy; final reports should be available for most routine cases within 30 working days of the case. Cases requiring outside consultation or extensive special studies may take longer to complete. Upon completion and signing out the

case, the report will be available in CHCS.

Other: Washington State law requires that the coroner/medical examiner be promptly notified of all deaths whenever any of the following circumstances apply. Reporting to the coroner/medical examiner will be performed by the decedent affairs branch or the AOD as appropriate.

1) Sudden death when in apparent good health without medical attention within the 36 hours preceding death. This will include: a. Sudden death of an individual wherein there is no known natural cause for the death. b. Death during an acute, unexplained rapidly fatal illness for which a reasonable natural cause has not been established. c. Death of an individual who is not under the care of a licensed physician. d. Death of a person in a nursing home or other institution where medical treatment is not provided by a licensed physician.
2) Circumstances which indicate that death was caused entirely or in part by unnatural or unlawful means. a. Drowning, suffocation, burns, electrocution, lightening, radiation, chemical or thermal injury, starvation, neglect, environment exposure. b. Unexpected deaths during, associated with, or as a result of diagnostic or therapeutic procedures. c. All deaths in the operating room whether due to surgical or anesthetic procedures. d. Narcotics or other additctions, other drugs including alcohol or any toxic agent or toxic exposure. e. All instances in which the environment of present or past employment may have caused or contributed to death by trauma or disease, including any consequences of any physical or toxic injury incurred while employed and including all deaths during or related to employment. f. Death of the mother caused by known or suspected abortion. g. Deaths occurring from natural causes during the course of a criminal act. h. Deaths that occur within one year following an accident, even if the accident is not thought to have contributed to the death. i. Death following all injury producing accident if recovery was considered incomplete or if the accident is thought to have contributed to the cause of death.
3) Death resulting from suspicious circumstances. a. Deaths resulting from an apparent homicide or suicide. b. Hanging, gunshot wounds, cutting, stabbing, suffocation, strangulation, etc. c. Alleged rape, carnal knowledge, or sodomy. d. Death during the course of or precipited by a criminal act. e. All deaths occurring in a correctional institution, reformatory, or other incarceration and detention area such as jails, or death of any individual in custody regardless of the manner and probable cause of death.
4) Deaths of unknown or obscure causes. a. Death during or following unexplained syncope or come. b. Whenever a body is found and there are not wtnesses or little or not information can be elicited concerning the previous medical history.
5) Vehicular accidents.
6) Death from a contagious disease. This includes only death wherein the diagnosis is undetermineed and a suspicion exists for a highly infectious process capable of spreading an epidemic.
7) Premature, still born, or newborn infant deaths where there is a suspicion of legal interferences.
8) Any death in which no physician is able to certify the cause of death.
9) Anatomical material suspected of being or determineed to be part of a human body.
10) Deaths where the body is not claimed.

Interpretive

Reference Result: A detailed written report is produced; available in CHCS. The report will detail pertinent gross and microscopic finding s as well as discuss the clinical pathologic features of the case. Findings and interpretation may be discussed directly with the prosector and attending staff pathologist.

AVOCADO (F96), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 8928
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube
Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 4 weeks frozen.

Rejection Criteria:
Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine
Interpretive
Reference Range:
Critical Value:

B-CELL GENE REARRANGEMENT, PCR, CELL-BASED Q
Synonyms:
CHCS IEN: 2139
Test Code: 14868
Components:
Container (Preferred/Alternate): Requires 6mL Lavendar-Top Tubes (K_2EDTA); Plastic screw-cap vial for shipping.
Specimen and Volume Required
Type(s):
Blood/Whole
Alternate specimens:
Bone Marrow
Formalin-fixed embedded tissue
Volume: 5 mL Blood or Bone Marrow
Minimum Volume: 1 mL
Instructions
Patient Preparation: None. See appropriate clinical procedures required for specific specimen.
Collection: Routine venipuncture. Collect whole blood or bone marrow in lavender-top tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood immediately after drawing tube. Do Not Freeze.
Special Instructions:
Transport/Storage Temperature: Store and ship blood or bone marrow refrigerated at 2-8 ºC. Specimen stability: 1 week at room temperature; 1 week at 2-8 ºC; Unacceptable frozen. Ship paraffin block at room temperature. Fresh Tissue is shipped frozen and is stable for 1 year at -70ºC. Tissue in formalin fixative or RPMI are to be shipped at room temperature or refrigerated.
Rejection Criteria: Fresh tissue received refrigerated; Blood or Bone Marrow received Frozen.
Admin Notes
Testing Location/Methodology: Quest Diagnostics.
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

B-TYPE NATRIURETIC PEPTIDE *See:* **BRAIN NATRIURETIC PEPTIDE** in this laboratory test information guide.

BAHIA GRASS (G17), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2317
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 4 weeks frozen.
Rejection Criteria:
Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:

BANANA (F92), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 8926
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 4 weeks frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:

BARBITURATES See: **DRUG SCREEN-UR (MAMC)** in this laboratory test information guide.

BARLEY (F6) IGE Q

Synonyms:
CHCS IEN: 6081
Test Code: 2806
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 4 weeks frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **BARLEY IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:

BARTONELLA HENSELAE PANEL Q P

Synonyms: Bartonella Henselae IgG, IgM, Cat Scratch Disease
CHCS IEN: 3938
Test Code: 37671
Components:
B. Henselae IgG Titer
B. Henselae IgM Titer
B. Henselae IgG
B. Henselae IgM
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube; Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship refrigerated on ice packs at 2-8 C to Quest. Specimen stability: 4 days at room temperature; 5 days at 2-8 ºC; 4 weeks frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **BARTONELLA HENSELAE IGG, IGM;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:

BARTONELLA SPECIES ANTIBODIES (IGG, IGM) WITH REFLEXES TO TITER Q P

Synonyms:
CHCS IEN: 4482
Test Code: 34251
Components:
B. Henselae IgG
B. Henselae IgG Titer
B. Quintana IgG
B. Quintana IgG Titer
B. Henselae IgM
B. Henselae IgM Titer
B. Quintana IgM
B. Quintana IgM Titer
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube; Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:
Transport/Storage Temperature: Ship refrigerated at 2-8 C to Quest. Specimen stability: 4 days at room temperature; 5 days at 2-8 ºC; 4 weeks frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **BARTONELLA SP AB IGM, IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:

BASE EXCESS See: **BLOOD GAS (MAMC)** in this laboratory test information guide.

BASIC METABOLIC PANEL P

Synonyms: BMP; Basic Metabolic Panel; Chem 7 + Ca(MAMC)
CHCS IEN: 3842
Components:

Sodium
Potassium
Chloride
Carbon Dioxide
Glucose
Urea Nitrogen
Creatinine
Anion Gap with K+
Osmo, Calculted
BUN/Creatinine Ratio
Calcium
Glomerular Filtrate Rate (Calculated)

Container (Preferred/Alternate): Gold-Top Tube (Clot activator and gel for serum separation) or Red or Amber-Top or Green-Top Tube (Lithium Heparin); Microtainer Tube for Pediatric draw.

Specimen and Volume Required

Type(s):
Blood/Serum
Blood/Plasma
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 8 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum or plasma from cells.
Special Instructions:
Transport Temperature: Transport at Room Temperature

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **BMP (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: See individual analytes
Critical Value:
Clinical Significance: See individual analytes

BEEF (F27) IGE Q

Synonyms:
CHCS IEN: 6107
Test Code: 2827

Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube; Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **BEEF IGE PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

BEEF IGG Q
Synonyms:
CHCS IEN: 6106
Test Code: 38125
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube; Plastic Screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 28 days at room temperature; 28 days at 2-8 ºC; 1 year frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **BEEF IGG;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

BENZODIAZEPINES PANEL, URINE Q P
Synonyms:
CHCS IEN: 2139
Test Code: 30959
Components:
1-Hydroxymidazolam
7-Amino Clonazepam (Clonazepam Metabolite)
Alpha-Hydroxyalprazolam (Alprazolam Metabolite)
Alprazolam (Xanax ®)
Chlordiazepoxide (Librium ®)

Clobazam (Urbanyl ®)
Desalkylflurazepam (Flurazepam Metabolite)
Diazepam (Valium ®)
Estazolam (ProSom ®)
Hydroxyethylflurazepam (Flurazepam Metabolite)
Hydroxytriazolam (Triazolam Metabolite)
Lorazepam (Ativan ®)
Nordiazepam
Oxazepam (Serax ®)
Temazepam (Restoril ®)

Container (Preferred/Alternate): Plastic Screw-cap Vial

Specimen and Volume Required

Type(s): Urine/Random
Volume: 1 mL Urine
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: See instructions found under: Clean Catch Urine Sample Collection in main laboratory directory of services.
Specimen Processing: Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated on ice packs 2-8 C. Specimen stability: 24 hours at room temperature; 14 days at 2-8 ºC; 14 days frozen.

Rejection Criteria: Received at room temperature

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:

BERMUDA GRASS (G2) IGE Q

Synonyms:
CHCS IEN: 6045
Test Code: 2302
Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **RAST BERMUDA GRASS PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:

BETA 2 GLYCOPROTEIN I ABS Q P

Synonyms: Quest Name: Beta-2-Glycoprotein I Antibodies (IgG, IgA, IgM)
CHCS IEN: 6527
Test Code: 30340
Components:
B2 Glycoprotein I Ab, IgG
B2 Glycoportein I Ab, IgM
B2 Glycoprotein I Ab, IgA
Container (Preferred/Alternate): 2 - Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Platetet-poor plasma
Volume: 4.5 mL x 2
Minimum Volume: 1.5 mL
Instructions
Patient Preparation:
Collection: Collect 2 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL).
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 5 days room temperature; 14 days 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **BETA 2 GLYCOPROTEIN I ABS;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: *Routine*
Interpretive
Reference Range: B2-glycoprotein I (IgG): ≤20 SGU; B2-glycoprotein I (IgA): ≤20 SGU; B2-glycoprotein I (IgM): ≤20 SGU
Critical Value:
Clinical Significance: Beta-2-Glycoprotein 1, Apolipoprotein H, is a cofactor in antiphospholipid antibody binding and is the critical antigen in the antiphospolipid antibody syndrome. Beta-2-Glycoprotein 1 Antibody is more specific than Cardiolipin Antibody that may express reactivity in patients with syphilis and other infectious disease. Limitations: Factor VIII inhibitors may cause a false-positive lupus anticoagulation test. The temporary presence of antiphospolipid antibodies may accompany infections or certain drugs.

BETA 2 TRANSFERRIN Q

Synonyms:
CHCS IEN: 2139
Test Code: 10640
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-cap container
Specimen and Volume Required
Type(s): Body Fluid
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection:
Specimen Processing: Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable room temperature; Unacceptable at 2-8 ºC; 14 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

BETA-2-GLYCOPROTEIN I ANTIBODY (IGA) Q

Synonyms:

CHCS IEN: 2139

Test Code: 36552

Components:

Container (Preferred/Alternate): 2 - Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Platetet-poor plasma

Volume: 4.5 mL x 2

Minimum Volume: 1.5 mL

Instructions

Patient Preparation:

Collection: Collect 2 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.

Specimen Processing: Gently invert tubes 8 times to mix blood with additive.

Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL).

Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 5 days room temperature; 14 days 2-8 ºC; 30 days Frozen.

Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: *Routine*

Interpretive

Reference Range: B2-glycoprotein I (IgG): ≤20 SGU; B2-glycoprotein I (IgA): ≤20 SGU; B2-glycoprotein I (IgM): ≤20 SGU

Critical Value:

Clinical Significance: Beta-2-Glycoprotein 1, Apolipoprotein H, is a cofactor in antiphospholipid antibody binding and is the critical antigen in the antiphospolipid antibody syndrome. Beta-2-Glycoprotein 1 Antibody is more specific than Cardiolipin Antibody that may express reactivity in patients with syphilis and other infectious disease. Limitations: Factor VIII inhibitors may cause a false-positive lupus anticoagulation test. The temporary presence of antiphospolipid antibodies may accompany infections or certain drugs.

BETA-2-GLYCOPROTEIN I ANTIBODY (IGG) Q

Synonyms:

CHCS IEN: 2139

Test Code: 36554

Components:

Container (Preferred/Alternate): 2 - Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Platetet-poor plasma

Volume: 4.5 mL x 2

Minimum Volume: 1.5 mL

Instructions

Patient Preparation:

Collection: Collect 2 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.

Specimen Processing: Gently invert tubes 8 times to mix blood with additive.

Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets

(<10,000/uL).
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 5 days room temperature; 14 days 2-8 ºC; 30 days Frozen.

Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: *Routine*

Interpretive

Reference Range: B2-glycoprotein I (IgG): ≤20 SGU; B2-glycoprotein I (IgA): ≤20 SGU; B2-glycoprotein I (IgM): ≤20 SGU
Critical Value:
Clinical Significance: Beta-2-Glycoprotein 1, Apolipoprotein H, is a cofactor in antiphospholipid antibody binding and is the critical antigen in the antiphospolipid antibody syndrome. Beta-2-Glycoprotein 1 Antibody is more specific than Cardiolipin Antibody that may express reactivity in patients with syphilis and other infectious disease. Limitations: Factor VIII inhibitors may cause a false-positive lupus anticoagulation test. The temporary presence of antiphospolipid antibodies may accompany infections or certain drugs.

BETA-2-GLYCOPROTEIN I ANTIBODY (IGM)

Synonyms:
CHCS IEN: 2139
Test Code: 36553
Components:
Container (Preferred/Alternate): 2 - Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial.

Specimen and Volume Required

Type(s): Blood/Platetet-poor plasma
Volume: 4.5 mL x 2
Minimum Volume: 1.5 mL

Instructions

Patient Preparation:
Collection: Collect 2 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL).
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 5 days room temperature; 14 days 2-8 ºC; 30 days Frozen.

Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: *Routine*

Interpretive

Reference Range: B2-glycoprotein I (IgG): ≤20 SGU; B2-glycoprotein I (IgA): ≤20 SGU; B2-glycoprotein I (IgM): ≤20 SGU
Critical Value:
Clinical Significance: Beta-2-Glycoprotein 1, Apolipoprotein H, is a cofactor in antiphospholipid antibody binding and is the critical antigen in the antiphospolipid antibody syndrome. Beta-2-Glycoprotein 1 Antibody is more specific than Cardiolipin Antibody that may express reactivity in patients with syphilis and other infectious disease. Limitations: Factor VIII inhibitors may cause a false-positive lupus anticoagulation test. The temporary presence of antiphospolipid antibodies may accompany infections or certain drugs.

BETA-2-MICROGLOBULIN

Synonyms:
CHCS IEN: 1851
Test Code: 852

Components:
Container (Preferred/Alternate): 5 mL Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **BETA-2-MICROGLOBULIN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

BETA-HYDROXYBUTRATE Q
Synonyms:
CHCS IEN: 6209
Test Code: 37054
Components:
Container (Preferred/Alternate): 5 mL Red-Top tube (No Gel). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Do not collect in serum separator tube (SST).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship refrigerated on ice packs at 2-8 C to Quest. Specimen stability: 8 hours at room temperature; 1 week at 2-8 ºC; 1 weeks frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **B-HYDROXYBUTYRATE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

BCR/ABL GENE REARRANGEMENT QUANTITATIVE PCR, CELL-BASED Q
Synonyms:
CHCS IEN: 2139
Test Code: 15052
Components:
Container (Preferred/Alternate): Requires 6mL Lavendar-Top Tubes (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/Whole

Alternate specimens:
Bone Marrow
Volume: 6 mL Blood or 3 mL Bone Marrow
Minimum Volume: 4 mL Blood

Instructions

Patient Preparation: None. See appropriate clinical procedures required for specific specimen.
Collection: Routine venipuncture. Collect whole blood or bone marrow in lavender-top tube. Record sample type and draw time and date on tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood immediately after drawing tube. Do Not Freeze. Transport to laboratory ASAP.
Special Instructions:
Transport/Storage Temperature: Store and ship blood or bone marrow refrigerated at 2-8 ºC. Specimen stability: 3 days at room temperature; 3 days at 2-8 ºC; Unacceptable frozen.

Rejection Criteria: Blood or Bone Marrow received Frozen; Clotted; Gross hemolysis; Time and date of specimen collection not recorded on tube.

Admin Notes

Testing Location/Methodology: Quest Diagnostics.
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

BCR/ABL GENE REARRANGEMENT QUANTITATIVE PCR, LEUME

Synonyms:
CHCS IEN: 2139
Test Code: 17853
Components:
Container (Preferred/Alternate): Requires 6mL Lavendar-Top Tubes (K_2EDTA)

Specimen and Volume Required

Type(s):
Blood/Whole
Alternate specimens:
Bone Marrow
Volume: 6 mL Blood or 3 mL Bone Marrow
Minimum Volume: 4 mL Blood

Instructions

Patient Preparation: None. See appropriate clinical procedures required for specific specimen.
Collection: Routine venipuncture. Collect whole blood or bone marrow in lavender-top tube. Record sample type and draw time and date on tube.
Specimen Processing: Gently invert tube 10 times to mix additive with blood immediately after drawing tube. Do Not Freeze. Transport to laboratory ASAP.
Special Instructions:
Transport/Storage Temperature: Store and ship blood or bone marrow refrigerated at 2-8 ºC. Specimen stability: 3 days at room temperature; 3 days at 2-8 ºC; Unacceptable frozen.

Rejection Criteria: Blood or Bone Marrow received Frozen; Clotted; Gross hemolysis; Time and date of specimen collection not recorded on tube.

Admin Notes

Testing Location/Methodology: Quest Diagnostics.
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

BHCG TUMOR MARKER

Synonyms: Beta HCG; BHCG

CHCS IEN: 2446
Components: Test known as: Total ß–Human Chorionic Gonadotropin; This test not used to determinee pregnancy.
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport Temperature: Transport to lab at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **BHCG TUMOR MARKER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: :

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Unit
All/All	0.5	2.67			mIU/mL

Critical Value:
Clinical Significance: HCG is a glycoprotein hormone produced by the syncytiotrophoblast of the palcenta and secreted during normal pregnancy and with pathologic conditions such as hydatidiform mole, choriocarcinoma and testicular neoplasm. Use: Determineation of cancerous conditions such as testicular, lung, cervical cancers.

BICARBONATE *See:* **HCO3** in this laboratory test information guide.

BILE ACIDS, FRAC/TOT Q

Synonyms:
CHCS IEN: 6222
Test Code: 4668
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-to vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Overnight fasting is preferred
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **BILE ACIDS FRACT+TOTAL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

BILIRUBIN, CONJ (DIRECT)

Synonyms: Conj Bili; Direct Bili
CHCS IEN: 2371
Components:
Container (Preferred/Alternate):
Preferred: Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Alternate: Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum or Blood/Plasma
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells. Protect specimen from light if not immediately delivered to lab.
Special Instructions: Protect specimen from light.
Transport/Storage Temperature: Transport to lab at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria: Extended exposure to light
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **BILIRUBIN, CONJ (DIRECT)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive **Serum and Plasma**
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/Neonate	0.00	0.6			mg/mL
Older than Neonate	0.00	0.30			

Critical Value:
Clinical Significance: Bilrubin levels are used in the diagnosis and treatment of liver, hemolytic, hematologic, and metabolic disorders, including hepatitis and gall bladder obstructive disease. The assessment of direct bilirubin is helpful in the differentiation of hepatic disorders. The increase in total bilirubin associated with obstructive jaundice is primarily due to the direct (conjugated) fraction. Both direct and indirect bilirubin are increased in the serum with hepatitis. In the newborn

patient with hemolytic jaundice and neonatal jaundice, the increase in the total bilirubin is primarily due to the indirect (unconjugated) bilirubin fraction. This jaundice may be caused by Rh, ABO, or other blood group incompatibilities, by hepatic immaturity, or by hereditary defects in bilirubin conjugation.

BILIRUBIN, NEONATAL (MAMC)

Synonyms: N Bili; Neonatal Bilirubin; NBIL
CHCS IEN: 2424
Components: This test is performed only on infants of 14 days or less.
Bilirubin, Unconjugated
Bilirubin, Conj (Direct)
NBIL
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw or 1 Green –Top Microtainer Tube (Sodium Heparin) for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells. Protect specimen from light if not immediately delivered to lab.
Special Instructions: Protect specimen from light.
Transport/Storage Temperature: Transport to lab at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis, Extended exposure to light
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **BILIRUBIN, NEONATAL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: 1.0 to 10.5 mg/dL
Critical Value: > 12 mg/dL
Clinical Significance: Bilrubin levels are used in the diagnosis and treatment of liver, hemolytic, hematologic, and metabolic disorders, including hepatitis and gall bladder obstructive disease. The assessment of direct bilirubin is helpful in the differentiation of hepatic disorders. The increase in total bilirubin associated with obstructive jaundice is primarly due to the direct (conjugated) fraction. Both direct and indirect bilirubin are increased in the serum with hepatitis. In the newborn patient with hemolytic jaundice and neonatal jaundice, the increase in the total bilirubin is primarily due to the indirect (unconjugated) bilirubin fraction. This jaundice may be caused by Rh, ABO, or other blood group incompatibilities, by hepatic immaturity, or by hereditary defects in bilirubin conjugation.

BILIRUBIN, TOTAL

Synonyms: T. Bili; 107
CHCS IEN: 186
Container (Preferred/Alternate):
Preferred: Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Alternate: Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.
Other: Body Fluids: Sterile container
Specimen and Volume Required
Type(s): Blood/Serum or Blood/Plasma or Blody Fluid
Volume: 5 mL
Minimum Volume: 0.5 mL for Body Fluid
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See appropriate clinical procedure for collection of Body Fluids.
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells. Protect specimen from light if not immediately delivered to lab.
Special Instructions: Protect specimen from light. If specimen is Body Fluid, please specify specimen source on request form /CHCS Order Comment.
Transport/Storage Temperature: Transport to lab at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria: Extended exposure to light , Hemolysis

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600

Order Method: CHCS order entry: **BILIRUBIN, TOTAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0.2	1.3		15	mg/mL

Critical Value:

Clinical Significance: Bilrubin levels are used in the diagnosis and treatment of liver, hemolytic, hematologic, and metabolic disorders, including hepatitis and gall bladder obstructive disease. The assessment of direct bilirubin is helpful in the differentiation of hepatic disorders. The increase in total bilirubin associated with obstructive jaundice is primarly due to the direct (conjugated) fraction. Both direct and indirect bilirubin are increased in the serum with hepatitis. In the newborn patient with hemolytic jaundice and neonatal jaundice, the increase in the total bilirubin is primarily due to the indirect (unconjugated) bilirubin fraction. This jaundice may be caused by Rh, ABO, or other blood group incompatibilities, by hepatic immaturity, or by hereditary defects in bilirubin conjugation.

BILIRUBIN, UNCONJUGATED

Synonyms: Unconj Bili; In-direct Bili; 197

CHCS IEN: 2373

Components:

Container (Preferred/Alternate):

Preferred: Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Alternate: Plasma: Green-Top (Lithium or Sodium Heparin); 1 Green-Top Microtainer Tube for pediatric draw.

Other: Body Fluids: Sterile container

Specimen and Volume Required

Type(s): Blood/Serum or Blood/Plasma or Blody Fluid

Volume: 5 mL

Minimum Volume: 0.5 mL for Body Fluid

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Do not draw above intravenous infusion. See appropriate clinical procedure for collection of Body Fluids.

Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. If Green-Top Tube- Gently invert tube 8 times to mix blood with additive. Tranport to lab immediately. Centrifuge to separate serum or plasma from cells. Protect specimen from light if not immediately delivered to lab.

Special Instructions: Protect specimen from light. If specimen is Body Fluid, please specify specimen source on request form /CHCS Order Comment.

Transport/Storage Temperature: Transport to lab at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria: Extended exposure to light

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600

Order Method: CHCS order entry: **BILIRUBIN, UNCONJUGATED**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/Newborn	0.6	10.5			mg/mL
All/Adult	0.0	1.1			

Critical Value:

Clinical Significance: Bilrubin levels are used in the diagnosis and treatment of liver, hemolytic, hematologic, and metabolic disorders, including hepatitis and gall bladder obstructive disease. The assessment of direct bilirubin is helpful in the differentiation of hepatic disorders. The increase in total bilirubin associated with obstructive jaundice is primarly due to the direct (conjugated) fraction. Both direct and indirect bilirubin are increased in the serum with hepatitis. In the newborn patient with hemolytic jaundice and neonatal jaundice, the increase in the total bilirubin is primarily due to the indirect (unconjugated) bilirubin fraction. This jaundice may be caused by Rh, ABO, or other blood group incompatibilities, by hepatic immaturity, or by hereditary defects in bilirubin conjugation.

BILIRUBIN, URINE *See:* **URINALYSIS (MAMC) and URINALYSIS, DIABETES** in this laboratory test information guide.

BIRCH IGE *Not orderable as single test. See:* **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

BIRD FANCIER PANEL Q
Synonyms:
CHCS IEN: 2139
Test Code: 17811
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-to vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 28 days at room temperature; 28 days at 2-8 ºC; 1 year frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

BIOPSY (TISSUE) CULTURE *See:* **ANAEROBIC CULTURE** in this laboratory test information guide.

BK VIRUS DNA, QUANTITATIVE REAL-TIME PCR, PLASMA Q P
Order Note: This is the correct test for blood samples. For urine samples, please order: **BK VIRUS DNA, QN PCR** instead.
Synonyms:
CHCS IEN: 6273
Test Code: 11274
Components:
BK Virus PCR
Spec Source
Container (Preferred/Alternate): Lavander-Top Tube (EDTA) 3 mL
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL
Minimum Volume: 0.3 mL Plasma
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion. Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Specimen Processing: Transport whole blood to MAMC laboratory at Room Temperature. **Lab:** Separate plasma from cells within 2 hours of collection. Transfer plasma to sterile, plastic, screw-cap aliquot tubes. Freeze and ship frozen.
Special Instructions:
Transport/Storage Temperature: Ship plasma to Quest frozen.
Specimen stability: Plasma- Room Temperature=48 hours, Refrigerated=7 days, Frozen=30 days
Rejection Criteria: Whole blood received frozen, CSF and Urine
Admin Notes
Testing Location /Methodology: Quest Diagnostics / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **BK VIRUS DNA,QN BLOOD;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significnce: This test is used to determinee the presence of BL Virus DNA in patient's specimens. Detection of the virus in these specimens may be indicative of an active infection, as PCR detects the presence of the virus, and not the host's reaction to the virus Plyomavirus BK DNA detection in urine or plasma is associated with an increased risk of graft rejection in renal recipients. Quantitative testing may indicate change in risk over time. This is a quantitative molecular test, with a linear range of 500-39,000,000 copies/mL.

BK VIRUS DNA, QUANTITATIVE REAL-TIME PCR, URINE Q

Order Note: This is the correct test for urine samples. For plasma samples, please order: **BK VIRUS DNA,QN BLOOD** instead.
Synonyms:
CHCS IEN: 6498
Test Code: 16581
Container (Preferred/Alternate): Lavander-Top Tube (EDTA) 3 mL

Specimen and Volume Required

Type(s): Urine/Random
Volume: 1 mL
Minimum Volume:

Instructions

Patient Preparation: See clinical procedures for urine collection.
Collection: Random urine specimen collection in sterile container.
Specimen Processing: Transfer urine to sterile, plastic, screw-cap aliquot tube. Freeze and ship frozen.
Special Instructions:
Transport/Storage Temperature: Ship urine to Quest frozen.
Specimen stability: Urine- Room Temperature=48 hours, Refrigerated=7 days, Frozen=30 days

Rejection Criteria: Blood, plasma, CSF (must be Urine if ordering this test in CHCS)

Admin Notes

Testing Location /Methodology: Quest Diagnostics / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **BK VIRUS DNA, QN PCR;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significnce: This test is used to determinee the presence of BL Virus DNA in patient's specimens. Detection of the virus in these specimens may be indicative of an active infection, as PCR detects the presence of the virus, and not the host's reaction to the virus Plyomavirus BK DNA detection in urine or plasma is associated with an increased risk of graft rejection in renal recipients. Quantitative testing may indicate change in risk over time. This is a quantitative molecular test, with a linear range of 500-39,000,000 copies/mL.

BLASTOMYCES AB BY IMMUNODIFFUSION Q

Synonyms:
CHCS IEN: 2139
Test Code: 932
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-to vial for shipping.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:
Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

BLOOD BANK COMMENT – CHCS *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide

BLOOD COMPONENTS *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

BLOOD COMPONENT POOLING *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

BLOOD CULTURE AEROBIC

Order Note: If an Anaerobic blood culture is also desired, Also order: **BLOOD CULTURE ANAEROBIC** separately and submit specimen in Anaerobic Blood Culture Bottle.
Synonyms: Culture Blood Aerobic; Aerobic Blood Culture
CHCS IEN: 2413
Components:
Blood Culture
Gram Stain Not performed on blood culture specimen. Gram stains can not be performed on sterile body fluids submitted in blood culture bottles. Therefore, submit a separate specimen for gram stain. An initial gram stain can not be performed from a Blood Culture Bottle.
Container (Preferred/Alternate): Aerobic BacTAlert Bottle (Grey Label). **When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottle.**

Specimen and Volume Required
Type(s): Blood
Volume: Adults: Collect and Inject 5-10 mL of blood into a BacTAlert Aerobic Blood culture bottle. Children: Collect and inject 3-5 mL of blood into a BacTAlert Aerobic Blood culture bottle.
Minimum Volume:

Instructions
Patient Preparation: Disinfect patient's venipuncture site: Cleanse site with Chlorohexaprep. Do not palpate vein at this point.
Collection: Disinfect rubber top of culture bottle: Use 70% isopropyl alcohol and wait 1 minute. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.
Specimen Processing: For Adults: Inject 5-10 mL of blood into a BacTAlert Aerobic Blood culture bottle. For children: Collect and inject 3-5 mL of blood into a BacTAlert Aerobic Blood culture bottle. Deliver to the laboratory within 1 hour after collection.
Special Instructions: See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 89. Submit no more than 3 sets of blood cultures on the same patient in a 24 hour period unless coordinated with MAMC Infectious Disease Service. Do not use blood culture bottles for wound and abcess aspirates. Blood culture bottles are acceptable only for blood and normally sterile body fluids.
Transport/Storage Temperature: Room Temperature. Do not Refrigerate.

Rejection Criteria

Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC / Culture
Order Method: CHCS order entry under: **BLOOD CULTURE AEROBIC** ; specify date, time and site of collection in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Up to 7 days; Positive gram stains reported STAT

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

BLOOD CULTURE ANAEROBIC

Order Note: If an aerobic culture is desired, Order: **BLOOD CULTURE AEROBIC** separately and submit in Aerobic Blood Culture Bottle.
Synonyms: Culture Blood Anaerobic; Anaerobic Blood Culture
CHCS IEN: 1142
Components:
Blood Culture
Gram Stain Not performed on blood culture specimen. Gram stains can not be performed on sterile body fluids submitted in blood culture bottles. Therefore, submit a separate specimen for gram stain. An initial gram stain can not be performed from a Blood Culture Bottle.
Container (Preferred/Alternate): Anaerobic BacTAlert Bottle (Purple Label). **When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottle.**
Specimen and Volume Required
Type(s): Blood
Volume: Adults: Collect and Inject 5-10 mL of blood into a BacTAlert Anaerobic Blood culture bottle. Children: Collect and inject 3-5 mL of blood into a BacTAlert Anaerobic Blood culture bottle.
Minimum Volume:
Instructions
Patient Preparation: Disinfect patient's venipuncture site: Cleanse site Chlorohexaprep. Do not palpate vein at this point.
Collection: Disinfect rubber top of culture bottle: Use 70% isopropyl alcohol and wait 1 minute. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.
Specimen Processing: For Adults: Inject 5-10 mL of blood into a BacTAlert Anaerobic Blood culture bottle. For children: Collect and inject 3-5 mL of blood into a BacTAlert Anaerobic Blood culture bottle. Deliver to the laboratory within 1 hour after collection.
Special Instructions: See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 89. Submit no more than 3 sets of blood cultures on the same patient in a 24 hour period unless coordinated with MAMC Infectious Disease Service. Do not use blood culture bottles for the second specimen (when a STAT initial gram stain is desired) or for wound and abcess aspirates. Blood culture bottles are acceptable only for blood and normally sterile body fluids.
Transport/Storage Temperature: Room Temperature. Do not Refrigerate.
Rejection Criteria
Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC / Culture
Order Method: CHCS order entry under: **BLOOD CULTURE ANAEROBIC**; specify date, time and site of collection in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Up to 7 days; Positive gram stains reported STAT
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

BLOOD GAS (MAMC) P

Synonyms: ABG
CHCS IEN: 2372
Components:
pH (Blood Gases)
PCO_2
PO_2
HCO_3
BASE EXCESS
O_2% Saturation
O_2 content
Container (Preferred/Alternate): Syringe (Dry Lithium Heparin)
Specimen and Volume Required
Type(s):
Blood/Arterial
Blood/Venous
Blood/Cord, Arterial
Blood/Cord, Venous
Volume: 1 mL required for a 5 mL syringe
Minimum Volume: 0.5 mL for a 1 mL syring
Instructions
Patient Preparation: Patient should be supine and relaxed

Collection: Do not draw above intravenous infusion. Collection performed by respiratory therapy or other qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples. Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen.
Specimen Processing: Remove needle and cap syring. Gently mix specimen 8 times by inversion to ensure effectiveness of anticoagulant. Secure cap in place with small length of tape. Place specimen on ice and transport to laboratory immediately
Special Instructions:
Transport/StorageTemperature: Place on ice immediately after drawing and capping. Transport on ice to Laboratory immediately.

Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.

Admin Notes

Testing Location/Methodology:
Order method: CHCS order entry under: **BLOOD GAS (MAMC)**; Please indicate source (Blood Arterial, Blood Venous, Arterial Cord Blood, Venous Cord Blood) in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Analyte	***Arterial***	***Venous***	***Reportable Range***	***Unit***
Sodium	135 - 148	135 - 148	100 - 200	mmol/L
Potassium	3.5 – 5.3	3.5 – 5.3	0.5 – 15.0	mmol/L
Chloride	98 - 107	98 - 107	65 - 140	mmol/L
Calcium, Ionized	0.9 – 1.22	0.9 – 1.22	0.25 – 5.0	mmol/L
pH	7.35 – 7.45	7.31 – 7.41	6.5 – 7.8	
pCO_2	35 - 45	41 - 51	10 - 150	mmHg
pO_2	80 - 100		10 - 700	mmHg
SO_2	95 - 98	95 - 98		%
tHb	12 - 18	12 - 18		g/dL
O_2Hb	94 - 100	94 - 100		%
COHb	0 – 1.5	0 – 1.5		%
MetHb	0 – 1.5	0 – 1.5		%
HHb	0 – 1.5	0 – 1.5		%

Critical Value:

Analyte	***Low***	***High***	***Unit***
Sodium	120	160	mmol/L
Potassium	2.8	6.2	mmol/L
Calcium, Ionized	0.8	1.6	mmol/L
pH	7.2	7.6	
pCO_2	20	70	mmHg
pO_2	45	none	mmHg

Clinical Significance: Used to evaluate oxygen and carbon dioxide gas exchange, respiratory function including hypoxia and acid base status and the assessment of asthma, chronic obstructive pulmonary disease (COPD), embolism and other types of lung disease.

BLOOD TYPE *See:* **ABO/RH GROUP – CHCS** in this laboratory test information guide.

BLOOD-URINE

Synonyms:
CHCS IEN: 2186
Components:
Container (Preferred/Alternate): Sterile container

Specimen and Volume Required

Type(s): Urine, Random
Volume: 50 mL
Minimum Volume:

Instructions

***Patient Preparation*:** Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of this manual.
Collection: Single, clean, first morning voided specimen
Specimen Processing: Transport to laboratory immediately.

Special Instructions:
Transport Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Urinalysis Section, MAMC / Iris iQ Elite 200
Order Method: CHCS order entry under: **BLOOD-URINE***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: Negative
Critical Value:
Clinical Significance:

BLUE MUSSEL (F37) IGE Q

Synonyms:
CHCS IEN: 6117
Test Code: 2837
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MUSSEL BLUE IGE PANEL**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

BMP (MAMC) P *See:* **BASIC METABOLIC PANEL** in this laboratory test information guide.

BNP *See:* **BRAIN NATRIURETIC PEPTIDE** in this laboratory test information guide**.**

BODY FLUID CULTURE *See*: **ANAEROBIC CULTURE** in this laboratory information guide.

BONE MARROW BIOPSY

Synonyms: Bone Marrow; BM
CHCS IEN: 3993
Components:
Container (Preferred/Alternate): Lavendar-Top Tube(s) and Sterile Container(s)

Specimen and Volume Required

Type(s): Requires all of the following:
Bone Marrow aspirate in Lavenar-Top Tube (EDTA)
Peripheral Blood in Lavendar-Top Tube (EDTA)

Separate Sterile urine cup (with B Plus fixative) containing each bone marrow core biopsy taken.
Separate Sterile urine cup (with B Plus fixative) for each Clot taken
Volume:
Minimum Volume:

Instructions

Patient Preparation: Follow establish clinical procedures for Bone Marrow preparation and collection.
Collection: Follow establish clinical procedures for Bone Marrow preparation and collection.
Specimen Processing: Deliver to laboratory immediately**.** Delivery of specimens to the Hematology Section, MAMC must be made before 1300 hours. Submissions for Cytogenic studies must be received in Clinical Pathology specimen receiving (G-46-2) by 1300 hours.
Special Instructions: Bone marrow collection must be scheduled/coordinated in advance. Please call Hematology at 968-1707 for scheduling.
Transport/Storage Temperature: Transport and store at Room Temperature. Do Not Freeze.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC
Order Method: Bone Marrow orders are placed in CHCS by Pathology personnel only. Specimen is submitted with MAMC Form 1645-L (Surgical Tissue Examination Requisition). A brief clinical history is required with specimen**.** Flow cytometry and cytomgenetic studies require Pathologist approval.
Availability: Testing performed Monday through Friday. 800-1630; Specimen must be received no later than 1300 hours on the day of specimen collection.
TAT: Notify and Routine; up to 7 days.
Other: Questions as to significance of findings or interpretation, may be directed to the staff and resident pathologist reporting the case. Upon completion and signing out the case, the report will be available in CHCS.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Procedure and testing in response to an abnormal blood test (too many or too few RBC's, WBC's or Platelets). Evaluation of unexplained anemia, low white cell count (leucopenia), low platelet count (thrombocytopenia). Used in: diagnosis and staging of lymphoma (tumors of the lymphoid tissues) or solid tumors, Diagnosis, monitoring and evaluation of leukemias, Evaluation of iron metabolism and stores, Evaluation of fever of undetermineed origin, Investigaion of unexplained splenic enlargement (splenomegaly), Evaluation of suspected chromosomal disorders in neonates and Confirmation that the bone marrow is normal in a potential bone marrow donor.

BORDETELLA BRONCHISEPTICA PCR *See:* **BORDETELLA PCR PANEL** in this laboratory test information guide.

BORDETELLA PARAPERTUSSIS PCR *See:* **BORDETELLA PCR PANEL** in this laboratory test information guide.

BORDETELLA PERTUSSIS PCR *See:* **BORDETELLA PCR PANEL** in this laboratory test information guide.

BORDETELLA PCR PANEL P

Synonyms: Bordetella Pertussis PCR; Pertussis PCR; Whooping Cough PCR

CHCS IEN: 4463

Components:

Bordetella Pertussis PCR
Bordetella parapertussis PCR
Bordetella Bronchiseptica PCR

Container (Preferred/Alternate): See Chart Below

Specimen and Volume Required: See Chart Below

Type(s):
Bronchoalveolar Lavage - in cases where pneumonia is suspected.
Nasopharyngeal Aspirate
Nasopharyngeal Swab

Volume:

Minimum Volume:

Instructions

Patient Preparation:

Collection: Follow established clinical procedures for specimen collection.

Specimen Processing: Transport to laboratory immediately.

Special Instructions:

Transport/Storage Temperature: If specimen transport is to be delayed more than 1 hour, specimen should be both stored and then transported Refrigerated at 2-8 °C.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Molecular Diagnostics Section, MAMC / PCR

Order Method: CHCS order entry under **BORDETELLA PCR PANEL.** Do not select/order BORDETELLA PERTUSSIS CULTURE WA in CHCS for this test. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Please indicate source of specimen in Order Comment.

Availability:

TAT: Routine

Other: Questions: Molecular Diagnostics Section, MAMC at 253 968-1743/1724.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Bordetella is considered a pathogen whenever isolated. Its identification is important in the control and treatment of Pertussis (Whooping cough).

Bronchial Alveolar Lavage	***Container:*** Sterile Container – Viral Transport media (VTM) ***Volume:*** 1.0 mL ***Minimum Volume:*** 0.5 mL ***Patient Preparation:***. See appropriate clinical procedures for procedure being performed. ***Collection:*** Pickup Bordetella collection kit from Microbiology Section. See appropriate clinical procedures for procedure being performed ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. ***Rejection Criteria:***
Nasopharyngeal Aspirate	***Container:*** Sterile Container – Viral Transport media (VTM) ***Volume:*** 1.0 mL ***Minimum Volume:*** 0.5 mL ***Patient Preparation:***. See appropriate clinical procedures for procedure being performed. ***Collection:*** Pickup Bordetella collection kit from Microbiology Section. See appropriate clinical procedures for procedure being performed ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. ***Rejection Criteria:***
Nasopharyngeal Swab	***Container:*** Dacron or Polyester swab in 15 mL conical centrifuge tube or other suitable sterile container with lid. Do not add liquid. Do not use cotton or calcium alginate swabs ***Volume:*** Two (2) Dry swab(s) ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for specimen being collected. ***Collection:*** Collect and submit 2 fexible wire or plastic Dacron swabs with NO preservative or transport media (VTM) ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. ***Rejection Criteria:*** Do not use cotton or calcium alginate swabs.

BORDETELLA PERTUSSIS/PARAPERTUSSIS CULTURE Q

Synonyms: Bordetella Pertussis Culture; Whooping Cough Culture
CHCS IEN: 2139
Test Code: 5260
Components:
Container (Preferred/Alternate): Yellow-Cap mini-tip swab. Place swab in Regan-Lowe medium.
Specimen and Volume Required
Type(s): Nasopharyngeal Swab
Volume:
Minimum Volume:
Instructions
Patient Preparation: See clinical procedure for this type of specimen collection.
Collection: Follow established clinical procedures for specimen collection. Written procedure for specimen collection is included in the kit. Throat specimens are not satisfactory. Immobilize the patient's head and gently pass swab through nostril into nasopharynx. Avoid touching the side of the nasal passage. When the swab meets resistance, gently rotate swab and remove.
Specimen Processing: Transport to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Maintain at Room Temperature.
Rejection Criteria: Swabs not submitted in Regan-Lowe or Bordet-Gengou; cotton tip swabs, Expired transport device, Frozen, Anterior nasal/nares.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Bacterial Culture, Aerobic
Order Method: CHCS order entry under **MISCELLANEOUS SHIPPING** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Please indicate source of specimen in Order Comment.
Availability:
TAT: Routine: 2 weeks
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Bordetella is considered a pathogen whenever isolated. Its identification is important in the control and treatment of Pertussis (Whooping cough).

BORRELIA BURGDORFERI ANTIBODIES, IFA, CSF Q P

Synonyms: Lyme Disease AB, Lyme CSF
CHCS IEN: 6526
Test Code: 34880
Components:
Borrelia IGG CSF
Borrelia IGM CSF
Interpretation 3
Container (Preferred/Alternate): Sterile Tube Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Cerebrospinal Fluid (CSF)
Volume:
Minimum Volume: Requires 1 mL minimum for CSF
Instructions
Patient Preparation: None
Collection: Lumbar Puncture procedure. See appropriate clinical procedure for collection of CSF specimens.
Specimen Processing: Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature. Ships to Quest refrigerated at 2-8 ºC. Specimen stability: 48 hours at room temperature; 7 days 2-8 ºC; 30 days Frozen.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC /
Order Method: CHCS order entry under: **B BURGDORFERI AB CSF IGG+IGM** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range: :
Critical Value:
Clinical Significance:

BOXELDER TREE IGE *Not orderable as single test. See:* **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

BRAC ANALYSIS, MYRIAD GENETICS
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): 10 mL Lavendar-Top Tube (K_3EDTA) from collection kit.
Specimen and Volume Required
Type(s): Blood/whole
Volume: 10 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Use supplied collection kit. Patient specimen collected in lab.
Specimen Processing: Gently invert tube 10 times to mix additive with blood.
Special Instructions: Must ship specimen same day of collection. Send kit, paperwork and tube.
Transport/Storage Temperature: Ship at Room Temperature same day as draw.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Testing done at Myriad
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine: 28 days
Other: Requires Requisition to be completed by genetic counselor.
Interpretive
Reference Range:
Critical Value: None
Clinical Significance:

BRAC ANALYSIS, MYRIAD GENETICS
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): 10 mL Lavendar-Top Tube (K_3EDTA) from collection kit.
Specimen and Volume Required
Type(s): Blood/whole
Volume: 10 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Use supplied collection kit. Patient specimen collected in lab.
Specimen Processing: Gently invert tube 10 times to mix additive with blood.
Special Instructions: Must ship specimen same day of collection. Send kit, paperwork and tube.
Transport/Storage Temperature: Ship at Room Temperature same day as draw.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Testing done at Myriad
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine: 28 days
Other: Requires Requisition to be completed by genetic counselor.
Interpretive
Reference Range:
Critical Value: None
Clinical Significance:

BRAF MUTATION ANALYSIS Q

Synonyms:
CHCS IEN: 2197
Test Code: 16767
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Preferred: Formalin-fixed paraffin embedded tissue
Alternate: Blood/ Whole
Volume: 5 mL
Minimum Volume: 4 mL whole blood
Instructions
Patient Preparation: None
Collection
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport and ship at Room Temperature or refrigerated. Specimen stability: Tissue: Indefinite at room temperature and refrigerated; Unacceptable Frozen. Whole Blood: 72 hours at room temperature and refrigerated; Unacceptable frozen.
Rejection Criteria: Frozen tissue or blood.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Direct Sequencing
Order Method: CHCS order entry under**:** **MISCELLAEOUS SHIPPING***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: BRAF encodes a serine/threonin protein kinase downstream of the epidermal growth factor receptor (EGFR) and the RAS family of small G-proteins (KRAS, HRAS and NRAS) in the MAPK pathway. BRAF is mutated in approximately 8-10% of human tumors (Davis et al. 2002), most frequently in melanoma (50-70%) and in papillary thyroid cancer 936-69%). BRAF mutations are also found with lower frequency in colorectal cancer (4-12%), non-smal cell lung cancer (NSCLC), acute myeloid leukemia (AML), glioma, sarcomas, breast cancer, heptoma, and ovarian cancer.

BRAIN NATRIURETIC PEPTIDE

Synonyms: BNP, B-Type Natriuretic Peptide
CHCS IEN: 4688
Container (Preferred/Alternate): Lavander-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Gently invert tube 10 times to mix blood with additive immediately after collection.
Specimen Processing: Specimen must be centrifuged to separate plasma from cells within 2 hours of collection. Transfer plasma to sterile, plastic, screw-cap aliquot tube. Freeze plasma if testing is to be delayed longer than two hours of collection.
Special Instructions: Madigan Healthcare System Remote Clinic s- Draw lavender-top tube, centrifuge and separate plasma from cells. Refrigerate plasma until courier service transport to MAMC lab for testing.
Transport/Storage Temperature: Immediately deliver whole blood within MAMC at room temperature. Freeze plasma within 2 hours of collection, if shipping from outside the Madigan Healthcare System. Store plasma frozen.
Specimen stability:
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Chemistry, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **BRAIN NATRIUETIC PEPTIDE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Clinical Diagnostic Cutoff = 100 PG/mL. BNP > 100 PG/mL is considered abnormal and associated with worsening degrees of CHF.

Critical Value:
Clinical Significnce: Four Stage Functional Classification System for CHF based on NYHA (New York Heart Association):
Class 1 – BNP>100 PG/mL Patients have no limitations of physical activity and no symptoms with normal physical activity.
Class 2 – BNP>220 PG/mL Patients have slight limitations on physical activity and symptoms with ordinary physical activity.
Class 3 – BNP>460 PG/mL Patients have marked limitation of physical activity and have symptoms with less than ordinary physical activity, but not at rest.
Class 4 – BNP>1000-5000 PG/mL Patients are unable to perform any physical activity without discomfort.

BRAZIL NUT (F18) IGE Q
Synonyms:
CHCS IEN: 6093
Test Code: 2818
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **BRAZIL NUT IGE PANEL ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

BRUCELLA IGG, IGM Q
Synonyms: Q Brucella Abortus ABS
CHCS IEN: 3653
Test Code: 10566
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **Q BRUCELLA ABORTUS ABS;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Normal ≤ 1:80

Critical Value:
Clinical Significance:

BUN/CREATININE RATIO Calculated Result from Panel. See: **BASIC METABOLIC PANEL** and **RENAL FUNCTION PANEL (MAMC)** in this laboratory information guide.

C1 INHIBITOR, PROTEIN Q
Synonyms:
CHCS IEN: 4019
Test Code: 298
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures. Pre-chill tube before collection
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab in ice bath and keep on ice during clotting time (30 minutes). Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated on ice at 2-8 ºC. Specimen stability: 24 hours at room temperature; 8 days at 2-8 ºC; 28 days frozen.
Rejection Criteria: Avoid hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **C1 ESTERASE INHIBITOR;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

C1 INHIBITOR, FUNCTION Q
Synonyms:
CHCS IEN: 6297
Test Code: 297
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel) Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab in ice bath and keep on ice during clotting time (30 minutes). Centrifuge and separate serum from cells and immediately freeze.
Special Instructions:
Transport/Storage Temperature: Ship serum to Quest Frozen. Specimen stability: Unacceptable at room temperature; unacceptable at 2-8 ºC; 30 days frozen.
Rejection Criteria: Room or refrigerated specimen, Avoid hemolysis, Do not allow to thaw.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **C1 ESTERASE FUNCTION;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

C1q COMPLEMENT COMPONENT Q
Synonyms:
CHCS IEN: 6298
Test Code: 981
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Clotting time (30 minutes). Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated on ice at 2-8 ºC. Specimen stability: 48 hours at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis; Lipemia ; Received room temperature ; SST ® tubes (gel barrier interferes with assay methodology)

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Radial Immunodiffusion (RID)
Order Method: CHCS order entry under: **COMPLEMENT C1 Q;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: 5.0 to 8.6 mg/dL.
Critical Value:
Clinical Significance: The complement system is critical to the inflammatory response. C1q concentrations may be decreased in patients with acquired angioedema, immune complex induced vasculitis, and concurrent low concentrations of C1 inhibitor, carcinoma, or lymphoma. Low levels of C1q indicate either increased consumption (catabolism) or decreased synthesis.

C2 COMPLEMENT COMP Q

Synonyms:
CHCS IEN: 2139
Test Code: 433
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Clotting time (30 minutes). Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated on ice at 2-8 ºC. Specimen stability: 48 hours at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Received room temperature; Grossly hemolyzed; Lipemia

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The complement system is critical to inflammatory responses. C2 is a component of the classical pathway. Decreased concentrations are observed in patients with immune complex diseases such as systemic lupus erythematosus (SLE) and immune complex-induced vasculitis.

C3/C4 PANEL P

Synonyms: Complement C3/C4 Panel (MAMC)
CHCS IEN: 3264
Components:

Complement C3
Complement C4

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Transport at Room Temperature. Store serum Frozen.

Rejection Criteria: Gross Hemolysis, Plasma

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **C3/C4 PANEL**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range: C3: 88 – 165 mg/dL; C4: 14 – 44 mg/dL
Critical Value: None
Clinical Significance: Decreased C3 and C4 levels may be associated with acute glomerulonephritis, membranoproliferative glomerulonephritis, immune complex disease, active systemic lupus erythematosis, cryoglobulinemia, congenital C4 deficiency and generalized autoimmune disease.

C BURNETII PHASE 1 IGG

Order Note: *See:* **Q FEVER PANEL (EPI)** in this guide and in CHCS if C Burnetii IgG and IgM panel is required.
Synonyms: Q Fever; C Burnet P1IgG
CHCS IEN: 6350
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.

Rejection Criteria:

Admin Notes

Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **C BURNETII PHASE 1 IGG** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance:

C BURNETII PHASE 1 IGM

Order Note: *See:* **Q FEVER PANEL (EPI)** in this guide and in CHCS if C Burnetii IgG and IgM panel is required.
Synonyms: Q Fever; C Burnet P1IgM
CHCS IEN: 6352
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **C BURNETII PHASE 1 IGM ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value: None
Clinical Significance:

C BURNETII PHASE 2 IGG O
Order Note: *See:* **Q FEVER PANEL (EPI)** in this guide and in CHCS if C Burnetii IgG and IgM panel is required.
Synonyms: Q Fever; C Burnet P2IgG
CHCS IEN: 6351
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **C BURNETII PHASE 2 IGG ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value: None
Clinical Significance:

C BURNETII PHASE 2 IGM O
Order Note: *See:* **Q FEVER PANEL (EPI)** in this guide and in CHCS if C Burnetii IgG and IgM panel is required.
Synonyms: Q Fever; C Burnet P2IgM
CHCS IEN: 6353
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None

Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.

Rejection Criteria:

Admin Notes

Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **C BURNETII PHASE 2 IGM;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance:

C BURNETII PHASE PANEL O P

Order Note: See each individual component name (in this guide and in CHCS) if the entire panel is not required.
Synonyms: Q Fever; C Burnetii IgG + IgM
CHCS IEN: 6354
Components:

C Burnetii Phase 1 IgG
C Burnetii Phase 2 IgG
C Burnetii Phase 1 IgM
C Burnetii Phase 2 IgM

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.

Rejection Criteria:

Admin Notes

Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **Q FEVER PANEL (EPI) ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance:

C DIFFICILE PCR

Order note: A single negative test for Clostridium Difficile means the likelihood that this organism is causing the diarrheal illness is extremely low. Therefore repeapt testing is strongly discouraged. If a new diarrheal illness occurs >7 days after the prior negative test, then sending a single repeat specimen may be indicated.

Synonyms: Clostridium Difficile Toxin, C Diff PCR MAMC

CHCS IEN: 6502

Components:

Container (Preferred/Alternate): Screw-Top Cup (No Preservatives or additives)

Specimen and Volume Required

Type(s): Stool

Volume: Ample amount of Raw unfixed fecal material (*loose or diarrheic stool)* in leak-proof container.

Minimum Volume: 1 mL minimum

Instructions

Patient Preparation: See: General Collection Instructions for all Stool Specimens in the appendices of this manual.

Collection: See: General Collection Instructions for all Stool Specimens in the appendices of this manual for collection procedures. Collect the unform (liquid or loose stool which conforms to the container when the specimen is held motionless) in a clean labeled container. Formed stool (stool that can be induced to roll within the container) will be rejected.

Specimen Processing: Deliver specimen to the laboratory as soon as possible.

Special Instructions: No duplicate specimens are accepted within 7 days.

Transport/Storage Temperature: Transport and store at 2 – 8 ˚C up to 5 days. Freeze at less than or equal to -15 ˚C if transportation is to take more than 5 days. Transport on dry ice; do not allow thawing.

Rejection Criteria: Fixed specimen, inadequate specimen volume, Formed stool (stool that can be induced to roll within the container)

Admin Notes

Testing Location /Methodology: Molecular Diagnostics Section, MAMC /PCR

Order Method: CHCS order entry under: **C DIFFICILE PCR** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

***TAT*:** Routine: Up to 24 hours.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Clostridium difficile has been associated with lower gastrointestinal complications of antimicrobial therapy. The Cepheid Xpert C. difficile Toxin Test is an automated in vitro diagnostic test for qualitative detection of toxin producing Clostridium difficile directly from stool specimens of patients suspected of having Clostridium difficile infection. The assay detects the toxin B (tcdB) gene. The assay is performed on the Cepheid GeneXpert Dx system. Xpert Clostridium difficile Toxin Test has been developed and FDA approved by the Cepheid Inc. A single negative test for Clostridium Difficile means the likelihood that this organism is causing the diarrheal illness is extremely low. Therefore repeapt testing is strongly discouraged. If a new diarrheal illness occurs >7 days after the prior negative test, then sending a single repeat specimen may be indicated. The performance of specimens from patients <2 years of age has not been established. 50% of neonates may be colonized with Toxigenic C. Difficile.

C HEBARUM IGE *This test not orderable as single test. See*: **NORTHWEST RAST PANEL(MAMC)** in this laboratory test information guide.

C-PEPTIDE
Synonyms: CPeptide; 372
CHCS IEN: 3066
Test Code: 372
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells; freeze immediately.
Special Instructions:
Transport/Storage Temperature: Ships to Quest frozen. Specimen stability: 24 hours room temperature; 7 days at 2-8 ºC; 28 days frozen (-20 ºC); 1 year frozen (-70 ºC)
Rejection Criteria*:* Room temperature samples received more than 24 hours after collection
Admin Notes
Testing Location /Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **C-PEPTIDE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: C-Peptide is useful in the evaluation of pancreatic beta cell function and for determineing the source of insulin in patients with hyperinsulinemic hypoglycemia

C-REACTIVE PROTEIN ULTRASENS
Synonyms: CRP, High Sensitivity CRP
CHCS IEN: 4612
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.
Rejection Criteria*:* Gross Hemolysis, Lipemia
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **C-REACTIVE PROTEIN ULTRASENS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: For clinical uses outside of cardiac risk assessment, the reference range is 0-8 mg/L. For cardiac risk stratification, the American Heart Association (AHA) and the Centers for Disease Control (CDC) have published the following categories of cardiovascular risk based on the average of two (2) hsCRP results, optimally drawn two weeks apart, in metabolically stable patients.

hsCRP value (mg/L)	CHD RISK LEVEL
<1.0	Low
1-3	Average
>3.0 (up to 10)*	High

*May be an indication of another source of inflammation or infection.

Critical Value:
Clinical Significance: Increased CRP levels are found in inflammatory conditions including: bacterial infection, rheumatic fever, active arthritis, myocardial infarction, malignancies and in the post-operative state. This test cannot detect the relatively small elevations of CRP that are associated with increased cardiovascular risk.

CA-125 *See:* **CANCER AG 125** in this laboratory test information guide

CA 19-9 *See:* **CARBOHYDRATE ANTIGEN 19-9** in this laboratory test information guide.

CA27.29 Q
Synonyms:
CHCS IEN: 6014
Test Code: 29493
Container (Preferred/Alternate): 5 mL Gold-Top Tube (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge and separate Serum from cells.
Special Instructions:
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture. Specimen stability: 7 days at room temperature; 7 days refrigerated 2-8 C; 28 days frozen.
Rejection Criteria: Gross hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay (IA)
Order method: CHCS order entry under: **CANCER AG 27.29;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: *Routine*
Interpretive
Reference Range:
Critical Values:
Clinical Significance: CA 27.29 may be useful for monitoring patients for metastatic breast cancer. CA 27.29 is not intended as a screening test.

CAFFEINE TG
Synonyms:
CHCS IEN: 4209
Components:
Container (Preferred/Alternate): Gold-Top Tube (SST) or Red-Top Tube (Plain)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge to separate Serum from cells.
Special Instructions: Ship serum to TG Laboratory.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Tacoma General Hospital
Order method: CHCS order entry under: **TG CAFFEINE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	5	20			µg/mL

Critical Values:
Clinical Significance:

CALCITONIN Q

Synonyms:
CHCS IEN: 2267
Test Code: 30742
Container (Preferred/Alternate): 5 mL Red-Top Tube (Plain)(No Gel); Plastic Screw-top vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge and separate Serum from cells.
Special Instructions: Ship serum frozen to Quest.
Transport/StorageTemperature: Store serum frozen. Specimen stablility: Unacceptable at room temperature; 24 hours at 2-8 ºC; 28 day frozen.
Rejection Criteria: SST, Received room temperature; Received refrigerated; Gross hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics /
Order method: CHCS order entry under: **CALCITONIN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Values:
Clinical Significance: Calcitonin concentration is increased in patients with medullary thyroid carcinoma. Calcitonin concentrations may be used to monitor disease. Limitations: Basal concentrations of >100 pg/mL have been found to have 100% positive predictive value for medullary thyroid cancer. Lower concentrations may be observed in some patients with clinically apparent medullary thyroid cancer.

CALCIUM

Synonyms: Total Calcium; 109
CHCS IEN: 180
Components:
Container (Preferred/Alternate): Specimen source specific; See chart below.
Specimen and Volume Required
Type(s):
Blood/Serum
Urine, Random
Urine, 24 hour
Volume: See chart below.
Minimum Volume: See chart below
Instructions
Patient Preparation: See specific specimen source in chart below
Collection: See chart below
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport specimen to laboratory as soon as possible. 24 hour Urine container should be transported to the laboratory on ice.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CALCIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	8.4	10.2	6.6	12.9	mg/dL

Critical Value: <6.6 mg/dL, >13 mg/dL

Clinical Significance: Serum calcium is involved in the regulation of neuromuscular and enzyme activity, bone metabolism and blood coagulation. Calcium blood levels are controlled by a complex interaction of parathyroid hormone, vitamin D, calcitonin and adrenal cortical steroids. Calcium measurements are useful in the diagnosis of parathyroid disease, some bone disorders and chronic renal disease. A low level of calcium may result in tetany. Urinary calcium reflects dietary intake, rate of calcium absorption by the intestine and bone resorption. Urinary calcium is used primarily to evaluate parathyroid function and the effects of vitamin D. A significant number of patients with primary hyperparathyroidism will have elevated urinary calcium. However, there are other clinical entities that may be associated with increased urine calcium: Sarcoidosis, Paget's disease of bone, Vitamin D intoxication, hyperthyroidism and glucocorticoid excess. Decreased urine calcium is seen with thiazide diuretics, vitamin D deficiency and familial hpocalciuric hypercalcemia.

Blood/Serum	***Container:*** Serum: Gold-Top / SST Tube (clot activator and gel separator); 1 Red or Amber-Top Tube for pediactric draw. ***Volume:*** 5 mL ***Patient Preparation:*** None ***Collection:*** Routine Venipuncture. Do not draw above intravenous infusion. ***Specimen Processing:*** Gently invert tube 5 times to mix blood with Clot activator immediately after draw. Tranport to lab immediately. Centrifuge to separate serum from cells.
Urine, Random	***Container:*** Sterile Cup Container with Screw-Top lid - without preservative (anti-bacterial) additives. ***Volume:*** 10 mL ***Patient Preparation:*** Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. ***Collection:*** Single, clean, first morning voided specimen. See: Instructions For Collecting a Clean Catch Urine Sample in the appendices of this laboratory information manual. ***Specimen Processing:***
Urine, 24 Hour	***Container:*** 24 hour urine container(s) with lid, No preservative ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. See: 24-Hour Urine Collection instructions in the appendices of this laboratory information guide for exact procedures. ***Specimen Processing:*** Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Laboratory: pH urine to alkaline range. Store refrigerated at 2-8 °C.
Body Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Volume:*** 0.5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

CALCIUM, 24 HOUR URINE

Synonyms: 24 HR Urine Calcium, Calcium Urine 24 HR
CHCS IEN: 2433
Components:
Total Volume
Calcium
Calcium, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.

Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container. Adjust pH to below 4 by adding HCl.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the lab on ice. Store refrigerated at 2-8 °C.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section / Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE CALCIUM;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: ASAP, Routine

Interpretive

Reference Range: Dietary Calcium intake- Ca Free: 5 – 40 mg/day; Low to Average: 50 – 150 mg/day; Average: 100 – 300 mg/day
Critical Value: None
Clinical Significance: Urinary calcium reflects dietary intake, rate of calcium absorption by the intestine and bone resorption. Urinary calcium is used primarily to evaluate parathyroid function and the effects of vitamin D. A significant number of patients with primary hyperparathyroidism will have elevated urinary calcium. However, there are other clinical entities that may be associated with increased urine calcium. Sarcoidosis, Paget's disease of bone, vitamin D intoxication, hyperthyroidism and glucocorticoid excess. Decreased urine calcium is seen with thiazide diuretics, vitamin D deficiency and familial hypocalciuric hypercalcemia.

CALCIUM, IONIZED, WHOLE BLD MAMC

Synonyms: CA++
CHCS IEN: 1508
Components:
Container (Preferred/Alternate): Syringe, (Dry Lithium Heparin)

Specimen and Volume Required

Type(s): Blood, Arterial; Blood, Venous
Volume: 1 mL of Blood for 5 mL syringe;
Minimum Volume: 0.5 mL Blood for 1 mL syringe

Instructions

Patient Preparation:
Collection: Draw specimen in heparinized blood gas syringe. Do not draw above intravenous infusion. Collection performed by qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples.
Specimen Processing: Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen. Remove needle and cap syringe. Secure cap with small length of tape. Place on ice and deliver to laboratory immediately.
Special Instructions:
Transport Temperature: Place on ice immediately after drawing and capping. Transport on ice to laboratory immediately. I

Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Bayer HealthCare Rapid Lab 1265
Order Method: CHCS order entry under: **CALCIUM, IONIZED, WHOLE BLD MAMC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0.92	1.22	<0.8	>1.6	mmol/L

Critical Value: <0.8 mmol/L, >1.6 mmol/L
Clinical Significance: Ionized calcium represents the true "bioavailable" calcium in the circulation. In situations where the total calcium is normal but does not fit the clinical picture, e.g., hyperparathyroidism, a determineation of the ionized calcium will, many times, show an elevation in the "bioavailable" calcium component. This may be due to alterations in protein concentrations, especially albumin, that binds most of the calcium in the circulation.

CALCIUM CONTINUED For additional Calcium testing, also see the following panels in this laboratory test information guide: **BMP (MAMC)**, **CMP (MAMC)** and **RENAL FUNCTION PANEL(MAMC)**.

CAMPATH ® SENSITVITY (CD52) Q

Synonyms:
CHCS IEN: 2139
Test Code: 10980
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s):
Preferred: Whole blood or Bone Marrow aspirate in Green-Top Tube (Sodium Heparin)
Alternate: Bone Marrow collection in Lavender-top tube (EDTA), ACD solution B (yellow-top) or Sodium heparin lead-free
Volume: 5 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: Follow establish clinical procedures for Bone Marrow preparation and collection.
Collection: Follow establish clinical procedures for Bone Marrow preparation and collection.
Specimen Processing: Deliver to laboratory immediately**.**
Special Instructions:.
Transport/Storage Temperature: Transport, store and ship at Room Temperature. Do Not Freeze. Specimen stability: 3 days at room temperature; unacceptable refrigerated; unacceptable Frozen.
Rejection Criteria: Received refrigerated; Received frozen
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Setup Monday thru Friday
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Campath ® (alemtuzumab) is indicated for the treatment of patients with CD52 positive chronic lymphocytic leukemia.

CANCER AG 125

Synonyms: CA 125; Cancer Antigen 125; 125
CHCS IEN: 1857
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Transport at Room Temperature. Store serum Frozen.
Rejection Criteria: Gross Hemolysis, Gross Lipemia
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under **CANCER AG 125** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	35			Units/mL

Critical Value:
Clinical Significance: The CA 125 level can provide prognostic information in the follow-up management of patients with ovarian carcinoma. The assay should be used as an adjunctive test in the management of ovarian cancer patients. CA 125 is not recommended as a cancer screening procedure to detect cancer in the general populations.
A value below cutoff limit does not indicate the absence of residual ovarian cancer. CA 125 results should be interpreted in

light of the total clinical presentation of the patient, including: symptoms, clinical history, data from additional tests and other appropriate information. Serum CA 125 levels, regardless of value, should not be interpreted as absolute evidence of the presence or absence of cancer. Values obtained with different assay methods or kits cannot be used interchangeably. This test is performed using the Beckman Coulter Unicel DxI.

CANCER AG 15-3
Synonyms: CA 15-3; Cancer Antigen 15-3
CHCS IEN: 1965
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Transport at Room Temperature.
Rejection Criteria: Gross Hemolysis, Gross Lipemia
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **CANCER AG 15-3**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	31.3			U/mL

Critical Value:
Clinical Significance: CA 15-3 is not recommended as a screening tool. A value below cutoff limit does not indicate the absence of breast cancer. CA 15-3 results should be interpreted in light of the total clinical presentation of the patient, including: symptoms, clinical history, data from additional tests and other appropriate information. Serum ca 15-3 levels, regardless of value, should not be interpreted as absolute evidence of the presence of absence of cancer. Values obtained with different assay methods or kits cannot be used interchangeably. CA 15-3 may be useful for monitoring patients with metastic breast cancer and certain ovarian cancers. The CA 15-3 values from sequential samples have a high correlation with the clinical course in most patients with metastatic breast cancer.

CANCER AG 19-9 *See:* **CARBOHYDRATE ANTIGEN 19-9** in the laboratory test information guide.

CANCER AG 27.29 Q *See:* **CA 27.29** in this laboratory test information guide.

CANTALOUPE IGE Q
Synonyms: Quest Name: Allergen Specific IgE Cantaloupe
CHCS IEN: 2139
Test Code: 14972
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:

Transport/Storage Temperature: Transport and ship at Room Temperature. Specimen stability: 28 days at room temperature; 28 days refrigerated 2-8 ºC; 1 year frozen.

Rejection Criteria:

Admin Notes

Testing Location /Methodology: Quest Diagnostics / Conventional RAST™

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Quest Diagnostics / Conventional RAST™

CARBAMAZEPINE

Synonyms: Tegretol; 203

CHCS IEN: 1355

Components:

Container (Preferred/Alternate): Red-Top Tube (Clot Activator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 6 mL

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Do not draw above intravenous infusion.

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.

Special Instructions: Deliver to laboratory as soon as possible.

Transport/Storage Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis, Gross Lipemia

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600

Order Method: CHCS order entry under: **CARBAMAZEPINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	4	12	0	15	µg/mL

Critical Value: >15 µg/mL

Clinical Significance: Monitor therapeutic drug level in treatment of trigeminal neuralgia, pain syndromes, and temporal lobe epilepsy.

CARBOHYDRATE ANTIGEN 19-9

Synonyms: Cancer Antigen 19-9; CA 19-9; 19-9

CHCS IEN: 1858

Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume:

Instructions

Patient Preparation:

Collection: Routine Venipuncture. Do not draw above intravenous infusion.

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.

Special Instructions: Deliver to laboratory as soon as possible.

Transport/Storage Temperature: Transport at Room Temperature.

Rejection Criteria: Gross Hemolysis, Gross Lipemia

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **CANCER AG 19-9**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	35			U/mL

Critical Value:
Clinical Significance: CA 19-9 is not recommended as a screening tool. A value below cutoff limit does not indicate the absence of pancreatic cancer. CA 19-9 is not to be used as a diagnostic procedure without confirmation of the diagnosis by another established product or procedure. Serum CA 19-9 levels, regardless of value, should not be interpreted as absolute evidence of the presence or absence of disease. Values obtained with different assay methods or kits cannot be used interchangeably.
A large percentage of patients with gastrointestinal tumors (such as pancreatic, liver, gastric, colorectal tumor) and some other malignancies have been shown to have elevated serum or plasma CA 19-9 Levels may be useful for monitoring disease activity predicting relapse following treatment.

CARBON DIOXIDE

Synonyms: CO2; Bicarbonate
CHCS IEN: 179
Components:
Container (Preferred/Alternate):
Preferred: Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Other: Sterile container for Body Fluid

Specimen and Volume Required
Type(s): Blood/Serum; Body Fluid
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Please provide specimen type and source for body fluids in CHCS order comment and/or on request form.
Transport/Storge Temperature: Transport at Room Temperature; Store Refrigerated at 2-8 °C.

Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CARBON DIOXIDE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy. Please provide specimen type and source for body fluids in CHCS order comment and/or on request form.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	22	30	10	40	mmol/L

Critical Value: <10 mmol/L; > 40 mmol/L
Clinical Significance: Part of the electrolyte panel (NA, K, Cl, CO2). Monitoring of electrolyte status; screen water balance; diagnosis of respiratory and metabolic acid base balance; evaluation of hydration status, diarrhea and dehydration.

CARBOXY HEMOGLOBIN (*COHb*)

Not orderable as a single test. Please See: **CO-OXIMETRY PROFILE** P in this laboratory test information guide.

Synonyms: Carb Hb
CHCS IEN: 579
Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	1.5	0		%

Critical Value:
Clinical Significance: COHb found in Smokers: 1.5% to 5.0%; Nonsmokers: <1.5%

CARCINOEMBRYONIC AG
Synonyms: CEA; Carcinoembryonic Antigen
CHCS IEN: 288
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum; Body Fluid
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: This test not offered for body fluids
Transport/Storge Temperature: Transport at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **CARCINOEMBRYONIC AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive **Serum**
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	3.0			ngl/mL

Critical Value:
Clinical Significance: Increased serum CEA levels have been detected in persons with primary colorectal cancer and in patients with other malignancies involving the gastrointestinal tract, breast, lung, ovarian, prostatic, liver and pancreatic cancers. Elevated serum CEA levels have also been detected in patients with nonmalignant disease, especially patients who are older or who are smokers. CEA levels are not useful in screening the general population for undetected cancers. However, CEA levels provide important information about patient prognosis, recurrence of tumors after surgical removal, and effectiveness of therapy.

CARDIOLIPIN ANTBODY SCREEN Q P
Order Note: This test no longer reflexes to further testing. If Cardiolipin IgA antibody test is required, please order separately in addition to this test.
Synonyms: ACA; ACA SCRN;
CHCS IEN: 4851
Test Code: 36333
Components:
Cardiolipin IgG
Cardiolipin IgM
Container (Preferred/Alternate): Preferred: Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial; Alternate: Red-Top Tube (No additives)
Specimen and Volume Required
Type(s): Blood/Platelet-poor plasma or Serum
Volume: 2 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine Venipuncture. For Platelet-poor plasma: Collect Lt. Blue-Top Tubes. Allow tube to fill by vacuum, do not over or under fill tube. If collecting Serum, the alternate specimen, use a plain Red-Top Tube with no additives.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL). For Serum: Centrifuge Red-top, separate serum and store refrigerated.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 4 days room temperature; 7 days 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **CARDIOLIPIN AB SCREEN ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CARDIOLIPIN IGA AB Q
Order Note: Please also order **CARDIOLIPIN AB SCREEN** if Cardiolipin IgG AB and Cardiolipin IgM AB is required in addition to this test.
Synonyms: Q Anticardiolipin AB IgA
CHCS IEN: 3480
Test Code: 4661
Components:
Container (Preferred/Alternate): Preferred: Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial; Alternate: Red-Top Tube (No additives)
Specimen and Volume Required
Type(s): Blood/Platetet-poor plasma
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine Venipuncture. For Platelet-poor plasma: Collect Lt. Blue-Top Tubes. Allow tube to fill by vacuum, do not over or under fill tube. If collecting Serum, the alternate specimen, use a plain Red-Top Tube with no additives.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL). For Serum: Centrifuge Red-top, separate serum and store refrigerated.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 4 days room temperature; 7 days 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **CARDIOLIPIN IGA ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CARDIOLIPIN IGG AB Q
Order Note: This test is no longer used due to Quest Diagnostics test reconfiguration. Please order **CARDIOLIPIN AB SCREEN** which includes both Cardiolipin IgG AB and Cardiolipin IgM AB. Cardiolipin IgA AB must be ordered separately if desired.
Synonyms: Q Anticardiolipin AB IgG
CHCS IEN: 1925
Test Code: 4662
Components:
Container (Preferred/Alternate): Preferred: Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial; Alternate: Red-Top Tube (No additives)
Specimen and Volume Required
Type(s): Blood/Platetet-poor plasma
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:

Collection: Routine Venipuncture. For Platelet-poor plasma: Collect Lt. Blue-Top Tubes. Allow tube to fill by vacuum, do not over or under fill tube. If collecting Serum, the alternate specimen, use a plain Red-Top Tube with no additives.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL). For Serum: Centrifuge Red-top, separate serum and store refrigerated.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 4 days room temperature; 7 days 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **CARDIOLIPIN IGG ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CARDIOLIPIN IGM AB Q
Order Note: This test is no longer used due to Quest Diagnostics test reconfiguration. Please order **CARDIOLIPIN AB SCREEN** which includes both Cardiolipin IgG AB and Cardiolipin IgM AB. Cardiolipin IgA AB must be ordered separately if desired.
Synonyms: Q Anticardiolipin AB IgM
CHCS IEN: 1924
Test Code: 4663
Components:
Container (Preferred/Alternate): Preferred: Light Blue-Top Tube (Sodium Citrate 3.2%), Ship platelet-poor plasma in Plastic screw-cap vial; Alternate: Red-Top Tube (No additives)
Specimen and Volume Required
Type(s): Blood/Platetet-poor plasma
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine Venipuncture. For Platelet-poor plasma: Collect Lt. Blue-Top Tubes. Allow tube to fill by vacuum, do not over or under fill tube. If collecting Serum, the alternate specimen, use a plain Red-Top Tube with no additives.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 1500 g for 15 minutes (within 1 hour from collection), Transfer plasma with plastic pipette (take care not to disrupt the WBC/platelet buffy layer) to another tube. Centrifuge the tranfered plasma again at 1500 g for 15 minutes. Transfer the now platelet-poor plasma (again take care not to disrupt the WBC/platelet buffy layer) to a new appropriately labeled tube. Final plasma must be free of platelets (<10,000/uL). For Serum: Centrifuge Red-top, separate serum and store refrigerated.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Ships to Quest on ice pack at 2-8 ºC . Specimen stability: 4 days room temperature; 7 days 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Gross lipemia, Clotted, Serum, 3.8% sodium citrate.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **CARDIOLIPIN IGM ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CARNITINE, LC/MS/MS Q
Synonyms:
CHCS IEN: 2139

Test Code: 70107
Components:
Carnitine
Total Carnitine
Free Carnitine
Esters
Esterified/free Ratio
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.4 mL
Instructions
Patient Preparation: Patient should be in well-fed state.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells and freeze immediately.
Special Instructions: This test not offered for body fluids
Transport/Storge Temperature: Store and ship serum frozen. Specimen stability: 5 hours room temperature, 5 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under*:* **Q CARNITINE TOTAL+FREE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Serum carnitine analysis is useful in the diagnosis and monitoring of patients with carnitine deficiency (either primary or secondary). Primary carnitine deficiency is an autosomal recessively inherited genetic condition that affects carnitine uptake by cells and tissues through a defect in the plasma membrane carnitine transporter. Secondary carnitine deficiency can be seen in some disease states or in patients on carnitine-poor diets, but is also seen in a number of metabolic disorders. In these disorders, carnitine complexes with the accumulated substrate of the blocked metabolic step, and the resulting acylcarnitine ester is excreted in the urine, leading to a depletion of carnitine in the patient.

CARNITINE, URINE Q

Synonyms:
CHCS IEN: 2139
Test Code: 30338
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Urine, Random
Volume: 5 mL
Minimum Volume: 1mL
Instructions
***Patient Preparation*:** Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of Directory of Services, Testing and Specimen Submission.
Collection: Single, clean, first morning voided specimen
Specimen Processing: Transport to laboratory immediately.
Special Instructions:
Transport Temperature: Store and ship urine frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:

Clinical Significance:

CAROTENE Q
Synonyms: Beta Carotene; 311
CHCS IEN: 1976
Test Code: 311
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Amber color plastic screw-cap vial for shipping.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL serum
Minimum Volume: 0.7 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells ASAP. Transfer serum to amber tube to protect from light. Sample received frozen and unprotected from light are acceptable. Samples received refrigerated and unprotected from light are not acceptable
Special Instructions:
Transport/Storge Temperature: Store and ship refrigerated at 2-8 ºC or frozen. Specimen stability: 3 hours room temperature, 6 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: room temperature, refrigerated and unprotected from light not acceptable.
Admin Notes
Testing Location/Methodology: Quest Diganostics / High Pressure Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **CAROTENE**
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CARROT (F31) IGE Q
Synonyms:
CHCS IEN: 6110
Test Code: 2831
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **CARROT IGE PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:
Order Method:

CASHEW NUT (F202) IGE Q

Synonyms:
CHCS IEN: 6063
Test Code: 2608
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **CASHEW IGE PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CAT DANDER IGE *Not orderable as a single test. See:* **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

CAT SCRATCH DISEASE PANEL Q P *See:* **BARTONELLA HENSELAE IGG, IGM** in this laboratory test information guide.

CATECHOLAMINES, FRACTIONATED 24-HOUR URINE WITHOUT CREATINE Q

Synonyms:
CHCS IEN: 2834
Test Code: 318
Components:
Container (Preferred/Alternate): 24 hour urine container(s) with 6N HCL preservative.
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 10 mL aliquot from 24 hour urine specimen
Minimum volume: 5 mL aliquot from 24 hour urine specimen
Instructions
Patient Preparation: Preferable that the patient be off medications for a minimum of 18-24 hours prior to collection. However common antihypertensives (Diuretics, ace inhibitors, calcium channel blockers, alpha and beta blockers may cause minimal or no interference. Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved Specimen stability: 1 week at room temperature; 1 month at 2-8 ºC; 7 weeks frozen. Preserved specimen ships to Quest at room temperature or refrigerated.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **CATECHOLAMINES PNL W/O CREAT ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine
Interpretive
Reference Range:
Critical Value: None
Clinical Significance:

CATECHOLAMINES FRACTIONATED AND TOTAL, PLASMA Q

Synonyms:
CHCS IEN: 2139
Test Code: 314
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 5 mL
Minimum Volume: 2.5 mL
Instructions
Patient Preparation: Overnight fasting is required. Patient should avoid alcohol, coffee, tea, tobacco and strenuous exercise prior to collection***.*** Patient shoud be relaxed in either a supine or upright position before blood is drawn. States of anxiety and stress can cause fluctuations in the catecholamine levels.
Collection: Routine venipuncture. Draw blood in prechilled Green-top tube***.*** Gently invent tube 8 times to mix blood with additive.
Specimen Processing: Deliver to laboratory immediately***.*** Centrifuge specimen in refrigerated centrifuge 2-8 ºC within 30 mins of collection to separate plasma and then immediately freeze plasma at -20 ºC.
Special Instructions:.
Transport/Storage Temperature: *S*tore and ship frozen at -20 ºC. Specimen stability: 6 hours at room temperature; 6 hours refrigerated; 1 month Frozen.
Rejection Criteria: Received thawed.

Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CATECHOLAMINES FRACTIONATED, RANDOM URINE Q
Synonyms:
CHCS IEN: 2139
Test Code: 5244
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 4mL random urine
Instructions
***Patient Preparation*:** Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of Directory of Services, Testing and Specimen Submission. Preferable that the patient be off medications for a minimum of 18-24 hours prior to collection. However common antihypertensives (Diuretics, ace inhibitors, calcium channel blockers, alpha and beta blockers may cause minimal or no interference. Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: Single, clean, first morning voided specimen
Specimen Processing: Transport to laboratory immediately. Adjust a well mixed random urine with 6N HCL to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and sample to shipped frozen.
Special Instructions:
Transport Temperature: Ship room temperature if preserved. Store and ship urine frozen if unpreserved. Preserved Specimen stability: 1 week at room temperature, 1 month 2-8 C, 49 days frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CBC P *See:* **COMPLETE BLOOD COUNT** in this laboratory test information guide

CBC, (WITHOUT AUTO DIFF) P *See:* **COMPLETE BLOOD COUNT (WITHOUT AUTO DIFF)** in this laboratory test information guide

CEA *See:* **CARCINOEMBRYONIC AG** in this laboratory test information Guide.

CELERY (F85), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2860
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CELIAC DISEASE IGA PNL (MAMC) *Do not order this panel in CHCS. See:* **CELIAC DISEASE PANEL (MAMC)**

CELIAC DISEASE IGG PNL (MAMC) *Do not order this panel in CHC. See:* **CELIAC DISEASE PANEL (MAMC)**

CELIAC DISEASE PANEL (MAMC) *P*
Synonyms:
CHCS IEN: 6444
Components:
Gliadin IgA
Gliadin IgG
Tissue Transglutaminase IgA
Tissue Transglutaminase IgG
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / ImmunoCap 250
Order Method: CHCS order entry under: **CELIAC DISEASE PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range: <7 µ/mL
Critical Value:
Clinical Significance: Celiac Disease is caused by an immune response to gluten in genetically sensitive individuals. The diagnosis is largely based on a biopsy of the small intestine, but serologic tests also help support a diagnosis and may assist identification of patients who may require biopsy. Patients with celiac disease display a hypersensitivity to gluten (wheat, rye

and barley) in their diet. This panel helps differentiate patients with celiac disase from patients with other inflammatory bowel diseases.

CELIA PLUS, PROMETHEUS O P

Synonyms:
CHCS IEN: 2139
Test Code: 6301 (Prometheus)
Components: Includes both antibody and gentic test with risk stratification
tTG IGA
EMA IgA
Total Serum IgA
AGA IgA
AGA IgG
HLA DQ2/DQ8
Container (Preferred/Alternate): Requires both a Lavendar-Top Tube (K_2EDTA) 6 mL and Gold-Top/SST Tube (clot activator and gel for serum separation) 5 mL
Specimen and Volume Required
Type(s): Blood/whole and Blood/Serum
Volume:
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert Gold-Top tube 5 times and Lavendar-Top Tube 10 times to mix blood with additive, immediately after drawing each tube.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature.
Rejection Criteria: Gross hemolysis, hyperlipemia
Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics
Order Method: CHCS order entry: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability:
TAT:
Interpretive:

CELL COUNT WITH DIFF
Synonyms: Cell Count; (For CSF and other Body Fluids)
CHCS IEN: 2178
Components:
WBC/cmm
Extravascular Fluid Diff
Appearance
RBC/cmm
Container (Preferred/Alternate):
Tube #3 Sterile Container for CSF
Sterile Container for Bronchoal veolar Lavage
Lavendar-Top Tube (K2EDTA) for Body Fluids
Specimen and Volume Required
Type(s):
CSF
Ascites Fluid
Body Fluid/Other
Bronchoal Veolar Lavage
Bursa Fluid
Cyst Fluid
Dialysate Fluid
Pericardial Fluid
Peritoneal Fluid
Pleural Fluid
Synovial Fluid
Volume:
Minimum Volume: 1 mL
Instructions: See Chart below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature.
Rejection Criteria: Wrong collection container; This is an irretrievable specimen, every effort must be made to correct deficiencies.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **CELL COUNT WITH DIFF**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Please identify specimen source and site in order comment in CHCS and/or on request form.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: **:** Evaluation for bacterial or viral encephalitis, meningitis, meningoencephalitis, mycobacterial or fungal infection, leukemia/malignant lymphoma of CNS, or trauma in CSF. To detect infection in body fluids.

Body Fluids: Pericardial, Peritoneal, Pleural, Synovial	***Container:*** Lavendar-Top Tube (K2EDTA) ***Volume:*** 1 mL fluid minimum volume ***Patient Preparation:*** None ***Collection:*** See appropriate clinical procedure for collection of specific body fluid. ***Specimen Processing:*** Gently invert tube 10 times to mix fluid with tube additive, immediately after collection.
Cerebrospinal Fluid (CSF)	***Container:*** Tube #3 Sterile Container with Screw-Top Cap for CSF ***Volume:*** 1mL minimum volume ***Patient Preparation:*** See appropriate clinical procedure for collection of CSF using Lumbar puncture procedures. ***Collection:*** See appropriate clinical procedure for collection of CSF using Lumbar puncture procedures. Utilize sterile technique and avoid contamination with normal flora. ***Specimen Processin:*** Immediately Transport to laboratory at Room Temperature.

CELL SURFACE MARKER

Synonyms:
CHCS IEN: 2139
Test Code: 37400
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Tissue Culture Media (RPMI); Steril Plastic Screw-cap container.
Specimen and Volume Required
Type(s):
Blood/Whole
Bone Marrow
Fress Tissue Culture
Buffy Coat
CSF
Body Fluid, Peritonela fluid, Pleural Fluid or Fresh Unifixed Tissue.
Volume: 5 mL Whole Blood or 2 mL Bone marrow
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine venipuncture. See appropriate clinical procedures for Bone Marrow collection. Gently invent tube 8 times to mix blood with additive.
Specimen Processing: Deliver to laboratory immediately***.***
Special Instructions: Must specify CD Marker (Call Quest for availability of CD Marker).
Transport/Storage Temperature: *S*tore and ship at room temperature. Specimen stability: 48 hours at room temperature; Unacceptable refrigerated; Unacceptable Frozen.
Rejection Criteria: Refrigerated or Frozen Blood, Bone Marrow or Bronchial Washings
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CENTROMERE B ANTIBODY Q P
Synonyms: Centromere AB Screen Reflex
CHCS IEN: 6150
Test Code: 16088
Components:
Centromere AB
Centromere AB Titer
Container (Preferred/Alternate): 5 mL Serum: Gold-Top / SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation:
Collection: Routine venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Laboratory: Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store and ship at 2-8 ºC. Specimen stability: 4 days at room temp; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia, Gross Icteric
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **CENTROMERE AB SCREEN REFLEX;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine
Interpretive

***Reference Range*:** <1.0 AI negative
Critical Value:
Clinical Significance: Centromere B antibody is diagnostic for the form of scleroderma known as CREST (calcinosis, Raynaud's phenomenon, esophageal immotility, sclerodactyly, and telangiectasia. Limitations: As many as 15% of health controls may have low or slightly elevated antibody levels.

CERULOPLASMIN
Synonyms: 326
CHCS IEN: 3256
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter Immage Beckman
Order Method: CHCS order entry under: **CERULOPLASMIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	22	58			mg/dL

Critical Value:
Clinical Significance: Decreased levels of ceruloplasmin are found in Wilson's Disease, fulminant liver failure, intestinal malabsorption, renal failure resulting in proteinuria, chronic active hepatitis and malnutrition. Elevated levels are found in primary biliary cirrhosis, pregnancy (first trimester), oral contraceptive use and in acute inflammatory conditions since ceruloplamin is an acute phase reactant.

CHEM 12 P *See*: **RENAL FUNCTION PANEL (MAMC)** in this laboratory test information guide.

CHEM 4 ELECTROLYTE PANEL P

Synonyms: Electrolytes, Lytes
CHCS IEN: 372
Components:
Sodium
Potassium
Carbon Dioxide
Anion Gap with K+
Chloride
Container (Preferred/Alternate):
Preferred: Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Other: Sterile container for Body Fluid
Specimen and Volume Required
Type(s): Blood/Serum; Body Fluid
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine Venipuncture. See appropriate clinical procedure for collection of CSF and Body Fluids.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature. Store refrigerated at 2-8 °C.
Rejection Criteria: Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CHEM 4 ELECTROLYTE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Ranges:

Analyte	Range	Unit
Na	137 – 145	mmol/L
K	3.8 – 5.2	mmol/L
Cl	98 – 107	mmol/L
CO_2	22 – 30	mmol/L

Critical Values:

Analyte	Values	Unit
Na	< 120, >160	mmol/L
K	<2.8, > 6.2	mmol/L
Cl	<80, >120	mmol/L
CO_2	<10 , >40	mmol/L

Clinical Significance: See specific analytes. Utilized in acid-base balance; monitoring of electrolyte status; screen water balance; diagnosis of respiratory and metabolic acid-base balance; evaluation of hydration status, diarrhea, dehydration, ketoacidosis in diabetes mellitus and other disorders; alcoholism and

CHERRY (F242), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2609
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:

Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CHESTNUT (F299) IGE, IMCAP Q

Synonyms:
CHCS IEN: 6132
Test Code: 2636
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum

Instructions

Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **CHESTNUT FOOD IGE PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CHICKEN MEAT (F83) IGE Q

Synonyms:
CHCS IEN: 6380
Test Code: 2857
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **CHICKEN MEAT IGE PANEL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CHLAMYDIA + GC PROBE-MAMC P

Order Notes: This test is not FDA approved for rectal specimens or patients under the age of 16 years old. CDC recommends cultures for medico-legal cases. Conjunctival Specimens are no longer accepted for analysis at the MAMC lab but can be ordered and submitted for Quest Diagnostics testing. See: **Q CHLAMYDIA CULTURE (MAMC,BREM)** for Conjunctival specimen testing. GenProbe PACE collected samples are obsolete and no longer acceptable for analysis at MAMC. Please contact the MAMC Microbiology/Serology Section with questions at 9253) 968-1746.
Synonyms: CT/GC; Chlamydia + GC DNA Probe
CHCS IEN: 4039
Components:
Chlamydia Probe (Chamydia trachomatis)
GC Probe (Neisseria gonorrhoeae)
Container (Preferred/Alternate): Specimen source specific, see chart below
Specimen and Volume Required
Type(s): Specimen source specific, see chart below
Volume: Specimen source specific, see chart below
Minimum Volume:
Instructions
Patient Preparation: Source specific, see chart below
Collection: Specimen source specific, see chart below
Specimen Processing: Specimen source specific, see chart below
Special Instructions:
Transport/Storage Temperature: Swab specimens when collected with the GenProbe Unisex and Vaginal Kits, are stable for 60 days at 2-30 °C. Urine specimens are stable for 24 hours at 2-30 °C in the primary urine collection cup and 30 day at 2-30 °C after transfer to the Aptima Urine Transport Tube.
Rejection Criteria: The Aptima Unisex transport tube should contain only the blue shaft swab used for specimen collection. Transport tubes with urethral specimens containing two swabs or any other color swab will be rejected**.** Under filled or over filled urine transport tubes (urine level not between the two clearly marked black lines) will be rejected. GenProbe PACE samples.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Detection of bacteria rRNA by DNA probe***.***
Order Method: CHCS order entry under: **CHLAMYDIA + GC PROBE-MAMC ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: Negative results in 2-4 days. Positive results in 7-14 days due to confirmatory testing.
Other: Manufacturer provided data: CT urine sensitivity versus swab: 97.9% versus 95.9% in males and 94.7% versus 94.2% in females. CT urine specificity versus swab: 98.5% versus 97.5% in males and 98.9% versus 97.6% in females. GC

urine sensitivity versus swab: 98.5% versus 99.1% in males and 91.3% versus 99.2% in females: GC urine specificity versus swab: 99.6% versus 97.8% in males and 99.3% versus 98.7% in females.

Interpretive

Reference Range: Negative

Critical Value:

Clinical Significance: C. trachomatis infections are the leading cause of sexually transmitted dieases in the Unitied States and is know to cause cervicitis, Pelvic Inflammatory Disease (PID), infant conjunctivitis, infant pneumonia, urethritis, epididymitis and proctitis. It is also the most frequent cause of non-gonococcal urethritis in men. Among women, the consequenses of chlamydial infections are severe if left untreated. Approximately half of chlamydial infections are asymptomatic. Neisseria gonorrhoeae (gonococci) is the causative agent of gonorrhea. In men, this disease generally results in anterior urethritis accompanied by purulent exudate. In women, the disease is most often found in the cervix, but the vagina and uterus may also be infected.

Conjunctival	Conjunctival Specimens are no longer accepted for analysis in-house at the MAMC. Please order and submit conjunctival specimens under Quest Diagnostics testing. See: **Q CHLAMYDIA CULTURE (MAMC,BREM)** for Conjunctival specimen testing.
Endocervical	***Container:*** GenProbe Aptima Unisex Kit (with Swab and Transport Tube) ***Volume:*** 1 Blue shaft Swab placed in Transport Tube ***Patient Preparation:*** Remove excess mucus from the cervical os and surrounding mucosa using the cleaning swab (white shaft swab from GenProbe Aptima Unisex Kit). Discard white shaft swab after cleaning. Do not place the white shaft swab into transport tube. ***Collection:*** Chlamydia is an intracellular organism requiring cellular material as a specimen, not mucus or exudate. After cleaning with the white shaft swab, insert the specimen collection swab (blue shaft swab) into the endocervical canal. Gently rotate the swab clockwise for 10 to 30 seconds in the endocervical canal to ensure adequate sampling. Withdraw the swab carefully; avoid any contact with the vaginal mucosa. Remove the cap from the swab specimen transport tube and immediately place the specimen swab into the transport tube. Carefully break the swab shaft at the score line; avoid splashing of the contents. Recap the transport tube tightly. ***Specimen Processing:*** Deliver transport tube with swab to laboratory immediately. ***Specimen Rejection:*** The Aptima Unisex transport tube should contain only the blue shaft swab used for specimen collection. Transport tubes with endocervical specimens containing two swabs or any other color swab will be rejected**.** GenProbe PACE samples are no longer acceptable for analysis at MAMC. Please contact the MAMC Microbiology/Serology Section with questions at 9253) 968-1746.
Urethra	***Container:*** GenProbe Aptima Unisex Kit (with Swab and Transport Tube) ***Volume:*** 1 Blue shaft Swab placed in Transport Tube ***Patient Preparation:*** The GenProbe Unisex Kit may be used for either urethral or endocervical. Male patients should not have urinated for at least 1 hour prior to collecting specimen. ***Collection:*** Insert "BLUE" shaft swab from GenProbe Aptima Unisex Swab collection kit 2-4 cm into urethra. Once inserted, rotate gently at least 1 full rotation using sufficient pressure to ensure swab comes into contact with all urethral surfaces. Allow swab to remain inserted 2-3 seconds. Withdraw swab, snap off swab shaft at score line and place into the GenProbe collection kit transport tube. **Specimen Processing:** Deliver transport tube with swab to laboratory immediately. **Special Instructions:** Specimens collected using this collection kit cannot be used for culture. Do not use the white shaft swab provided with the kit for specimen collection; this swab is intended for cleaning the exocervic only and it should be discarded post-cleaning. ***Specimen Rejection:*** The Aptima Unisex transport tube should contain only the blue shaft swab used for specimen collection. Transport tubes with urethral specimens containing two swabs or any other color swab will be rejected**.** GenProbe PACE samples are no longer acceptable for analysis at MAMC. Please contact the MAMC Microbiology/Serology Section with questions at 9253) 968-1746.
Urine, Random	***Container:*** GenProbe Aptima Urine Specimen Collection Kit (same kit for both male and female) ***Volume:*** 20-30 mL ***Patient Preparation:*** The patient (male or female) should not have urinated for at least 1 hour prior to specimen collection. Female patients should not cleanse the labial area prior to providing the specimen. Direct the patient to provide a first-catch urine (approximately 20-30 mL of the initial/first part of the urine stream) into a urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution that may reduce test sensitivity. ***Collection:*** Single First-Catch voided urine specimen. Patient to provide a first-catch urine (approximately 20-30 mL of the initial/first part of the urine stream) into a urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution

	that may reduce test sensitivity. ***Specimen Processing:*** Using only GenProbe Aptima urine specimen collection kit, transfer approximately 2 to 3 mL of urine from the sterile urine cup into the Aptima urine specimen transport tube using the disposable pipette provided in the kit. The correct volume of urine has been added when the fluid level is between the black fill lines on the urine transport tube label. ***Specimen Rejection:*** Under filled or over filled urine transport tubes (urine level not between the two clearly marked black lines) will be rejected.
Vaginal	***Container:*** GenProbe Aptima Vaginal Kit (with Swab and Transport Tube) ***Volume:*** 1 "Pink" shaft swab placed in transport tube ***Patient Preparation:*** This specimen may be collected by patient or health care provider. This is not a "take home" test. ***Collection:*** Carefully insert the pink shaft swab into the vagina approximately 2 inches past the introitus and gently rotate the swab for 10 to 30 seconds touching the walls of the vagin to absorb moisture. Withdraw the swab without touching the skin. While holding the swab in the same hand, unscrew the cap from the tube. Do not spill the contents of the tube. Immediately place the swab in the transport tube so that the tip of the swab is visible below the tube label. Carefully break the swab shaft against the side of the tube at the score line. Tightly screw the cap onot the tube. ***Specimen Processing:***

CHLAMYDIA IGG AB Q

Synonyms:
CHCS IEN: 4233
Test Code: 987
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.1 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen at -20 ºC, Indefinitely at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **CHLAMYDIA IGG AB ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: ≤0.90 is Negative (No *Chlamydia* IgG Antibody detected); 0.91-1.09 is Equivocal; ≥1.10 is Positive - *Chlamydia* IgG Antibody detected. The presence of *Chlamydia* IgG Antibody suggests a current or past infection with one or more of three *Chlamydia* species: *C. trachomatis*, *C. pneumoniae* or *C. psittaci*. Sera collected early in the course of the infection may not have detectable levels of IgG antibody.
If a current or recent infection is suspected, performing a *Chlamydia* IgM test on a single serum may yield clinically useful information.
Critical Value:
Clinical Significance: *Chlamydia trachomatis* is associated with infections of the mucous membranes of the urogenital system, the upper respiratory tract, and the eye. In industrialized countries, *C. trachomatis* usually causes sexually transmitted disease. In developing countries, it is the major cause of preventable blindness (trachomatis). Sexually transmitted diseases caused by *C. trachomatis* include nongonococcal urethritis, cervicitis, salpingitis, epididymitis, proctitis and *Lymphogranuloma venereum*. Infections are often asymptomatic. Thus, infected individuals may unknowingly transmit chlamydial disease to others. Coinfection with *C. trachomatis* and *Neisseria gonorrhoeae* is common, with multiple chlamydial infections of the upper respiratory tract occurring primarily in newborns exposed at parturition through an infected birth canal. Approximately 10-20% of such infants develop pneumonia and 50% develop inclusion conjunctivitis. In adults, eye disease is often transmitted by the hands from genital secretions or from eye secretion of infected babies. Isolation in tissue culture remains the reference method for diagnosis of chlamydial infection, especially when testing individuals under the age of 13 years. The usefulness of serological tests depends on the site of infection, duration of disease, infecting serovars and pre-vious exposure to chlamydial antigens. Because *C. trachomatis* is ubiquitous, there is a high prevalence of antibodies in

sexually active populations. Antibodies may persist even after treatment, making assessment of a single IgG titer difficult. Consequently, serological diag-nosis is seldom used to diagnose active, superficial genital tract infections.

CHLAMYDIA PNEUMONIAE ANTIBODIES (IGG,IGA,IGM) Q P

Synonyms:
CHCS IEN: 2139
Test Code: 37111
Components:
C.pneumoniae IgG
C.pneumoniae IgA
C.pneumoniae IgM
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <1:64 C.pneumoniae IgG; <1:16 C.pneumoniae IgA; <1:10 C.pneumoniae IgM.
Critical Value:
Clinical Significance: Chlamydophila pneumoniae is a common cause of infantile and community-acquired pneumonia.

CHLAMYDIA PNEUMONIAE ANTIBODY (IGM) Q

Synonyms:
CHCS IEN: 2139
Test Code: 5157
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.1 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 72 hours at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen at -20 ºC, Indefinitely at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive

Reference Range: <1:10. IgM titers ≥1:10 are indicative of recent infection. However, anti-chlamydial IgM is very cross-reactive and may demonstrate titers to more than one species.
Critical Value:
Clinical Significance:

CHLAMYDIA TRACHOMATIS ANTIBODY (IGG,IGA,IGM) Q

Synonyms:
CHCS IEN: 2139
Test Code: 36581
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C. Specimen stability: 7 days room temperature; 14 days refrigerated 2-8 C; 30 days frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Micro Immunofluorescence Assay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Chlamydia trachomatis is the most common sexually transmitted bacterial infection. Up to 70% of women and 30% of men may be asymptomatic. Infection may lead to tubal pregnancy, pelvic inflammatory disease, and infertility. Other organs may also become affected.

CHLAMYDIA TRACHOMATIS, CULTURE Q

Synonyms:
CHCS IEN: 3046
Test Code: 690
Components:
Container (Preferred/Alternate): 1 Dacron / Rayon swab in Quest Diagnostics supplied V-C-M medium (Green-Cap) tube /Alternate: Cytobrush
Specimen and Volume Required
Type(s):
Endocervix
Urethra
Conjunctiva
Rectal mucosa (without feces)
Fluid Aspirate
Tissue
Nasopharynx
Throat
Post-hysterectomy specimens
Instructions
Patient Preparation:
Collection:
Specimen Processing:

Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen at -70 ºC. Specimen stability for V-C-M medium: Unacceptable at room temperature; 48 hours refrigerated 2-8 ºC; Unacceptable frozen at -20 ºC, 30 days frozen at -70 ºC.

Rejection Criteria: Wooden shaft and calcium alginate swabs, dry swabs, transwabs or swabs in bacterial gel-based transport medium, DNA probe transports, tissues in formalin or other fixatives, transports for antigen detection by EIA, refrigerated specimens more than 48 hours old, room temperature specimens, frozen at -20 C.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Tissue culture, Iimmunofluorexcence Assay (IFA)
Order Method: CHCS order entry under: **Q CHLAMYDIA CULTURE (MAMC, BREM)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: *C. trachomatis* is associated with infections of the mucous membranes of the urogenital system, the upper respiratory tract and the eye. It may be sexually transmitted; Resulting diseases include urethritis, cervicitis, salpingitis, epididymitis, proctitis and lymphogranuloma venereum. Co-infection with *C. trachomatis* and *N. gonorrhoeae* can occur. Infections of the upper respiratory tract and eye usually occur in newborns exposed at parturition. In adults, eye infection may be transmitted by hand after contact with secretions. Isolation by tissue culture is recommended when testing individuals under the age of 13 years.

CHLAMYDIA TRACHOMATIS DNA PROBE, CONJUNCTIVA Q

Synonyms:
CHCS IEN: 2139
Test Code: 36628
Components:
Container (Preferred/Alternate): Swab of conjunctiva in Gen-Probe Transport System. 1 swab per 1 transporter only.

Specimen and Volume Required

Type(s): Conjunctiva

Instructions

Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport and Ship at Room Temperature. Specimen: 7 days at room temperature; 7 days refrigerated 2-8 ºC; Indefinitely frozen. Freeze only after testing.

Rejection Criteria: Swabs other than those in collection kit. Non-Gen-Probe Transport system

Admin Notes

Testing Location/Methodology: Quest Diagnostics / DNA hybridization with Chemiluminescent Detection.
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: *Chlamydia trachomatis* is associated with infections of the mucous membranes of the urogenital system, the upper respiratory tract, and the eye. In industrialized countries, *C. trachomatis* usually causes sexually transmitted disease. In developing countries, it is the major cause of preventable blindness (trachoma). The organism may cause urethritis, cervicitis, salpingitis, epididymitis or proctitis. Infections are often asymptomatic. Thus, infected individuals may unknowingly transmit chlamydial disease to others. Coinfection with *C. trachomatis* and *Neisseria gonorrhoeae* is common, with multiple recurrences that may result in serious complications. *Chlamydial* infections of the upper respiratory tract occur primarily in newborns exposed at parturition through an infected birth canal. Approximately 10-20% of such infants develop pneumonia and 50% inclusion conjunctivitis. In adults, eye disease is often transmitted by the hands from genital secretions or from eye secretion of infected babies. Isolation in tissue culture recommended when testing individuals under the age of 13 years. (MMWR 1993; 42 (No. Rr-12). Bowie, w. R and K. K. Holmes. 1990. *Chlamydia trachomatis* (trachoma, perinatal infection, *Lymphogranuloma venereum*, and other genital infections), pp. 1426-1440. In: G. L. Mandell, et al. , (eds) principles and practice of infectious diseases, 3rd ed. , Churchill Livingstone, Inc. , NY)

CHLAMYDIA TRACHOMATIS DNA, SDA Q

Synonyms:
CHCS IEN: 2139

Test Code: 17303
Components:
Container (Preferred/Alternate): 1 Swab in BD Transport; Urine in BD Urine preservative Transport (UPT)/ Alternate: urine in BD Urine Preservative Transport (UPT), Female endocervical swab in BD Probe Tec ET CT/GC Amplified Assay Collection Kit, male urethral swab in BD ProbeTec ET CT/GC Amplified Assay Collection Kit for male urethral specimens.
Specimen and Volume Required
Type(s):
Urine – BD Qx Urine Prservative Transport
Endocervical – BD ProbeTec CT/GC Qx Amplified Assay Collection Kit for endocervical specimens
Urethral – BD ProbeTec CT/GC Qx Amplified Assay Collection Kit for male urethral specimens
Vaginal Swab - BD ProbeTec CT/GC Qx Amplified Assay Collection Kit for vaginal specimens
Volume: 15 – 60 mL urine
Minimum Volume:
Instructions
Patient Preparation: **Urine:** Patient should not have urinated for at least 1 hour.
Collection: Collect urine in sterile, preservative-free collection cup. Patient should collect the first 20-60 mL of voided urine into a urine collection cup. Urine should be transferred from cup to one Qx UPT within 8 hours of collection provided that urine has been stored at 2-30 ºC. Fill to fluid level in window on container. This volume corresponds to 2-3 mL of urine. Invert the Qx UPT 3 to 4 time to mix. Do not over or under fill the tube. Swab specimens: Break swab at score mark and cap tightly. Do not cut swab.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest Room Temperature. Specimen stability: Urine: 30 days at room temperature; 30 days refrigerated 2-8 ºC; 6 months frozen. Vaginal: 14 days at room temperature, 14 days refrigerated, 6 months frozen.
Rejection Criteria: All other collection kits. Overfilled and/or underfilled kit containers.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Strand Displacement Amplification (SDA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Mon – Fri (day shift)
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: *C. trachomatis* infections are the leading cause of sexually transmitted diseases in the United States. *C. trachomatis* is known to cause cervicitis, Pelvic Inflammatory Disease (PID), infant conjunctivitis, infant pneumonia, urethritis, epididymitis and proctitis. It is also the most frequent cause of non-gonococcal urethritis in men. Among women, the consequences of chlamydial infections are severe if left untreated. Approximately half of chlamydial infections are asymptomatic.

CHLAMYDIA TRACHOMATIS IGM AB Q
Synonyms:
CHCS IEN: 4234
Test Code: 5157
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C. Specimen stability: 72 hours room temperature; 14 days refrigerated 2-8 C; 30 days frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Micro Immunofluorescence Assay
Order Method: CHCS order entry under: **CHLAMYDIA TRACHOMATIS IGM AB** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Notify and Routine, Routine

Interpretive

Reference Range: C. Trachomatis Ab (IgM) < 1:10

Critical Value:

Clinical Significance: Titers ≥1:10 are indicative of recent infection. However, anti-chlamydial IgM is very cross-reactive and may demonstrate titers to more than one species.

CHLAMYDIA TRACHOMATIS/NEISSERIA GONORRHOEAE RNA,TMA THROAT Q

Synonyms:

CHCS IEN: 2139

Test Code: 70051

Components:

Container (Preferred/Alternate): Swab in Aptima Combo 2 Transport Media

Specimen and Volume Required

Type(s): Throat Swab

Volume:

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Use the ATPIMA Unisex Swab Specimen Collection kit (white label) or APTIMA Vaginal Swab Specimen Collection Kit orange label). Using a tongue depressor, insert the small, blue shafted collection swab (Unisex kit, NOT the larger white shafted cleaning swab) or the small pink shafted collection swab (Vaginal kit) and vigorously rub the tonsils and the posterior pharynx. Carefully remove the swab without touching any area of the mouth. Remove the cap from the swab specimen transport tube and immediately place the swab into the transport tube. Carefully break the swab shaft at the score line. Re-cap tube tightly, label and ship to Quest.

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Transport to laboratory at Room Temperature; Store Refrigerated at 2-8 °C. Specimen stability: 30 days at room temperature; 30 days refrigerated 2-8 C; 30 days frozen.

Rejection Criteria: Submitted in M4 transport media, submitted in Viral Culture Media

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Transcription-Mediated Amplification (TMA)

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Setup Mon-Fri

TAT: Routine

Interpretive

Reference Range: Not detected

Critical Value:

Clinical Significance: Both *Chlamydia trachomatis* and *Neisseria gonorrhoeae* may infect the oral/pharyngeal cavity of sexually active individuals. Detection of this organism may be important for determineing the risk for disease progression or transmission.

CHLORIDE

Synonyms: Cl; 132

CHCS IEN: 178

Components:

Container (Preferred/Alternate):

Preferred: Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Other: Sterile container for Body Fluid

Specimen and Volume Required

Type(s):

Blood/Serum

Body fluid

Volume: 5 mL

Minimum Volume: 0.5 mL for Body Fluid

Instructions

Patient Preparation: See appropriate clinical procedure for collection of Body Fluids.

Collection: Routine Venipuncture for blood collection. Do not draw above intravenous infusion. See appropriate clinical procedure for collection of Body Fluids.

Specimen Processing:

Special Instructions: If Body Fluid, please indicate type and source on specimen container, CHCS order comment and/or

request form. Transport to laboratory immediately.
Transport/Storage Temperature: Transport to laboratory at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CHLORIDE ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Urine Chloride is not available at MAMC.
Interpretive **Serum**
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	98	107	80	120	mmol/dL

Critical Value: <80 mmol/L; >120 mmol/L
Clinical Significance: Serum chloride is the major extracellular anion and counter-balances the major cation, sodium, maintaining electrical neutrality of the body fluids. Two thirds of the total anion concentration in extracellular fluids is chloride and it is significantly involved in maintaining proper hydration and osmotic pressure. Movement of chloride ions across the red blood cell membrane is essential for the transport of biocarbonate ions in response to changing concentrations of carbon dioxide. Chloride measurements are used in the diagnosis and treatment of electrolyte and metabolic disorders such as cystic fibrosis and diabetic acidosis.

CHLORIDE, RANDOM URINE WITH CREATININE Q

Synonyms:
CHCS IEN: 2799
Test Code: 1645
Container (Preferred/Alternate): Sterile Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Urine, Random
Volume: 10 mL
Minimum Volume: 2mL
Instructions
***Patient Preparation*:** Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of Directory of Services, Testing and Specimen Submission.
Collection: Single, clean, first morning voided specimen
Specimen Processing: Transport to laboratory immediately.
Special Instructions:
Transport Temperature: Transport at room temperature. Ship urine at room temperture. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 60 days Frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **CHLORIDE UA;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:
Order Method:

CHOLESTEROL

Synonyms: Chol; 110
CHCS IEN: 183
Components:
Container (Preferred/Alternate):
Preferred: Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Other: Sterile container for Body Fluid
Specimen and Volume Required
Type(s):
Blood/Serum
Body fluid
Volume: 5 mL
Minimum Volume: 0.5 mL for Body fluid

Instructions

Patient Preparation: See appropriate clinical procedure for collection of Body Fluids.
Collection: Routine Venipuncture for blood collection. Do not draw above intravenous infusion. See appropriate clinical procedure for collection of Body Fluids.
Specimen Processing:
Special Instructions: If Body Fluid, please indicate type and source on specimen container, CHCS order comment and/or request form. Transport to laboratory immediately.
Transport/Storage Temperature: Transport to laboratory at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CHOLESTEROL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) or MAMC FORM 1787-L (CLINICAL LAB TEST PROCEDURE REQUEST) (Miscellaneous) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Urine Cholesterol is not available at MAMC.

Interpretive: Desirable <200; Borderline High 200-239; High >240 mg/dL

Reference Range:

	Serum				
Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0	200			mg/dL

Critical Value:
Clinical Significance: Total LDL and HDL cholesterol, in conjunction with a triglyceride determineation, provide valuable information for the risk of coronary artery disease. Total serum cholesterol analysis is userful in the diagnosis of hyperlipoproteinemia, atherosclerosis, hepatic and thyroid diseases.

CHOLESTEROL TOTAL *See*: **LIPID PANEL (MAMC ONLY)** in this laboratory test information guide.

CHOLESTEROL VAP TEST Q P

Synonyms: VAP Cholesterol Test
CHCS IEN: 6368
Test Code: 10270
Components:

Total Cholesterol
Direct LDL Cholesterol
HDL Choleterol
Direct measured Triglycerides
21 Lipid Subfractions
Lp(s)
IDL-C
LDL pattern size
Non-HDL cholesterol components: LDL,IDL,Lp(a) and VLDL

Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: 10-12 hour fast is required for most accurate measurement for triglyceride. No alcohol for 24 hours prior to collection.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells. Store refrigerated. Do not freeze SST.
Special Instructions:
Transport/Storage Temperature: Store Refrigerated at 2-8 °C. Ships to Quest refrigerated on ice packs. Specimen stability: Unacceptable at room temperature; 7 days refrigerated 2-8 C; 30 days frozen.

Rejection Criteria: Gross hemolysis, room temperature, whole blood, EDTA plasma, Frozen SST

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Density Gradient Ultracentrifugation with Spectrophotometry
Order Method: CHCS order entry under: **CHOLESTEROL VAP** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Critical Value:
Clinical Significance:

CHROMIUM (PLASMA) Q
Synonyms:
CHCS IEN: 4042
Test Code: 3484
Components:
Container (Preferred/Alternate): 5 mL Royal Blue-Top Tube (EDTA) Trace element collection system
Specimen and Volume Required
Type(s): Blood/Plasam
Volume: 2 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: Patient should refrain from takin vitamins, mineral or herbal supplements at least 1 week prior to specimen collection.
Collection: Routine Venipuncture. Collection system available from Quest diagnostics
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Store refrigerated.
Special Instructions:
Transport/Storage Temperature: Store Refrigerated at 2-8 °C. Ships to Quest refrigerated on ice packs 2-8 ºC or Frozen. Specimen stability: 5 days at room temperature; 10 days refrigerated 2-8 C; 21 days frozen.
Rejection Criteria: Clotted, Gross Hemolysis, room Temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Atomic Absorption Spectrometry (AAS) with Zeeman Background correction
Order Method: CHCS order entry under*:* **CHROMIUM** *;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Occupational exposure and exposure to environmental contamination of chromium may lead to toxicity. The need for chromium supplements is unproven. Supplements taken in excess may also lead to chromium toxicity.

CHROMIUM (SERUM) Q
Synonyms:
CHCS IEN: 4042
Test Code: 5248
Components:
Container (Preferred/Alternate): 5 mL Royal Blue-Top Tube (No Additive) Trace element collection system
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: Patient should refrain from takin vitamins, mineral or herbal supplements at least 1 week prior to specimen collection.
Collection: Routine Venipuncture. Collection system available from Quest diagnostics
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Allow to stand at room temperature for 30 minutes to clott. Centrifuge and separate serum from cells. Store refrigerated 2-8 ºC.
Special Instructions: Transfer serum to red-labeled shippin vial in trace element collection kit.
Transport/Storage Temperature: Store refrigerated or frozen. Ship to Quest refrigerated on ice packs refrigerated at 2-8 °C or Frozen on ice packs. Specimen stability: 1 day at room temperature; 1 week 2-8 ºC; 2 weeks frozen.
Rejection Criteria: Clotted, Gross Hemolysis, SST
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Atomic Absorption Spectrometry (AAS) with Zeeman Background correction
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
***Clinical Significance*:** Occupational exposure and exposure to environmental contamination of Chromium may lead to toxicity. The need for Chromium supplements is unproven. Supplements taken in excess may also lead to Chromium toxicity.

CHROMOGRANIN A Q
Synonyms:
CHCS IEN: 6290
Test Code: 34468
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/No additive)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 daysat room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gross Hemolysis, Lipemia, SST
Admin Notes
Testing Location/Methodology: Quest Diganostics / Electrochemiluminescence (ECLIA)
Order Method: CHCS order entry under: **CHROMOGRANIN A** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Chromogranin A has been identified in a number of normal and neoplastic endocrine tissues.

CHROMOSOME ANALYSIS G
Synonyms: Chromosome Analysis Blood; Karyotype Blood
CHCS IEN: 2879
Components:
Container (Preferred/Alternate):
Preferred: Green-Top Tube (Sodium Heparin); Lithium Heparin is **NOT** acceptable.
Other: Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/whole
Amniotic Fluid
Volume: >3 mL
Minimum Volume: 1 to 3 mL newborns
Instructions
Patient Preparation: See appropriate clinical procedure for collection.
Collection: Routine Venipuncture for blood collection. See appropriate clinical procedure for collection
Specimen Processing: Do not centrifuge!
Special Instructions: Contact Laboratory to obtain Genzyme Form. Must be completed before specimen is shipped.
Transport/Storage Temperature: Transport to laboratory at Room Temperature or Store Refrigerated at 2-8 °C**.** Ships at either Room or Refrigerated temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry: **CHROMOSOME ANALYSIS BLOOD-MAMC ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive:
Reference Range:

Critical Value:
Clinical Significance:

CHROMOSOME ANALYSIS, BONE MARROW G

Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin); Lithium Heparin is **NOT** acceptable.
Specimen and Volume Required
Bone Marrow Aspirate: If aspiration syringe requires internal pre-coating to prevent clotting, diluted sodium heparin (green-top) tube should be utilized. Do not send syringes.
Bone Marrow Core Biopsy: Do not fix, place in transport medium. Refrigerate specimen.
Volume: 10 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection.
Collection: 2-3 ml aseptically aspirated (minimum 5 x 106 cells / ideally 10-20 x 106 cells) in sodium heparin (green-top) tube. Cautionary Note: Lithium heparin also comes in green-top collection tubes. Do not collect in lithium heparin.
Specimen Processing: See appropriate clinical procedure for collection. Do not centrifuge! All specimens should be shipped to Genzyme on the day of the procedure. Delay in shipping may compromise cell viability and results. Refrigerate specimen. Use cold pack for transport. Be sure cold pack is not in direct contact with specimen during transport.
Special Instructions: Contact Laboratory to obtain Genzyme Form and budget approval paperwork forms. Must be completed before specimen is shipped. Transport to MAMC laboratory immediately at Room Temperature.
Transport/Storage Temperature: Ship Refrigerated at 2-8 °C
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine: 7 to 9 days from time received at Genzyme Genetics.
Interpretive:
Reference Range:
Critical Value:
Clinical Significance: Cytogenetic studies can identify numerical and structural chromosomal abnormalities that are diagnostic and/or prognostic for certain types of leukemia and lymphoma. Chromosome analysis is also used for monitoring treatment and predicting relapse. Leukemias and lymphomas can often be characterized by specific chromosome abnormalities. Chromosome analysis helps the physician to determinee the precise diagnosis, prognosis and optimal treatment method. Since bone marrow is composed of actively dividing cells, usually the source of leukemic cells, and is more often involved by lymphomas, it is most often the specimen of choice for analysis.

CHROMOSOME ANALYSIS CLL/LPD Q

Synonyms:
CHCS IEN: 2139
Test Code: 14601
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s):
Blood/Whole Blood
Bone Marrow
Volume: 5 to 10 mL Whole Blood, 1 to 3 mL Bone Marrow
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine venipuncture. Gently invent tube 8 times to mix blood with additive. See applicable clinical procedures for Bone Marrow collection. Bone marrow transport medium is available upon request. Other Vacutainer ® tubes containing sodium heparin are acceptable. Specimen viability decreases during transit. Send specimen to testing lab for viability determineation.
Specimen Processing: Deliver to laboratory immediately.
Special Instructions:.
Transport/Storage Temperature: Store and Ship at room temperature. Do Not Freeze. Specimen stability: 48 hours at room temperature; 48 hours refrigerated; Unacceptable Frozen.

Rejection Criteria: Do not reject bone marrow.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Culture - Karyotype
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Rule out lymphoproliferative disorders

CHROMOSOME ANALYSIS HEMATOLOGIC MALIGNANCY
Synonyms:
CHCS IEN: 2346 (Bone Marrow); 2345 (Blood)
Test Code: 14600
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s):
Bone Marrow
Blood/Whole
Volume: 1 to 3 mL Bone marrow (preferred); 5 to 10 mL whole blood (acceptable)**;** Infants: 2 to 3 mL, (in pediatric 3mL Vacutainer ®), must contain 10% myelocytes, pros or blasts.
Minimum Volume:
Instructions
Patient Preparation: Anti-leukemic drug therapy may suppress cell division. The patient should not have received these drugs within 6 weeks of sample collection.
Collection: Routine venipuncture. Gently invent tube 8 times to mix blood with additive. See applicable clinical procedures for Bone Marrow collection. Must contain 10% less mature myelocytes, pros or blasts.
Specimen Processing: Deliver to laboratory immediately**.**
Special Instructions:.
Transport/Storage Temperature: Ship and *S*tore at room temperture. Specimen viability decreases during transit. Specimen stability: Unacceptable Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Culture - Karyotype - Microscopy
Order Method: CHCS order entry based on specimen source: **CHROMOSOME BONE MARROW** or **Q CHROMOSOME ANL** ; CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Cytogenetics of hematologic disorders attempts to define and interpret chromosomal aberrations that occur in neoplastic cells associated with leukemia, lymphoma and other hematologic malignancies. Chromosome abnormalities in cancer cells of patients with malignant hematologic disorders including acute and chronic myeloid and lymphoid leukemias, myelodysplastic and myeloproliferative disorders, lymphomas and unexplained anemias may correlate with the diagnosis, prognosis, treatment and etiology of disease.

CHROMOSOMES, DEB ASSAY FOR FANCONI ANEMIA
Synonyms:
CHCS IEN: 2139
Test Code: 14598
Components:
Container (Preferred/Alternate): 2 x 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10 mL whole blood (acceptable)**;** Infants: 2 to 3 mL, (in pediatric 3mL Vacutainer ®)
Minimum Volume:
Instructions
Patient Preparation:

Collection: Routine venipuncture. Gently invent tube 8 times to mix blood with additive. Clinical history and reason for referral are required with test order. Specimen viability decreases during transit. Send specimen to testing lab for viability determineation.
Specimen Processing: Deliver to laboratory immediately***.***
Special Instructions:.
Transport/Storage Temperature: Ship and *S*tore at room temperature or refrigerated. Specimen viability decreases during transit. Specimen stability: 48 hours room temperature, acceptable refrigerated, Unacceptable Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Tissue Culture • Chromosome Breakage (DEB)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: This analysis only evaluates the amount of breakage in the cells and will not identify any specific mutation in the DNA. This test will reliably detect affected individuals but is not an appropriate test for unaffected carriers of the disorder. This test does not rule out numeric or structural chromosomal abnormalities. Some individuals with characteristics suggestive of FA may have normal results in the DEB chromosome breakage test, therefore, a negative DEB study does not rule out FA in all cases. This test will not rule out the possibility of birth defects such as those caused by chromosome abnormalities, mutations in other genes important in development, and environmental or in-utero exposures.

CHRONIC LYMPHOCYTIC LEUKEMIA, IGVH MUTATION STATUS CELL-BASED Q

Synonyms:
CHCS IEN: 2139
Test Code: 15480
Components:
Container (Preferred/Alternate): 2 x 5 mL Lavender-Top Tube (EDTA)

Specimen and Volume Required

Type(s):
Blood/ Whole
Bone Marrow
Volume: 6 mL Whole Blood; 3 mL Bone Marrow
Minimum Volume:

Instructions

Patient Preparation: None
Collection
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport and ship refrigerated at 2-8 ºC. Specimen stability: 72 hours at room temperature and refrigerated; Unacceptable frozen.

Rejection Criteria: Moderate to Gross Hemolysis, Lipemia, Clotted Whole Blood or Bone Marrow. Frozen. Frozen cells must be approved by the medical director prior to sending.

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: B-Cell Chronic Lymphocytic Leukemia (B-CLL) patients with an unmutated IgVH gene usually have more aggressive disease and shorter survival. In contrast, patients with a mutated gene usually have a more indolent disease.

CHRONIC LYMPHOCY TIC LEUKEMA PROGNOSTIC PANEL Q P

Synonyms:
CHCS IEN: 2139
Test Code: 17239

Components:
IgVH Mutation Analysis
ZAP-70
CD38+/CD19+
FISH, B-Cell Chronic Lymphocytic Leukemia (B-CLL) Panel
Beta-2 Microglobulin, Serum
Chromosome Analysis
CLL/LPD
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/ Whole
Volume: 3 mL Whole Blood
Minimum Volume: 1mL whole blood
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Gently invent tube 8 times to mix blood with additive.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport and ship at Room Temperature or refrigerated. Specimen stability: 3 days at room temperature, 3 days refrigerated at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR) • Sequencing • Flow Cytometry • Fluorescence in situ hybridization (FISH) • Fixed Rate Time Nephelometry • Culture • Karyotype
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Chronic Lymphocytic leukemia is the most common leukemia in the Western world. The disease is chronic and most patients may not require therapy in the early stage of the disease. However, in some patients the disease can be aggressive and within a year the tumor mass may increase significantly imposing serious health problems to the patient. It is difficult to determinee based on clinical presentation which patient will progress faster than the others. Therefore, there is a need to use more accurate prognostic indicator to predict the clinical course of this disease. The recent advances in CLL therapy and biology made it possible to develop new tests and a combination of these tests (panel) provide more accurate information.

CINNAMON Q
Synonyms:
CHCS IEN: 2139
Test Code: 2637
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CITRIC ACID Q P

Synonyms:
CHCS IEN: 6227
Test Code: 4616
Components:
Total Volume
Citrate UA
Citrate/Creatinine
Creatinine UA

Container (Preferred/Alternate): 24 hour urine container(s) without preservative.

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 10 mL aliquot from 24 hour urine specimen
Minimum volume: 1.5 mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved Specimen stability: 8 hours at room temperature; 1 month at 2-8 ºC; 60 days frozen. Ship to Quest on ice packs 2-8 ºC or Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Spectrophotometry (SP) - Enzymatic
Order Method: CHCS order entry under: **Q CITRIC ACID 24 HOUR URINE** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance:

CK *See*: **CREATINE KINASE** in this laboratory test information guide.

CKMB (MAMC) *See*: **CREATINE KINASE-MB** in this laboratory test information guide.

CLAM IGE *See*: **SHELLFISH RAST PANEL (MAMC)** in this laboratory test information guide.

CLINITEST *See*: **REDUCING SUBSTANCES** in this laboratory test information guide.

CLONAZEPAM Q

Synonyms:
CHCS IEN: 2139
Test Code: 340
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/No additive)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2.5 mL Serum
Minimum Volume: 1.2 mL Serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Optimum time to collect specimen: 4 hours post oral dose.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest Frozen. Specimen stability: 1 days at room temperature, 2 days refrigerated 2-8 ºC, 14 days frozen.
Rejection Criteria: SST/Gel barrier tubes.
Admin Notes
Testing Location/Methodology: Quest Diganostics / High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:Clonazepam is a benzodiazepine used as a tranquilizer. Clonazepam is used in treating patients with seizures and in reducing tardive dyskinesia. Therapeutic drug monitoring is useful to avoid toxicity.

CLOSTRIDUM DIFFICILE
Order note: A single negative test for Clostridium Difficile means the likelihood that this organism is causing the diarrheal illness is extremely low. Therefore repeapt testing is strongly discouraged. If a new diarrheal illness occurs >7 days after the prior negative test, then sending a single repeat specimen may be indicated.
Synonyms: Clostridium Difficile Toxin, C Diff PCR MAMC
CHCS IEN: 6502
Components:
Container (Preferred/Alternate): Screw-Top Cup (No Preservatives or additives)
Specimen and Volume Required
Type(s): Stool
Volume: Ample amount of Raw unfixed fecal material (*loose or diarrheic stool)* in leak-proof container.
Minimum Volume: 1 mL minimum
Instructions
Patient Preparation: See: General Collection Instructions for all Stool Specimens in the appendices of this manual.
Collection: See: General Collection Instructions for all Stool Specimens in the appendices of this manual for collection procedures. Collect the unform (liquid or loose stool which conforms to the container when the specimen is held motionless) in a clean labeled container. Formed stool (stool that can be induced to roll within the container) will be rejected.
Specimen Processing: Deliver specimen to the laboratory as soon as possible.
Special Instructions: No duplicate specimens are accepted within 7 days.
Transport/Storage Temperature: Transport and store at 2 – 8 ˚C up to 5 days. Freeze at less than or equal to -15 ˚C if transportation is to take more than 5 days. Transport on dry ice; do not allow thawing.
Rejection Criteria: Fixed specimen, inadequate specimen volume, Formed stool (stool that can be induced to roll within the container)
Admin Notes
Testing Location /Methodology: Molecular Diagnostics Section, MAMC /PCR
Order Method: CHCS order entry under: **C DIFFICILE PCR** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
***TAT*:** Routine: Up to 24 hours.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Clostridium difficile has been associated with lower gastrointestinal complications of antimicrobial therapy. The Cepheid Xpert C. difficile Toxin Test is an automated in vitro diagnostic test for qualitative detection of toxin producing Clostridium difficile directly from stool specimens of patients suspected of having Clostridium difficile infection. The assay detects the toxin B (tcdB) gene. The assay is performed on the Cepheid GeneXpert Dx system. Xpert Clostridium difficile Toxin Test has been developed and FDA approved by the Cepheid Inc. A single negative test for Clostridium Difficile means the likelihood that this organism is causing the diarrheal illness is extremely low. Therefore repeapt testing is strongly discouraged. If a new diarrheal illness occurs >7 days after the prior negative test, then sending a single repeat specimen may be indicated. The performance of specimens from patients <2 years of age has not been established. 50% of neonates

may be colonized with Toxigenic C. Difficile.

CMP (MAMC) P *See:* **COMPREHENSIVE METABOLIC PANEL** in this laboratory test information guide.

COCAINE See: **DRUG SCREEN-UR (MAMC/BREM/MMC)** in this laboratory test information guide.

COCCIDIOIDES ANTIBODY, COMPLEMENT FIXATION Q

Synonyms:
CHCS IEN: 4805
Test Code: 906
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **COCCIDIOIDES IDCF** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <1:2
Critical Value:
Clinical Significance:

COCCIDIOIDES ANTIBODY COMPLEMENT FIXATION CSF Q

Synonyms:
CHCS IEN: 2139
Test Code: 5295
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-Top CSF Tube
Specimen and Volume Required
Type(s): CSF
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation: See applicable clinical procedures for CSF collection.
Collection: See applicable clinical procedures for CSF collection.
Specimen Processing: Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: Unacceptable at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Received at Room Temperature
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

COCCIDIOIDES ANTIBODY IMMUNODIFFUSION Q

Synonyms:
CHCS IEN: 2139
Test Code: 908
Components:

Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

COCOA (F93) IGE Q
Synonyms:
CHCS IEN: 6137
Test Code: 2875
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **COCOA IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

COCONUT IGE *This test not orderable as single test*. *See:* **PED FOOD ALLERGY PANEL(MAMC)** in this laboratory test information guide.

CODFISH IGE *This test not orderable as single test*. *See:* **PED FOOD ALLERGY PANEL(MAMC)** in this laboratory test information guide.

COLD HEMAGGLUTININS Q

Synonyms:
CHCS IEN: 3654
Test Code: 349
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 3 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Allow to clot at 37 ºC before centrifugation. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 30 days refrigerated 2-8 ºC, Unaccepted frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **COLD AGGLUTININ** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

COLLAGEN CROSS LINK
Synonyms:
CHCS IEN: 2139
Test Code: 36167
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Urine, Random
Volume: 2 mL Urine from second morning void
Minimum Volume: 1mL
Instructions
***Patient Preparation*:** Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of Directory of Services, Testing and Specimen Submission.
Collection: Single, clean, second morning voided specimen. Discard the first morning void and thencCollect the second morning void. Mix well. Alternate specimen is a Two-hour urine: Discard the first morning void. Collect the voids during a 2-hour period afterward. Mix well.
Specimen Processing: Transport to laboratory immediately.
Special Instructions:
Transport Temperature: Store and ship urine refrigerated 2-8 ºC. Specimen Stability: 72 hours at room temperature, 5 days at 2-8 C, 30 days frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: NTx is useful to assess bone resorption in patients with metabolic bone disease. The test is also useful in monitoring therapy to slow or halt osteoporotic bone loss. A decline of 30% or more of NTx over a six-month period suggests effective therapy.

COLLAGEN TYPE I CTX

Synonyms:
CHCS IEN: 2139
Test Code: 17406
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation: Fasting is required. Fasting morning collection between 8-10 a.m. (Diurnal variations cause elevated levels at night).
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Allow to clot at 37 ºC before centrifugation. Centrifuge within 10 to 15 minutes after collection, separate serum from cells and freeze immediately.
Special Instructions:
Transport/Storge Temperature: Store and Ship to Quest Frozen. Specimen stability: 16 hours at room temperature, 72 hours refrigerated 2-8 ºC, 90 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: CTx is useful to asses bone resorption in patients with metabolic bone disease. The test is also useful in monitoring therapy to slow or halt osteoporotic bone loss.

COMPLEMENT C3 *See:* **C3/C4 PANEL** in this laboratory test information guide.

COMPLEMENT C4 *See:* **C3/C4 PANEL** in this laboratory test information guide.

COMPLEMENT, TOTAL (CH50) Q
Synonyms:
CHCS IEN: 1868
Test Code: 618
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Allow to clot at 37 ºC before centrifugation. Centrifuge and separate serum from cells and freeze immediately.
Special Instructions:
Transport/Storge Temperature: Store and Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature, Unacceptable refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gross hemolysis, Lipemia, Received room temperature, Received refrigerated, Received thawed
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **COMPLEMENT** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance: CH50 is a screening test for total complement activity. Levels of complement may be depressed in genetic deficiency, liver disease, chronic glomerulonephritis, rheumatoid arthritis, hemolytic anemias, graft rejection, systemic lupus erythematosis, acute glomerulonephritis, subacute bacterial endocarditis and cryoglobulinemia. Elevated complement may be found in acute inflammatory conditions, leukemia, Hodgkin's Disease, sarcoma, and Behcet's Disease.

COMPLETE BLOOD COUNT P *See:* **CBC** in CHCS

Synonyms: 20
CHCS IEN: 2197
Components:
RBC
HGB
HCT
MCV
MCH
MCHC
RDW
PLT
MPV
Lymph%
Mono%
Neut%
Eos%
Baso%
Lymph#
Mono#
Neut#
Eos#
Baso#
WBC
Corrected WBC
Container (Preferred/Alternate): Lavendar-Top Tube (K2EDTA); EDTA Microtainer for Pediatric draw.
Specimen and Volume Required
Type(s): Blood, whole
Volume: 3 mL
Minimum Volume: 250 µL for pediatric draw in Microtainer Tube.
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions: Specimen must be received in Laboratory within 8 hours of collection.
Transport/Storage Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria: Clotted specimen; Hemolysis, Quantity Not Sufficent.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC / Beckman Coulter LH780
Order Method: CHCS order entry under: **CBC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Determineation of qualitative and quantitative variations in white cell numbers and morphology; morphology of red cells; platelet evaluation; may be of use in evaluation of anemias, leukemias, infections, inflammatory states and inherited disorders.

COMPLETE BLOOD COUNT (WITHOUT AUTO DIFF) P
Synonyms: CBC (Without Auto Diff)
CHCS IEN: 3681
Components:
RBC
HGB

HCT
MCV
MCH
MCHC
RDW
PLT
MPV
WBC
Corrected WBC
Smear Review

Container (Preferred/Alternate): Lavendar-Top Tube (K2EDTA); EDTA Microtainer for Pediatric draw.

Specimen and Volume Required

Type(s): Blood, whole
Volume: 3 mL
Minimum Volume: 250 µL for pediatric draw in Microtainer Tube.

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions: Specimen must be received in Laboratory within 8 hours of collection.
Transport/Storage Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Clotted specimen; Hemolysis, Quantity Not Sufficent.

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Beckman Coulter LH780
Order Method: CHCS order entry under: **CBC (WITHOUT AUTO DIFF)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Determineation of qualitative and quantitative variations in white cell numbers and morphology; morphology of red cells; platelet evaluation; may be of use in evaluation of anemias, leukemias, infections, inflammatory states and inherited disorders.

COMPREHENSIVE METABOLIC PANEL P

Synonyms: CMP (MAMC)
CHCS IEN: 6399
Components:

Albumin
Bilirubin, Total
Calcium
Carbon Dioxide
Chloride
Cratinine
Glucose
Alkaline Phosphatase
Potassium
Protein, Total (MAMC)
Sodium
Alanine Aminotransferase
Aspartate Aminotransferase
Urea Nitrogen
Anion Gap with K+
BUN/Creatinine Ratio
Calculated Osmo
Glomerular Filtrate Rate-Calc

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis, Gross Lipemia

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CMP (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: See individual tests.
Critical Value: See individual tests.
Clinical Significance:

CONNEXIN 26 DNA SEQUENCE

Synonyms: Connex26; Connexin 26, Keesler
CHCS IEN: 4610
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.

Specimen and Volume Required

Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.

Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.

Admin Notes

Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry: **CONNEXIN 26 DNA SEQUENCE .** All prompts presented during order entry must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive: No mutation has been identified in the Connexin 26 gene in this patient, which greatly reduces the possibility of hearing loss caused by the Connexin 26 gene. However, 25% of cases of nonsyndromic hearing loss in children, and up to 50% of cases of other classes of hearing loss are a result of other genes that cannot be assess by this assay. Furthermore, the implications of genetic testing can be complicated and genetic counseling can be a valuable aid in understanding the results.
Reference Range:
Critical Value:
Clinical Significance:

CO-OXIMETRY PROFILE P

Synonyms: COOX; ABG
CHCS IEN: 2376
Components:
Carboxy Hemoglobin
Methemoglobin
Oxy Hemoglobin
Total Hemoglobin
Reduce Hemoglobin
Sulfhemoglobin
Container (Preferred/Alternate): Syringe (Dry Lithium Heparin)
Specimen and Volume Required
Type(s): Arterial blood, Venous blood
Volume: 1 mL required for a 5 mL syringe
Minimum Volume: 0.5 mL for a 1 mL syringe
Instructions
Patient Preparation: Patient should be supine and relaxed
Collection: Do not draw above intravenous infusion. Collection performed by respiratory therapy or other qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples. Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen.
Specimen Processing: Remove needle and cap syring.Gently invert capped syring 8 times to ensure mixing of anticoagulant with blood. Secure cap in place with small length of tape. Place specimen on ice and Transport to laboratory immediately
Special Instructions:
Transport/StorageTemperature: Place on ice immediately after drawing and capping. Transport on ice to Laboratory immediately.
Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Bayer Healthcare Rapid Lab 1265
Order method: CHCS order entry under: **CO-OXIMETRY PROFILE**; Please indicate source (Blood, Arterial, Blood, Venous) in Order Comment. MAMC FORM 1787-L (CLINICAL LAB TEST PROCEDURE REQUEST) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: See chart found under: **BLOOD GAS (MAMC)**
Critical Value: See chart found under: **BLOOD GAS (MAMC)**
Clinical Significance: Used to distinguish oxyhemoglobin from carboxyhemoglobin and determinee the oxyhemoglobin saturation: the percentage of oxygenated Hb compared to the total amount of hemoglobin (Hb), including carboxy-Hb, met-Hb, oxy-Hb, and reduced Hb. When a patient presents with carbon monoxide poisoning (CO), the oxyhemoglobin saturation will be markedly reduced.

COPPER, 24-HOUR URINE Q

Synonyms:
CHCS IEN: 3695
Test Code: 365
Container (Preferred/Alternate): Acid washed 24 hour urine container(s); Acid washed Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 7 mL aliquot from 24 hour urine specimen
Minimum volume: 3 mL aliquot from 24 hour urine specimen
Instructions
Patient Preparation: Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: Collect without preservative. Transport in a plastic, acid-washed, metal-free container. Record total volume on specimen container and on test requisition. 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to acid washed plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.

Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerate. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days frozen. Ships to Quest at refrigerated or frozen.

Rejection Criteria: Hemolysis, Fecal contamination, Random urine

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Atomic Spectroscopy (AS)

Order Method: CHCS order entry under: **COPPER ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days

TAT: Routine

Interpretive

Reference Range: 15-60 µg/24 h

Critical Value:

Clinical Significance: The daily adult requirement of copper is approximately 2 mg and is supplied by the diet, which averages 2-5 mg per day. Human abnormalities of copper metabolism exist that may result in gradual copper toxicity. Acute copper poisoning is usually a consequence of food contamination by copper utensils, or the accidental or intentional ingestion of copper salts. Copper is excreted primarily in the feces with less than 3% excreted in the urine. Toxicity is characterized by nausea, vomiting, epigastric burning and diarrhea.

COPPER, BLOOD Q

Synonyms:

CHCS IEN: 3695

Test Code: 363

Container (Preferred/Alternate): Royal Blue-Top Tube (No Additive); Acid washed Plastic Screw-Cap Vial in Trace element collection kit

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL serum

Minimum Volume: 0.5 mL serum

Instructions

Patient Preparation:

Collection: Routine Venipuncture

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Allow to clot in an upright position. Centrifuge and separate serum from cells by pouring into the metal free tube. Do not pipette.

Special Instructions:

Transport/Storge Temperature: Store and Ship to Quest at room temperature. Specimen stability: 5 days at room temperature, 10 days refrigerated 2-8 ºC, 30 days frozen.

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diganostics / Atomic Spectroscopy (AS)

Order Method: CHCS order entry under: **COPPER ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Copper is an essential trace element. It is required for hemoglobin synthesis and is a constituent of the cytochrome oxidase system. The most important abnormality in copper metabolism is Wilson's Disease. Subnormal concentrations are found in patients with hypoproteinemia, e.g., protein malnutrition, protein malabsorption syndrome, nephrosis and Menkes' syndrome. Above normal concentrations are found in a number of acute and chronic diseases, such as malignant diseases (including leukemia), hemochromatosis, biliary cirrhosis, thyrotoxicosis, and various infections. Serum copper levels are also high in patients taking contraceptives or estrogens.

CORD BLOOD (MAMC ONLY) P

Synonyms: Cord

CHCS IEN: 6518

Components:

ABO/RH Group - CHCS

Direct Antiglobulin Test – CHCS

Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood (Cord Blood)

Volume: 6 mL

Minimum volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Mislabeled specimen, grossly hemolyzed specimen, or specimen drawn in a serum separator tube.
Admin Notes
Test methodology:
Order method: CHCS order entry under: **CORD BLOOD (MAMC ONLY) ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Cord blood samples are collected during delivery of babies. A cord blood evaluation, which includes performing an ABO grouping, Rh typing and DAT. Cord blood evaluations may be ordered and performed in suspected cases of hemolytic disease of the newborn or to determinee the need of Rh immune globulin if the mother is Rh negative.

CORN (F8) IGE Q
Synonyms: Quest Name: MAIZE/CORN (F8) IGE
CHCS IEN: 6084
Test Code: 2808
Container (Preferred/Alternate): 5 mL Gold-Top (SST) or Red-Top tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship at room temperature to Quest. Specimen stability: 2 weeks at room temperature; 2 week at 2-8 ºC; 4 weeks frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **CORN IGE PANEL ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CORTISOL
Synonyms: Total Cortisol; 367
CHCS IEN: 4601
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Assay not recommended when patient is on Prednisone/Prednisolone therapy due to cross reactivity with antibody used in assay.
Collection: Routine Venipuncture. Indicate A.M. or P.M. on the tube.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately.

Centrifuge to separate serum from cells.
Special Instructions: Indicate A.M. or P.M. on the tube.
Transport/Storage Temperature: Transport at Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria

Admin Notes

Testing Location /Methodology: Chemistry Section, MAMC / DXI
Order Method: CHCS order entry under: **CORTISOL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: A.M.: 8.7-22.4 µg/dL; P.M.:<10 µg/dL
Critical Value:
Clinical Significance: Cortisol is increased in Cushing's Disease and decreased in Addison's Disease (adrenal insufficiency).

CORTISOL, FREE 24 HR URINE Q

Synonyms:
CHCS IEN: 4410
Test Code: 11280
Container (Preferred/Alternate): 24 hour urine container(s) No preservative. / Alternate: 25 mL 6N HCl • 10 mL conc. glacial acetic acid • 10 g boric acid

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 2mL aliquot from 24 hour urine specimen
Minimum volume: 0.7mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Preferable that the patient be off medications for a minimum of 18-24 hours prior to collection. However common antihypertensives (Diuretics, ace inhibitors, calcium channel blockers, alpha and beta blockers may cause minimal or no interference. Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved Specimen stability: 1 week at room temperature; 1 month at 2-8 ºC; 7 weeks frozen. Specimen ships to Quest refrigerated 2-8 ºC.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **Q CORTISOL, FREE 24HR URINE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance: Urinary Free Cortisol is useful in the detection of patients with Cushing's syndrome for whom Free Cortisol concentrations are elevated.

CORTISOL, SALIVA Q

Synonyms:
CHCS IEN: 2139
Test Code: 19897
Component
Container (Preferred/Alternate): Salivette Collection tube (Sarstedt) with Swab

Specimen and Volume Required

Type(s):
Volume:

Minimum Volume: 0.2 mL

Instructions

Patient Preparation: Saliva should be collected at the time(s) prescribed by patient's doctor. No food or fluids for 30 minutes prior to collection. Do not use any creams, lotions, or steroid inhalers immediately prior to collection. Avoid any activity that can cause patient's gums to bleed, including brushing and flossing your teeth. Do not use this kit on children under 3 years of age or any patient with increased risk of swallowing or choking.

Collection: Have Patient rinse mouth thoroughly with water and discard. Do not swallow. Hold the Salivette ® at the rim of the suspended insert and remove the stopper. Remove the swab. Place the swab under the tongue until well saturated, approximately 1 minute. Return the saturated swab to the suspended insert and close the Salivette ® firmly with the stopper. Do not remove the tube holding the insert. The Salivette ® should be sent to the lab with the swab inside. Label the Salivette ® with the patient name, date and time of collection, and any other identifying information.

Specimen Processing:

Special Instructions:

Transport/Storge Temperature: Refrigerated specimen if it can not be shipped within 24 hours of collection. Ship to Quest refrigerated 2-8 ºC. Specimen stability: 48 hours at room temperature, 7 days refrigerated 2-8 ºC, 2 years frozen.

Rejection Criteria: Room Temperature

Admin Notes

Testing Location/Methodology: Quest Diganostics / Liquid Chromatography/Tandem Mass spectrometry (LC/MS/MS)

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up- Sun thru Thursday

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

CORTISOL, TOTAL Q

Synonyms:

CHCS IEN: 2139

Test Code: 367

Component

Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL serum

Minimum Volume: 0.5 mL serum

Instructions

Patient Preparation: Assay not recommended when patient is on prednisone/prednisolone therapy due to cross reactivity with the antibody used in this assay

Collection: Routine Venipuncture

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.

Special Instructions:

Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 48 hours at room temperature, 7 days refrigerated 2-8 ºC, 28 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diganostics / Immunoassay

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Cortisol is increased in Cushing's Disease and decreased in Addison's Disease (adrenal insufficiency).

COTTONWOOD (T14) IGE, IMCAP Q

Synonyms:

CHCS IEN: 2139

Test Code: 2514
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

COXSACKIE A ANTIBODY COMPLEMENT FIXATION

Synonyms:
CHCS IEN: 2139
Test Code: 37477
Components:
Coxsackie A Types 2, 4, 7, 9, 10, 16
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Scew-cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL serum
Minimum Volume: 1 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics / Complement Fixation (CF)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Panel currently includes testing against 2, 4, 7, 9, 10, and 16 antigens. Although there is cross-reactivity among the *enteroviruses* by CF, most healthy people do not have titers >1: 8. Therefore, detectable titers, especially those >1: 32, should be considered diagnostic. Confirmed serodiagnosis is made by demonstration of a four-fold change in titers between acute and convalescent sera.

COXSACKIE B (1-6) ANTIBODIES, SERUM

Synonyms:
CHCS IEN: 2139
Test Code: 7656
Components:
Coxsackie B Types 1, 2, 3, 4, 5, 6
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Scew-cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL serum
Minimum Volume: 1 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics / Complement Fixation (CF)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CRAB IGE *See:* **SHELLFISH RAST PANEL** in this laboratory test information guide.

CREATINE KINASE*
Order Note: If a CK-MB is desired, please order: **CK-MB**. Troponin I is recommended for AMI assessment at MAMC, not CK-MB
Synonyms: CK
CHCS IEN: 197
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria: Hemolysis
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CREATINE KINASE*** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group*	Ref Low	Ref High	Panic Low	Panic High	Units
MALE/ALL	55	170			U/L
FEMALE/ALL	30	135			

*CK levels are strongly dependent upon Race, Sex and Physical Activity level.
Critical Value:

Clinical Significance: For myocardial infarction and skeletal muscle damage. Elevated results may be due to: myocarditis, myocardial infarction, muscular dystrophy, muscle trauma or excessive exercise.

CREATINE KINASE ISOENYMES (CK ISOENZYMES) WITHOUT TOTAL CK Q P

Synonyms:
CHCS IEN: 2139
Test Code: 377
Components:
CK-BB, CK-MB, CK-MM
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest frozen. Specimen stability: Unstable at room temperature, 4 hours refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Hemolysis, room temperature or thawed.
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Evaluation of myocardial infarction.

CREATINE KINASE-MB

Synonyms: Creatine Phosphokinase-MB
CHCS IEN: 4600
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperature. Store Serum Frozen.
Rejection Criteria*:*
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **CKMB (MAMC)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Negative: 0.3 – 4.0 ng/mL; Indicative of Myocardial Infarction: >4.0 ng/mL
Critical Value:
Clinical Significance: Diagnosis of myocardial infarction

CREATININE, 24- HOUR URINE P

Synonyms: 24 HR Creatinine Urine, Urine Creatinine 24 Hour
CHCS IEN: 1994
Components:
Creatinine, Urine 24 HR
Total Volume
Creatinine
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24-HOUR URINE CREATININE ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: 0.8 – 2.8 g/24 Hour
Critical Value:
Clinical Significance: Creatinine, produced by the liver, is essential for metabolism of the brain and muscles. Creatine is converted to creatinine and excreted.

CREATININE

Synonyms: Creat; 113
CHCS IEN: 173
Components:
Container (Preferred/Alternate): Specimen specific, see chart below.
Specimen and Volume Required: See chart below
Type(s):
Volume:
Minimum Volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport to laboratory at Room Temperatrue. Store Refrigerated at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location /Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **CREATININE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive

Reference Range: **Serum**

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
MALE/ALL	0.8	1.5	0.2	5.0	mg/dL
FEMALE/ALL	0.7	1.2	0.2	5.0	

Critical Value: <0.2; >5.0 mg/dL
Clinical Significance: Creatinine is the endproduct of creatine metabolism. Creatine is present primarily in muscle and the amount of creatinine produced is related to total skeletal muscle mass. Daily creatinine production is fairly constant except when there is massive injury to muscle. The kidneys excrete creatinine very efficiently and blood levels and daily urinary excretion of creatinine fluctuates very little in healthy normal people. Since blood and daily urine excretion of creatinine shows minimal fluctuation, creatinine excretion is useful in determineing whether 24-hour urine specimens for other analytes (e.g., protein) have been completely and accurately collected. A serum creatinine result within the reference range does not rule out renal function impairment: serum creatine is not sensitive to early renal damage since it varies with age, gender and ethnic background. The impact of these variables can be reduced by an estimation of the glomerular filtration rate using an equation that includes serum creatinine, age and gender.

Blood/Serum	***Container:*** Serum: Gold-Top / SST Tube (clot activator and gel separator); 1 Red or Amber-Top Tube for pediactric draw. ***Volume:*** 5 mL ***Patient Preparation:*** None ***Collection:*** Routine Venipuncture. Do not draw above intravenous infusion. ***Specimen Processing:*** Gently invert tube 5 times to mix blood with Clot activator immediately after draw. Tranport to lab immediately. Centrifuge to separate serum from cells.
Urine, 24 Hour	***Container:*** 24 hour urine container(s) with lid, No preservative ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. See: 24-Hour Urine Collection instructions in the appendices of this laboratory information guide for exact procedures. ***Specimen Processing:*** Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Laboratory: pH urine to alkaline range. Store refrigerated at 2-8 °C.
Urine, Random	***Container:*** Sterile Cup Container with Screw-Top lid - without preservative (anti-bacterial) additives. ***Volume:*** 10 mL ***Patient Preparation:*** Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. ***Collection:*** Single, clean, first morning voided specimen. See: Instructions For Collecting a Clean Catch Urine Sample in the appendices of this laboratory information manual. ***Specimen Processing:***
Amniotic Fluid Body Flluid Pericardial Fluid Peritoneal Fluid Pleural Fluid Synovial Fluid	***Container:*** Sterile Container. ***Volume:*** 0.5 mL minimum volume ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** *See* appropriate clinical procedure for collection ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

CREATININE, CONTINUED For additional Creatinine testing also See the Following Panels in this laboratory test information guide: **CMP(MAMC)**, **BMP(MAMC)**, **MICROALBUMIN, RANDOM/TIMED(MAMC)**, **OB PANEL(MAMC)**, **RENAL FUNCTION PANEL(MAMC)** and **SPOT URINE PROT/CREAT RATIO**.

CROSSMATCH *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

CRYOPRECIPITATE *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

CRYOGLOBULINS Q
Synonyms: Cryo, 36562, Cryoglobulin (% Cryocrit), Serum
CHCS IEN: 2309
Test Code: 36562
Components:
Container (Preferred/Alternate): 6 mL Red-Top Tube (Clot Activator) No Gel
Specimen and Volume Required
Type(s): Blood/Serum

Volume: 3 mL Serum
Minimum Volume: 2 mL Serum

Instructions

Patient Preparation: Overnight fasting is required
Collection: Collect 6 mL of fasting whole blood via routine venipuncture in red-top tube (no gel). Avoid hemolysis.
Specimen Processing: Allow to clot for one hour in 37 ºC water bath. Separate serum in 37 ºC. (Room temperature centrifuge and carriers acceptable if 37 ºC centrifuge is not available). Transport at room temperature.
Special Instructions: Do not refrigerate or freeze.
Transport/Storage Temperature: Transport at room temperature. Specimen stability: 72 hours at room temperature.

Rejection Criteria: Specimen transported and/or stored at temperature other than room temperature. Gross hemolysis, Lipemia, Serum Separator Tube (SST).

Admin Notes

Testing Location /Methodology: Quest Diagnostics / Visual inspection for the formation of Cryoglobulin, /Cryocrit calculation if positive.
Order Method: CHCS order entry: **CRYOGLOBULINS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Quest Test setup: Monday (day shift), Tuesday-Saturday (day and evening shifts)
TAT: Routine. Report available: 8 days

Interpretive

Reference Range: Cryoglobulin Qualitative: Negative in normal individuals, % Cryocrit: None detected.
Critical Value:
Clinical Significance: The Cryocrit is primarly intended for following a patient with previously defined and quantitated Cryoglobulins. The Cryocrit may consist of Cryoglobulins, fibrin or mixtures of Cryoglobulins and fibrin. Cryoglobulin clumps in cold temperatures. This physical characteristic causes people with cryoglobulin to have symptoms during cold weather: blanching, numbness, and pain in their fingers or toes (Raynaud's phenomenon); bleeding into the skin (purpura); and pain in joints (arthralgia). People with these symptoms or any other symptoms that appear in cold weather should be tested for cryoglobulin. Diseases that cause the body to make extra or abnormal proteins are often associated with cryoglobulin. These diseases include cancers involving white blood cells, infections, autoimmune disorders, and rheumatoid diseases. This test provides information about the cause of symptoms in a person who already has a disease process. It does not diagnose a specific disease or monitor the course of a disease. *Mosby's Medical Dictionary, 8th edition. © 2009, Elsevier.*

CRYPTO AG TITER

Synonyms:
CHCS IEN: 2787
Components:
Container (Preferred/Alternate):

Preferred: Sterile Tube Container with Screw-Top Cap
Other:

Specimen and Volume Required

Type(s): Cerebrospinal Fluid (CSF)
Volume:
Minimum Volume: Requires 1 mL minimum for CSF

Instructions

Patient Preparation: None
Collection: Lumbar Puncture procedure. See appropriate clinical procedure for collection of CSF specimens.
Specimen Processing: Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature

Rejection Criteria:

Admin Notes

Testing Location /Methodology: Microbiology Section, MAMC /
Order Method: CHCS order entry under: **CRYPTO AG TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive: While CSF titers of 1;4 or less are presumptive evidence of CNS infection by C.Neoformans, additional follow-up and culture are strongly recommended. The false positive rate associated with serum titers of less than 1;8 may be as high as 32%.

Reference Range: :

Sex/Age Group	Upper Limit	Ref Low	Ref High	Panic Low	Panic High	Units
MALE/NO SEX						
ALL					P8	

Critical Value:
Clinical Significance:

CRYPTOCOCCAL ANTIGEN LATEX
Synonyms: Crypto Latex
CHCS IEN: 2443
Components:
Container (Preferred/Alternate): Specimen specific
Preferred: Blood/Serum: Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Other: CSF: Sterile Tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 7-10 mL whole blood; 1.0-1.5 mL for microtainer
Minimum Volume: Requires 1 mL minimum for CSF; requires a minimum of 0.5 mL for Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture; Lumbar Puncture procedure. See appropriate clinical procedure for collection of CSF specimens.
Specimen Processing: Gold-Top Tube- Gently invert tube 5 times to mix the clot activator with blood. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature; Store Refrigerated at 2-8 °C.
Rejection Criteria: Specimen other than Serum or CSF
Admin Notes
Testing Location /Methodology: Serology Section, MAMC / Latex Agglutination
Order Method: CHCS order entry under: **CRYPTOCOCCAL ANTIGEN LATEX**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Negative in normal individuals
Critical Value:
Clinical Significance: The encapsulated soil yeast Cryptococcus neoformans causes Cryptococcosis. Pulmonary infection is acquired by inhalation of the organism and is usually subclinical in the immunocompetent host. Dissemination may occur in an immunocompromised patient, often to the meninges.

CRYPTOCOCCUS, ANTIGEN SCREEN WITH REFLEX TO TITER Q
Order Note: If *Cryptococcus* Antigen Screen is positive, a Titer will be performed at an additional charge (CPT code(s): 86406).
Synonyms:
CHCS IEN: 2139
Test Code: 11197
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s):
Blood/Serum
CSF
Volume: 2 mL Serum or 1 mL CSF
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine Venipuncture. See applicable clinical procedures for CSF collection.
Specimen Processing: Gently invert SST tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells. Freeze immediately.
Special Instructions:
Transport/Storge Temperature: Ship to Quest Frozen. Specimen stability: 2 hours at room temperature, 72 hours refrigerated 2-8 ºC, 60 days frozen.
Rejection Criteria: Room Temperature, glass tube
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Not detected

Critical Value:
Clinical Significance: Test limitations: Patients with *capnocytophagna canimorsus* and *tichosporon beigelli* infections may test falsely-positive.

CRYPTOSPORIDIUM EXAM (MAMC)
Synonyms: Modified Acid Fast Stain
CHCS IEN: 3228
Components:
Container (Preferred/Alternate):
Sterile Container with Screw-Top Lid (No preservative)
Formalin Transport Vial (10% Formalin)
Specimen and Volume Required
Type(s): Stool, Raw (< 1 hour after collection); Stool in preservative (> 1 hour after collection)
Volume: 5 grams (5 mL)
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of Stool.
Collection: Collect raw sample. See appropriate clinical procedure for collection of Stool. See: General Collection Instructions For All Stool Specimens within the Appendices of this guide.
Specimen Processing: Submit Fresh specimen (unpreserved) to laboratory within 1 hour after collection. If delivery/testing is to be delayed longer than 1 hours, submit specimen in Formalin Transport Vial with 10% formalin. Transfer fresh stool specimen into Formalin Transport Vial within 30 minutes of collection. Fill to the line on the Vial.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Unpreserved specimen older than 1 hour.
Admin Notes
Testing Location/Methodology: Parasitology Section, MAMC /
Order Method: CHCS order entry under: **CRYPTOSPORIDIUM EXAM (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Cryptosproidiosis is a disease which produces watery diarrhea and which can be life threatening in immunosuppressed patients.

CSF CULTURE
Synonyms:
CHCS IEN: 2485
Components:
Container (Preferred/Alternate): Sterile Container with screw-top cap; Tube #2 or #3
Specimen and Volume Required
Type(s): CSF
Volume: 1.5 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedure for CSF collection.
Collection: See appropriate clinical procedure for CSF collection. If collected using sterile lumbar puncture technique, submit at least 1 mL CSF in Tube #2 (or #3 if 4 tubes collected) for Gram Stain and culture. Other miscellaneous CSF specimens may be submitted in appropriate, sterile containers.
Specimen Processing: Deliver to laboratory immediately.
Special Instructions: Identify source and body site of specimen in the request form / CHCS Order Comment.
Transport/Storage Temperature: Transport at Room Temperature
Rejection Criteria
Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC / Gram stain and culture growth
Order Method: CHCS order entr under: **CSF CULTURE**; Identify source and body site of specimen in the request form / CHCS Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 78 days a week
TAT: Gram Stain available STAT; ASAP or Routine: 2 to 3 days
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

CSF LATEX AGGLUTINATION PANEL P

Synonyms:
CHCS IEN: 1178
Components:
Haemophilus Influenzae Antigen
N. Meningitidis GP A,C,W135,Y
N. Meningitidis GP B/E.Coli
Strep GP B Antigen
Strep Pneumoniae Antigen
Container (Preferred/Alternate): Sterile Container
Specimen and Volume Required
Type(s): CSF
Volume: 1.5 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedure for CSF collection.
Collection: See appropriate clinical procedure for CSF collection
Specimen Processing: Deliver to laboratory immediately.
Special Instructions: Maintain specimen at room temperature.
Transport/Storage Temperature: Transport and Store at Room Temperature.
Rejection Criteria
Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC / Latex Agglutination
Order Method: CHCS order entr under: **CSF LATEX AGGLUTINATION PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CUCUMBER (F244), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 2639
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CULT OAT (G14), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 2314
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CULTURE, ADENOVIRUS

Synonyms: AdenoCul, Adenovirus Cult
CHCS IEN: 5054
Components:
Container (Preferred/Alternate): Dacron (polyester) swab in Viral Transport Media Tube
Specimen and Volume Required
Type(s): Rectal Swab
Volume:
Minimum volume:
Instructions
Patient Preparation: See appropriate clinical procedure on collection
Collection: Use only Dacron (polyester) swabs, placed in Viral Transport Media (VTM). Do not use Calgi or Cotton swabs. Immediately inoculate the swab into the VTM and thoroughly mix. More than one swab may be inoculated into the VTM tube.
Specimen Processing: Transport specimen to Laboratory immediately.
Special Instructions: Shipment of specimens to MAMC must be submitted in Viral Transport Media. For questions please call: Microbiology Section at (253) 968-1753
Transport Temperature: Transport at Room Temperature
Rejection Criteria: Improper collection and/or collection container.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Culture growth and identification
Order Method: CHCS order entry under: **ADENOVIRUS CULTURE (MAMC)** **;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: 72 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance: This test is intended for enteric samples only**.** Adenovirus causes respiratory tract infections, conjunctivitis and diarrhea. Infections are most common in individuals who are immunocompromised and in young children. Detection is useful in diagnosis of adenovirus infection in patients with gastroenteritis.

CULTURE, AEROBIC *See:* **AEROBIC CULTURE** in CHCS
Order Note: This test is for aerobic cultures only. Aerobic cultures are automatically included in all Anaerobic Culture requests. If both are desired, order **ANAEROBIC CULTURE** in CHCS only.
Synonyms: Culture Aerobic, Culture Wound, Aero Cul
CHCS IEN: 2358
Components:
Container (Preferred/Alternate): Source specific: Sterile Swab(s), Sterile Culturette and/or Sterile Container. Avoid tubes with preservatives (anti-bacterials) additives. See specimen source chart below.
Specimen and Volume Required
Type(s): See chart below
Volume: Submit maximum amount of any obtainable material using appropriate swab, asparate or collection method.
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
***Specimen Processing*:** See chart below. Transport all specimens to Laboratory Immediately.
Special Instructions: For questions, advance media coordination and direct inoculation of culture media at clinics, please call: Microbiology Section at (253) 968-1753 from 0700-2030 hours or the Pathology Lead Technologists at (253) 968-1182 during all other hours.
Safety Note: If screening for agents of bioterrorism, the lab must be contacted at 253 968-1753 before submission. For bioterrorism screening DO NOT send specimen(s) to the lab via the pheumatic tube or cart system! Please double bag the specimen(s) and hand carry to Microbiology Section.
Transport Temperature: Transport at Room Temperature
Rejection Criteria*:* Incorrect specimen collection, containers and/or use of tubes with preservative (anti-bacterial) additives
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **AEROBIC CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7day a week
TAT: Routine: 2-5 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance: This test is for aerobic cultures only. Aerobic cultures are automatically included in all Anaerobic

Culture requests. If both are desired, order **ANAEROBIC CULTURE** only. The significance of any isolate(s), in pure or mixed culture, must be assessed with respect to the source cultured, the organism's pathogenic potential, the possibility of colonization versus infection, and the number of other organisms recovered from the same culture.

Amniotic Fluid	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Catheter Tip (Arterial Lines, Hickman, Swan-Ganz, Cordis, Broviac, Subclavian, Others)	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** Apply 10% povidone iodaphor solution to the catheter insertion site for 2 to 4 minutes. Remove with 70% isopropyl alcohol. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. **Do not** submit foley tips. Specimens of choice are: Arterial lines, Hickman, Swan-Ganz, Cordis, Broviac, Subclavian, Others (please specify in request form / CHCS Order Comment). Collect 2 segments of catheter 2-5 cm in length: 1 segment from the skin-catheter interface and 1 segment of the indwelling section of the catheter. For long catheters or other suspicious sections, collect additional segments as desired. ***Labeling Instructions:*** Clearly label type of catheter and section on each specimen. ***Specimen Processing:*** Place the different segments in separate, clearly labeled sterile containers. For long catheters or other suspicious sections, submit additional segments as desired in separate, clearly labeled sterile containers. ***Clinical Significance:*** A finding of less than 15 CFU per culture site is considered contamination, but identification of isolates will be provided. A finding of more than 15 CFU indicates possible colonization, in which case isolates will be identified and susceptibilities will also be anlysed (when possible).
Cervical Swab	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in CHCS Order Comment. ***Specimen Processing:***
Corneal Scrapings	***Container:*** Sterile Container - without preservative (anti-bacterial) additives or contact the Microbiology Section for media for direct inoculation of the specimen. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form/CHCS Order Comment. Indicate L or R eye in Order Comment. ***Specimen Processing:***
Ear	***Order Note***: Ear cultures for obligate anaerobes must be requested as Anaerobic Culture. ***Container:*** Culturette or Aspirate ***Patient Preparation:*** For internal ear specimens, cleanse external canal with mild antiseptic. ***Collection:*** Use sterile funnel and swab and/or aspirate specimen from ear drum or beyond. ***Labeling Instructions:*** Specify Internal vs. External; specify R ear or L ear for each specimen. Cultures for agents such as Pseudomonas, Haemophilus, or yeast should be indicated in the request form/CHCS Order Comment. ***Specimen Processing:***
Eye	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. Specify R or L eye for each specimen in Order Comment. ***Specimen Processing:***
Other Misc (Specify Source)	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE ***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Pleural Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

Sputum	**Do not** submit sputum specimens under this test. Order **LOWER RESPIRATORY CULTURE** for sputums.
Tissue	***Container:*** Sterile Swab / Culturette ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Vaginal	***Container:*** Sterile Swab / Culturette ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Wound	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE; ***Container:*** Swab; 2 swabs required if a gram stain is being requested ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***

CULTURE, AFB BLOOD CULTURE
Synonyms: TB Blood Culture, Culture Blood AFB, AFBBC, AFB BC, Blood Culture AFB, Acid Fast Culture, Tuberculosis, Mycobacterium tuberculosis
CHCS IEN: 2479
Components:
Container (Preferred/Alternate): Two (2) - Grey Label Aerobic BACT/ALERT - Blood Culture Bottles
Specimen and Volume Required
Type(s): Blood
Volume: 10 ml each bottle
Minimum Volume: 5 ml each bottle
Instructions
Patient Preparation: Prepare as for routine blood draw and blood culture
Collection: Inject 5-10ml blood sample into each of two (2) aerobic BACT/ALERT blood culture bottles. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.
Specimen Processing: When labeling bottles do not cover any part of the printed barcode or the sensor located in the base of the bottle.
Special Instructions: See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.The anaerobic blood culture bottle is not inoculated unless anaerobic infection is also suspected.
Transport/Storage Temperature: Transport at Room Temperature
Rejection Criteria: Improperly labeled specimen, contaminated specimen
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **AFB BLOOD CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: 24 hour / 7 days a week
TAT: Routine: up to 9 weeks. Positive smears and/or cultures are reported immediately after detection.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The significance of any isolate(s), in pure or mixed culture, must be assessed with respect to the source cultured, the organism's pathogenic potential, the possibility of colonization versus infection, and the number of other organisms recovered from the same culture.

CULTURE, AFB CULTURE + SMEAR *See:* **AFB CULTURE+SMEAR** in CHCS
Order Note: Direct smears cannot be performed on Urine specimens and specimens obtained using swabs/culturettes.
Synonyms: Culture AFB & Smear, AFB Smear & Culture
CHCS IEN: 2917
Components: Culture and direct smear.
Container (Preferred/Alternate): Collection containers are *source specific.* See Specimen chart below. Note: When specimen is collected using culturette(s) a direct smear for AFB cannot be performed.

Specimen and Volume Required

Type(s): See chart below.
Volume: Submit maximum amount of any obtainable material using the appropriate collection container and Method.
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Treat all MTB specimens with standard precautions. Transport all specimens to Laboratory Immediately.
Special Instructions: Specify collection sample source in the request form / CHCS Order Entry Comment.
Transport Temperature: Transport at Room Temperature / Store Refrigerated at 2-8 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **AFB CULTURE+SMEAR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabiltiy.
Availability: 24 hours / 7 days a week
TAT: Routine Smear: 24-72 hours; Culture up to 9 weeks
Other:

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Used to determinee an active Mycobacterium Tuberculosis infection or infections due to another member of the Mycobacterium family or TB-like symptoms due to another cause. Used to determinee whether M. Tuberculosis is confined to the lungs (pulmonary) or has spread to organs outside the lungs (extrapulmonary). AFB cultures can be used to monitor the effectiveness of treatment and can help determinee when a patient is no longer infectious and can also help track and minimize the spread of TB in those populations suspeptable and/or vulnerable.

Abscess	***Container:*** Sterile Container / 3 to 5 Culturette - without preservative (anti-bacterial) additives. **Optimal Volume:** 1 to 5 mL specimen or 3 to 5 culturettes if unable to obtain fluid. ***Patient Preparation:*** *See* appropriate clinical procedure for collection. ***Collection:*** Collect fluid or exudate using culturettes. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on swabs/culturettes.
Body Fluid / Other	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** *See* appropriate clinical procedure for collection ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Bone Marrow	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** *See* appropriate clinical procedure for collection of bone marrow. ***Collection:*** A single Bact T Alert MB bottle is inoculated after collection of specimen using appropriate clinical procedure for collection of bone marrow. Utilize sterile technique and avoid contamination with normal flora. Do not collect using EDTA tube. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver specimen immediately to Room G-45-14.
Bronchoalveolar Lavage	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Bronchoalveolar lavage specimen. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Bronchial Washing	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of bronchial washing.

	Collection: Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
CSF	***Container:*** Sterile Tube #1 or #4 **Optimum Volume:** 50 mL – A larger volume increases likelihood of isolation. ***Minimum Volume:*** 2 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of CSF using Lumbar puncture procedures***.*** ***Collection:*** See appropriate clinical procedure for collection of CSF using lumbar puncture procedures***.*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Gastric Aspirate	***Container:*** Sterile Container with 100 mg of Sodium Bicarbonate ***Minimum Volume:*** 10 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Gastric Aspirate. Gastic specimens requires early morning fasting stomach. ***Collection:*** Obtain Sodium Carbonate tube from Mycobacteriology Section before collection. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Submit neutralized specimen to laboratory. ***Special Instructions:*** A gastric specimen is recommended when sputum is not readily obtainable.
Other Misc (Specify Source)	***Container:*** Swab / Sterile Container - without preservative (anti-bacterial) additives. **Volume:** Submit maximum amount of any obtainable material using the appropriate collection container and Method. ***Patient Preparation:*** See appropriate clinical procedure for collection. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Other:*** A smear is not done when swab is submitted.
Pericardial Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 5 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Pericardial Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Peritoneal Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 5 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Peritoneal Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Pleural Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 15 mL **Minium Volume:** 10 mL ***Patient Preparation:*** See appropriate clinical procedure for collection of Pleural Fluid. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Sputum / Expectorated	***Container:*** *3 separate* Sterile Containers - without preservative (anti-bacterial) additives. **Optimal Volume:** 10 mL for each specimen **Minium Volume:** 5 mL for each specimen ***Patient Preparation:*** Provide patient with instructions and materials to properly collect first morning sputums (coughed-up mucous from lungs) for three consecutive days. ***Collection:*** 3 separate first morning sputums collected over 3 consecutive days. *3 specimens submitted after all is collected.* Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS

	Order Comment. ***Specimen Processing:*** ***Special Instructions:*** Refrigerate all specimens until submission to laboratory. A gastric specimen is recommended when sputum is not readily obtainable.
Sputum / Induced	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** ***Special Instructions:*** A gastric specimen is recommended when sputum is not readily obtainable.
Stool	***Test is not offered on this specimen type.***
Synovial Fluid	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Volume:** 2-5 mL ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Tissue	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. Do not use culturette. Add just enough sterile saline to container to cover tissue. **Volume:** Submit largest amount possible. Varies based to tissue source ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Tracheal Aspirate	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Safety Precausions:** Utilize appropriate standard precautions when MTB is suspected. **Minimum Volume:** 5 mL ***Patient Preparation:*** *See* appropriate clinical procedure for collection of Tracheal Aspirate. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Use sterile filtered fluids for this procedure. Submit in appropriate sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:***
Urine	***Container:*** Sterile Container - without preservative (anti-bacterial) additives. **Optimal Volume:** 50 mL ***Patient Preparation:*** ***Collection:*** Single, clean, first morning voided specimen***.*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct AFB smear can not be perfermed on urine specimens.
Wound	***Container:*** Submit 3 to 5 culturettes ***Patient Preparation:*** ***Collection:*** Collect fluid or exudate using culturettes. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** A direct smear for AFB cannot be performed on culturettes.

CULTURE, ANAEROBIC *See:* **ANAEROBIC CULTURE** in CHCS

Order Note: Aerobic cultures are automatically included in all Anaerobic Culture requests. If both are desired, order Anaerobic Culture only.

Synonyms: Culture Anaerobic, Ana Cult

CHCS IEN: 2360

Components:

Container (Preferred/Alternate): *Source specific: Sterile Swab(s), Sterile Culturette and/or Sterile Container. Avoid tubes with preservatives (anti-bacterials) additives. See specimen source chart below.*

Specimen and Volume Required

Type(s): See chart below

Volume: Submit maximum amount of any obtainable material using appropriate swab, asparate or collection method. Body fluids and Bone Marrow: 1 to 5 mL.

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for collection of each specific type of specimen and the chart below.
Collection: See chart below
Specimen Processing: See chart below. Transport all specimens to Laboratory Immediately.
Special Instructions: For questions, advance media coordination and direct inoculation of culture media at clinics, please call: Microbiology Section at (253) 968-1753 from 0700-2030 hours or the Pathology Lead Technologists at (253) 968-1757 during all other hours.
Safety Note: If screening for agents of bioterrorism, please double bag the specimen(s) and hand carry to Microbiology Section. For bioterrorism screening DO NOT send specimen(s) to the lab via the pheumatic tube or cart system!
Transport Temperature: Transport at Room Temperature

Rejection Criteria*:* Incorrect specimen collection, containers and/or use of tubes with preservative (anti-bacterial) additives

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Bacterial Culture, isolation, identification procedures with Gram Stain microscopy. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **ANAEROBIC CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7day a week
TAT: Routine Smear: 24-72 hours; Culture up to 9 weeks

Interpretive

Reference Range: No growth of anaerobic bacteria
Critical Value:
Clinical Significance: In open wounds, anaerobic organisms may play an etiological role whereas aerobes may represent superficial contamination. Isolate and identify aerobic and anaerobic organisms from abscess sites. For aerobic organisms, isolation and identical, aerobic culture should be submitted. Improper collection can result with contamination of anaerobes and aerobes non-pathogenic to the infection or disease process. Gram stain order should accompany an anaerobic culture.

Abscess	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube ***Patient Preparation:*** None ***Collection: :*** See appropriate clinical procedure for collection of specimen. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately
Amniotic Fluid	***Container:*** Anaerobic transport Port-A-cul Vial ***Patient Preparation:*** ***Collection:*** See appropriate clinical procedure for collection of amniotic fluid. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately.
Bone	***Container:*** Sterile Container. Do Not use culturette swabs for culture. ***Patient Preparation:*** None ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Submit the largest amount possible in a sterile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Bone Marrow	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube; or BacTAlert Blood Culture Bottle; Note: If a Gram Stain is desired, submit a separate sample of bone marrow in a culturette or other steile container in addition to the other specimens. ***Volume:*** 1-5 mL bone marrow required ***Patient Preparation:*** None ***Collection: :*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. See appropriate clinical procedure for collection of bone marrow specimens. Utilize sterile technique and avoid contamination with normal flora. If a Gram Stain is desired, submit a separate sample of bone marrow in a culturette or other steile container. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately ***Remarks:*** A Gram Stain cannot be performed on samples already injected into blood culture bottles.
Other Misc (Specify	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE

Source)	***Container:*** Anaerobic transport-Port-A-Cul Vial (will also be used for aerobic culture and gram stain) or inject directly into Anaerobic and Aerobic BacTAlert Blood Culture Bottles (also submit additional specimen for Gram Stain when submitting BacTAlert Blood Culture Bottles). ***Volume:*** 1-5 mL of normally sterile body fluids ***Patient Preparation:*** None ***Collection:*** See appropriate clinical procedure for collection of individual specimens based on source. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Sinus	***Container:*** Anaerobic transport-Port-A-Cul Vial/Tube and 2 aerobic culturettes ***Patient Preparation:*** None ***Collection: :*** See appropriate clinical procedure for collection of specimen. Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** If swab is used, place swab into the Port-A-Cult Tube and push to the bottom of the gel. From aspirates, inject the specimen directly into 1 Port-A-Cult Tube for anaerobic culture, aerobic culture and Gram Stain. Deliver to Lab immediately
Tissue	***Container:*** Sterile Container. Do Not use culturette swabs for culture. ***Patient Preparation:*** None ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. Specimen varies with source. Submit the largest amount possible in a sterile container with enough sterile saline to just cover tissue. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately
Wound	***Order Note:*** Order required data set: GS LAB SPECIMEN SOURCE; ***Container:*** Swab; 2 swabs required if a gram stain is being requested ***Patient Preparation:*** ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. ***Labeling Instructions:*** Identify source and body site of each specimen in the request form / CHCS Order Comment. ***Specimen Processing:*** Deliver to Lab immediately

CULTURE, BLOOD CULTURE AEROBIC *See:* **BLOOD CULTURE AEROBIC** in CHCS

Order Note: If an Anaerobic blood culture is also desired, Order Anaerobic Blood Culture separately and submit in Anaerobic Blood Culture Bottle.

Synonyms: Culture Blood Aerobic; Aerobic Blood Culture

CHCS IEN: 2413

Components:

Blood Culture

Gram Stain**:** Submit a separate specimen (in non-blood culture bottle) if a STAT Gram stain is desired in addition to Blood Culture Bottle. An initial gram stain can not be performed from a Blood Culture Bottle.

Container (Preferred/Alternate): Aerobic BacTAlert Bottle (Grey Label). **When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottle.**

Specimen and Volume Required

Type(s): Blood

Volume: Adults: Collect and Inject 5-10 mL of blood into a BacTAlert Aerobic Blood culture bottle. Children: Collect and inject 3-5 mL of blood into a BacTAlert Aerobic Blood culture bottle.

Minimum Volume:

Instructions

Patient Preparation: Disinfect patient's venipuncture site: Cleanse site with 70% alcohol. Then swab concentrically, starting at center with iodophor. Allow iodine to dry. Do not palpate vein at this point. After venipuncture, remove iodine from the patient's skin with alcohol.

Collection: Disinfect rubber top of culture bottle: Use 70% isopropyl alcohol and wait 1 minute. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.

Specimen Processing: For Adults: Inject 5-10 mL of blood into a BacTAlert Aerobic Blood culture bottle. For children: Collect and inject 3-5 mL of blood into a BacTAlert Aerobic Blood culture bottle. Deliver to the laboratory within 1 hour after collection.

Special Instructions: See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 89. Submit no more than 3 sets of blood cultures on the same patient in a 24 hour period unless coordinated with MAMC Infectious Disease Service. Do not use blood culture bottles for the second specimen (when a STAT initial gram stain is desired) or for wound and abcess aspirates. Blood culture bottles are acceptable for other normally sterile body fluids.

Transport/Storage Temperature: Room Temperature. Do not Refrigerate.

Rejection Criteria

Admin Notes

Testing Location /Methodology: Microbiology Section, MAMC / Culture

Order Method: CHCS order entryunder: **BLOOD CULTURE AEROBIC**; specify date, time and site of collection in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Up to 7 days; Positive gram stains reported STAT

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

CULTURE, BLOOD CULTURE ANAEROBIC *See:* **BLOOD CULTURE ANAEROBIC** in CHCS

Order Note: If an aerobic culture is desired, Order Aerobic Blood Culture separately and submit in Aerobic Blood Culture Bottle.

Synonyms: Culture Blood Anaerobic; Anaerobic Blood Culture

CHCS IEN: 1142

Components:

Blood Culture

Gram Stain**:** Submit a separate specimen (Do not use a blood culture bottle) if a STAT Gram stain is desired in addition to Blood Culture Bottle. An initial gram stain can not be performed from a Blood Culture Bottle.

Container (Preferred/Alternate): Anaerobic BacTAlert Bottle (Purple Label). **When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottle.**

Specimen and Volume Required

Type(s): Blood

Volume: Adults: Collect and Inject 5-10 mL of blood into a BacTAlert Anaerobic Blood culture bottle. Children: Collect and inject 3-5 mL of blood into a BacTAlert Anaerobic Blood culture bottle.

Minimum Volume:

Instructions

Patient Preparation: Disinfect patient's venipuncture site: Cleanse site with 70% alcohol. Then swab concentrically, starting at center with iodophor. Allow iodine to dry. Do not palpate vein at this point. After venipuncture, remove iodine from the patient's skin with alcohol.

Collection: Disinfect rubber top of culture bottle: Use 70% isopropyl alcohol and wait 1 minute. See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 93.

Specimen Processing: For Adults: Inject 5-10 mL of blood into a BacTAlert Anaerobic Blood culture bottle. For children: Collect and inject 3-5 mL of blood into a BacTAlert Anaerobic Blood culture bottle. Deliver to the laboratory within 1 hour after collection.

Special Instructions: See: Blood Culture Collection Procedure Instructions in Apendix D-1 of the Directory of Services, Testing and Specimen Submission, page 89. Submit no more than 3 sets of blood cultures on the same patient in a 24 hour period unless coordinated with MAMC Infectious Disease Service. Do not use blood culture bottles for the second specimen (when a STAT initial gram stain is desired) or for wound and abcess aspirates. Blood culture bottles are acceptable for other normally sterile body fluids.

Transport/Storage Temperature: Room Temperature. Do not Refrigerate.

Rejection Criteria

Admin Notes

Testing Location /Methodology: Microbiology Section, MAMC / Culture

Order Method: *CHCS order entry under:* **BLOOD CULTURE ANAEROBIC***; specify date, time and site of collection in Order Comment.* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Up to 7 days; Positive gram stains reported STAT

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

CULTURE, BODY FLUID *See:* **CULTURE, ANAEROBIC** in this laboratory test information guide.

CULTURE, CSF *See:* **CSF CULTURE** in CHCS

Synonyms:

CHCS IEN: 2485
Components:
Container (Preferred/Alternate): Sterile Container with screw-top cap; Tube #3
Specimen and Volume Required
Type(s): CSF
Volume: 1.5 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedure for CSF collection.
Collection: See appropriate clinical procedure for CSF collection. If collected using sterile lumbar puncture technique, submit at least 1 mL CSF in Tube #3 for Gram Stain and culture. Other miscellaneous CSF specimens may be submitted in appropriate, sterile containers.
Specimen Processing: Deliver to laboratory immediately.
Special Instructions: Identify source and body site of specimen in the request form / CHCS Order Comment.
Transport/Storage Temperature: Transport at Room Temperature
Rejection Criteria
Admin Notes
Testing Location /Methodology: Microbiology Section, MAMC / Gram stain and culture growth
Order Method: CHCS order entry under: **CSF CULTURE**; Identify source and body site of specimen in the request form / CHCS Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Gram Stain available STAT; ASAP or Routine: 2 to 3 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CULTURE, FUNGAL *See:* **FUNGAL CULTURE** in CHCS
Synonyms: Mycology Culture
CHCS IEN: 554
Components:
Container (Preferred/Alternate): CSF- Sterile Tube #2 or #3. Bone Marrow- Heparinized or SPS (Blood Culture) Tube only. Sterile Container with Screw-top Cap for other fluids. Do not use culturette swabs. No EDTA or Citrate additives.
Specimen and Volume Required
Type(s):
Volume: Volume varies with source. Submit the largest amount possible. See Chart Below.
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for each specific type of specimen.
Collection: See appropriate clinical procedure for collection of each specific type of specimen
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Immediately Deliver to Laboratory at Room Temperature. Store Refrigerated.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbioloy Section, MAMC / Culture
Order Method: CHCS order entry under: **FUNGAL CULTURE**; Provide specimen site/source in CHCS/Request order comment. Order required data set: GS Lab Specimen Source. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: Up to 5 weeks. Detection of growth will be reported immediately and identification will follow.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The clinical significance of an isolate varies with the identification, source and clinical symptoms manifested.

Abscess	***Container:*** Sterile Container; Syringe (with needle remove); Culturettes (if unable to collect other) ***Volume:*** 1-5 mL of Fluid Aspirate; ***Minimum Volume:*** 3-5 Culturettes ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE.

	Transport/Storage Temperature: Immedately Transport to laboratory Room Temperature. Store Refrigerated..
Body Fluid / Other Miscellaneous, Brochoalveolar Lavage, Bronchial Washing, Pericardial Fluid, Peritoneal Fluid, Pleural Fluid, Synovial, Tracheal Aspirate	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Bone Marrow	***Container:*** Heparinized Tube (EDTA or Citrate NOT accepted) ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. If Isolator Tube is desired for recovery of dimorphic fungi, please contact Infectious Disease Service, MAMC ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
CSF	***Container:*** CSF Sterile Tube with Screw-Top Cap #2 or #3 ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Skin, Nail	***Container:*** Sterile Container; Alternately, sample materials may be placed on mycology media obtained from the Microbiology Section. ***Volume:*** Submit visible amount of scrapings ***Minimum Volume:*** ***Patient Preparation:*** Thoroughly clean area to be sampled and allow to dry. See appropriate clinical procedures for procedure being performed. ***Collection:*** Scape skin at advancing edges of lesion or cut nails into small pieces with sterile instruments. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Sputum/Expectorated, Sputum/Induced	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Stool	***Container:*** Sterile Container with Screw-Top Lid ***Volume:*** 5 grams ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Tissue	***Container:*** Sterile Container ***Volume:*** Volume varies with source. Submit the largest amount possible. ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Cover tissue sample with enough sterile saline to cover specimen. Do not use culturette swabs. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection.

	Provide source of tissue or material in CHCS Order Comments. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Urine, Random	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 100 mL ***Minimum Volume:*** 50 mL (Smaller amounts can be processed, but may not allow for detection of dimorphic fungi) ***Patient Preparation:*** Instruct patient to utilize clean catch procedure for collecting urine random urine specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Wound	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated 2-8 °C.

CULTURE, FUNGAL BLOOD *See:* **FUNGAL BLOOD CULTURE** in CHCS
Synonyms:
CHCS IEN: 2480
Components:
Container (Preferred/Alternate): 2- BactT/Alert B Aerobic Blood Culture Bottles.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5-10 mL of blood
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of blood culture.
Collection: Collect 5 to 10 mL of blood and inject aseptically into each of two (2) different BacT/Alert Aerobic blood culture bottles. See appropriate clinical procedure for collection of blood culture.
Specimen Processing: When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottles. Do not Refrigerate or Freeze.
Special Instructions: If dimorphic fungi is suspected, consult MAMC Infectious Disease Service to obtain
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Blood specimens collected in EDTA, Sodium Citrate or anticoagulants other than SPS or heparin. Frozen specimens
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Automated continuous monitoring using fluorescent detection. Antibiotic susceptibility testing when appropriate.
Order Method: CHCS order entry under: **FUNGAL BLOOD CULTURE**; Please note in order comment if patient is on lipid hyperalimentation and/or antimicrobial therapy. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other:.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

CULTURE, GC *See:* **GC CULTURE** in CHCS
Synonyms: Gonorrhea
CHCS IEN: 1764
Components:
Container (Preferred/Alternate): Bi-plate (Chocolate II Agar BBL/Martin-Lewis)

Specimen and Volume Required
Type(s):
Cervical Swab
Oral Cavity
Rectal Swab
Urethra
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport Temperature:
Rejection Criteria: Specimens >24 hours old, Frozen specimens
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Culture, Isolation and Identification.
Order Method: CHCS order entryunder: **GC CULTURE**; Indicate source of specimen on label, request form and CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabioity.
Availability: 24 hours / 7 days a week
***TAT*:** Notify and Routine, Routine: 2-3 days
Other: Medico-legal cases must use GC culture (as opposed to screening tests). Contact Microbiology or the Pathology Lead Tech on duty for Chain-of-Custody materials.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Neisseria Gonorrhoeae is considered a pathogen whenever isolated and its identification is important in initiating appropriate therapy to prevent the spread of the infection as well as the serious sequelae***.***

Cervical Swab, Oral Cavity, Rectal Swab	***Container:*** Culturette ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** When present, remove mucous and/or secreation with swab and discard before collecting specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** Use an appropriate size swab for the specimen being collected. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: GC are very sensitive to environmental conditions and delay or variations in temperature during transport will compromise chances of recovery. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Urethra	***Container:*** Culturette ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** When present, remove mucous and/or secreation with swab and discard before collecting specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** Use an appropriate size swab for the specimen being collected. For males, insert 2-3 cm into urethral lumen, rotate swab and leave in place for at least 2 seconds***.*** For females, collect secretions on swab by massaging urethra against pubic symphysis through vagina. See appropriate clinical procedures for procedure being performed. Swab/streak specimen on both sides of the Bi-plate. Place CO2 tablet in the round, empty well in the plate. Replace lid and seal plate in the plastic bag provided. ***Specimen Processing***: GC are very sensitive to environmental conditions and delay or variations in temperature during transport will compromise chances of recovery. Immediately deliver the specimen fresh to the laboratory after collection. Patient label must be placed on the plate. Do not place label on the outer bag or combine other specimens (such as a Chlamydia swab) in the same bag, under the same label. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.

CULTURE, HERPES SIMPLEX *See:* **HERPES SIMPLEX CULTURE** in CHCS
Synonyms: HSV Culture
CHCS IEN: 1765
Components:
Container (Preferred/Alternate): Viral Transport Media may be obtained from MAMC supply cart system.
Specimen and Volume Required
Type(s):

Volume:
Minimum Volume:
Instructions: See Chart Below
Rejection Criteria: Calcium Alginate swabs
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Culture and Typing by fluorescent antibody test.
Order Method: CHCS order entry under: **HERPES SIMPLEX CULTURE**; Provide specimen source and site on request and in CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: Up to 7 days for detection of growth in culture and typing
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Herpes Simplex Virus (HSV) is responsible for several clinically significant human viral diseases, with severity ranging from inapparent to fatal. Clinical manifestations include genital tract infections, neonatal herpes, meningoencephalitis, keratoconjunctivitis, and gingivostomatitis. There are two HSV serotypes that are closely related antigenically. HSV type 2 is more commonly associated with genital tract and neonatal infections, while HSV type 1 is more commonly associated with infections of non-genital sites. Specific typing is not usually required for diagnosis or treatment..

Swabs: Throat, Urethral, Rectal, Cervical, Conjunctival, Nasopharyngeal, Skin, Vaginal, Vulvar, Penile or other lesion	***Container:*** Viral Transport Media ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Submit swab sample in regular viral transport medium. Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If transport is to be delayed refrigerate specimen within 1 hour of collection at 4 °C and deliver within 2 days.
Vesicular Lesion	***Container:*** Viral Transport Media ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Inject specimen into viral transport media. Aspirate and expel transport fluid from syringe several times for maxium recovery. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Submit sample in regular viral transport medium. Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If transport is to be delayed refrigerate specimen within 1 hour of collection at 4 °C and deliver within 2 days.
Ulcers and Lesions	***Container:*** Viral Transport Media and Dacron-tipped Swab (Do not use Calcium Alginate swabs since they inhibit HSV replication). ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect specimen with a Dacron-tipped Swab by rubbing the swab firmly on the base of the lesion to collect cellular material as well as exudate. Place the swab in Viral Transport medium, breaking off the tip of the swab. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Submit swab sample in regular viral transport medium. Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If transport is to be delayed refrigerate specimen within 1 hour of collection at 4 °C and deliver within 2 days.

CULTURE, LEGIONELLA *See:* **LEGIONELLA CULTURE (MAMC)** in CHCS
Synonyms:
CHCS IEN: 4059
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required: See Chart Below
Type(s):

Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Lab Processing: Requires special media; see set-up guide located in Microbiology Section. Specimens are plated onto buffered charcoal-yeast extract agar supplemented with ferric pyrophosphate and ketoglutarate (BCYE).
Special Instructions:
Transport/Storage Temperature:

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC/
Order Method: CHCS order entry under: **LEGIONELLA CULTURE(MAMC)**; Please specific specimen site and source on request form and in CHCS order entry. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Bacteria in the genus Legionella primarily cause respiratory illness, either Legionaires disease or Pontiac fever. Legionellae can also cause a variety of other illnesses, including wound infections, prosthetic valve endocarditis, and sinusitis. These fastidious gram-negative bacteria do not grow on conventional laboratory media, even enriched Chocolate agar. Legionella spp. can be detected in clinical specimens by direct detection methods, including DFA, DNA probe and by culture. Culture, the most sensitive detection Method, should always have priority over direct detection methods. Specimens are plated onto buffered charcoal-yeast extract agar supplemented with ferric pyrophosphate and ketoglutarate (BCYE).

Bronchoalveolar Lavage	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect 2 mL of lower respiratory tract specimen. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Lab Processing:*** Verify that routine sputum culture is done concurrently with this culture. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
CSF	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** 2 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. **Lab Processing**: Requires special media; see set-up guide located in Microbiology Section ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Other/Misc	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** Any visible amount of tissue is satisfactory. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Please specific specimen site and source on request form and in CHCS order entry. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Peritoneal Fluid ; Peritoneal Lavage; Pericardial Fluid; Pleural Fluid	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at

	Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Sputum Induced; Sputum Expectorated; Tracheal Aspirate	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect 2 mL of lower respiratory tract specimen. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Tissue	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 1 gm ***Minimum Volume:*** Any visible amount of tissue is satisfactory. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Add a small amount of sterile, nonbacteriostatic, distilled water to prevent desiccation, if necessary. Do not add saline because it may be inhibitory. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Wound	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 1 swab or 1 cc of Aspirate ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.

CULTURE, LOWER RESPIRATORY *See:* **LOWER RESPIRATORY CULTURE** in CHCS

Order Note*:* Gram Stain is routinely performed as part of this culture. Do not order a separate Gram stain unless the Gram Stain is needed STAT or ASAP. If required See: **GRAM STAIN**

Synonyms:

CHCS IEN: 2357

Components:

Container (Preferred/Alternate): See Chart Below

Specimen and Volume Required: See Chart Below

Type(s):

Volume:

Minimum Volume:

Instructions: See Chart Below

Patient Preparation:

Collection:

Specimen Processing:

Special Instructions: If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.

Transport/Storage Temperature: Deliver at Room Temperature. Maintain specimen at Room Temperature until delivered to lab.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC

Order Method: CHCS order entry under: **LOWER RESPIRATORY CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Notify and Routine, Routine: 2-3 days

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

Brochial Lavage;	***Container:*** Sterile Container with Screw-Top Cap

Tracheal Aspirate	***Volume:*** 5 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect and submit 1-5 mL of aspirate or lavage fluid***.*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.
Sputum/Expectorated; Sputum/Induced	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** Submit as much material as possible. ***Minimum Volume:*** ***Patient Preparation:*** Provide materials and instructions to patient on proper technique for collection of first morning sputum. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Sputa will be examined by Gram Stain to determinee if the specimen is adequate for culture. Submitting service will be notified if specimen is not acceptable. Induced sputa must be clearly labeled so not to be rejected as inadequate specimen. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.

CULTURE, MRSA/ORSA SURVEILLANCE *See:* **MRSA/ORSA SURVEILLANCE CULTURE** in CHCS

Order Note: Submit all specimens from the same patient at the same time. Clearly indicate MRSA/ORSA Surveillance on specimen label.

Synonyms:

CHCS IEN: 2482

Components:

Container (Preferred/Alternate): Sterile Container and Culturette Swab

Specimen and Volume Required

Type(s):
Wound
Thoat
Rectal Swab
Sputum/Expectorated
Nares
Axilla
Groin

Volume:

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. For Sputum collection, provide patient with materials and instructions to collect proper sputum sample.

Collection: See appropriate clinical procedures for procedure being performed. Collect specimen using culturette and submit in Sterile container with Screw-Top Cap. Submit a deep cough sputum sample (not saliva). Clearly indicate MRSA/ORSA Surveillance on specimen label.

Specimen Processing:

Special Instructions:

Transport/Storage Temperature:

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC /

Order Method: CHCS order entry under: **MRSA/ORSA SURVEILLANCE CULTURE**; Indicate specific body site on request form, specimen label and CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Notify and Routine, Routine: 2-5 days

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Detect and monitor the presence of Methicillin-Resistant Staphylococcus Aureaus (MRSA) and Oxacillin Resistant Staphylococcus Aureaus (ORSA)***.***

CULTURE, RESPIRATORY CULTURE-CF PATIENT *See:* **RESPIRATORY CULTURE-CF PATIENT** in CHCS
Synonyms: Cystic Fibrous Culture
CHCS IEN: 3314
Components:
Container (Preferred/Alternate): Sterile Container; Culturette Swab- Submit 2 swabs if a Gram Stain is needed with Culture
Specimen and Volume Required
Type(s):
Throat Swab
Sputum/Expectorated
Nasopharyneal Swab
Tracheal Aspirate
Volume:
Minimum Volume:
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of expectorated sputum. See appropriate clinical procedure for collection of specific specimen being submitted.
Collection: See appropriate clinical procedure for collection of specific specimen being submitted. Submit throat swab or nasopharyneal swab using a cluturette. Submit tracheal aspirate in sterile, leak-proof container.
Specimen Processing: Maintain specimen at room temperature until transported to the lab. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **RESPIRATORY CULTURE-CF PATIENT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate CF patient on request form when used instead of CHCS order entry to differentiate specimen from ordinary respiratory culture. Include date and time of collection on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routien: 3 to 5 days
Other: CF Patient Respiratory Culture includes additional media for isolation of pathogens associated with CF.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CULTURE, RESPIRATORY VIRUS CULTURE-MAMC *See:* **RESPIRATORY VIRUS CULTURE-MAMC** in CHCS
Order Note: For specimens other than respiratory, please order **VIRAL CULTURE BDYFLDS/TISSUE** or other culture tests appropriate for the body site or sample (herpes culture, cmv culture, etc.). Respiratory virus culture is ordered automatically on all negative rapid RSV or Rapid Flu testing performed at MAMC.
Synonyms:
CHCS IEN: 6395
Components:
Viral Culture Respiratory
Container (Preferred/Alternate): Viral Tranport Medium (VTM)
Specimen and Volume Required: See Chart Below
Type(s):
Throat Swab
Bronchoalveolar Lavage
Nasopharyngeal
Bronchial Washing
Nasal Washing
Volume:
Minimum Volume:
Instructions: See Chart Below
Transport/Storage Temperature: Room Temperature. If transport is to be delayed , Refrigerate specimen within 1 hour of collection. If shipping to Madigan AMC, sample must be submitted in Viral Transport Medium.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiolgy Section, MAMC
Order Method: CHCS order entry under: **RESPIRATORY VIRUS CULTURE-MAMC**; Order Required Data Set: COLLECTION_SITE. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine: 72 hours
Other: Questions: (253) 968-1753 Microbiolgy Section, MAMC

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

Bronchial Washing; Bronchoalveolar Lavage	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. If transport is to be delayed , Refrigerate specimen within 1 hour of collection.
Nasal Washing	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL of fluid for wash or aspirate ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. If transport is to be delayed , Refrigerate specimen within 1 hour of collection.
Nasopharyngeal (Choose for all Naopharyngeal Swabs Washes and Aspirates)	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL of fluid for wash or aspirate. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Use only Dacron (polyester) swabs, placed in VTM. Do not use Calgi or cotton swabs. Gently pass the swab through the nostril into the nasopharynx. Avoid touching the nasal passage. When the swab encounters resistance, gently rotate the swab and remove it. Immediately inoculate the swab into the VTM and thoroughly mix. More than one swab may be inoculated into a tube. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. If transport is to be delayed , Refrigerate specimen within 1 hour of collection.
Throat Swab	***Container:*** Swab in Viral Transport Media ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Use only Dacron (polyester) swabs, placed in VTM. Do not use Calgi or cotton swabs. Immediately inoculate the swab into the VTM and thoroughly mix. More than one swab may be inoculated into a tube. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the laboratory promptly, ideally within 2 hours of sample collection, but at least within 1 day of collection. If transport is to be delayed , Refrigerate specimen within 1 hour of collection.

CULTURE, STOOL *See:* **STOOL CULTURE** in CHCS
Order Note: Collect and submit up to 3 Stool Specimens (with 3 CHCS orders) on consecutive days.
Synonyms: Fecal Culture; Rectal Swab Culture
CHCS IEN: 1049
Components: Enteric Screen includes:
Campylobacter
Salmonella
Shigella
Yersinia
E.Coli O157:H7
Vibrio
Aeromonas
If a particular pathogen is suspected, please indicate in Order Entry.
Container (Preferred/Alternate): Sterile Container (no preservative) with Screw-Top Lid/Enteric Transport Media; Rectal Swab.

Specimen and Volume Required

Type(s):
Stool, Raw
Rectal Swab
Volume: 10 grams of fresh stool
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours. Rectal swabs are acceptable when stool samples cannot be obtained.
Collection: Collect and submit up to 3 stool samples on consecutive days. It is also recommended that a separate stool sample be submitted with the first sample for a Fecal WBC test. Specimens may be collected and submitted as follows: 1. Untreated, raw specimen in leak-proof container. Untreated specimens must be transported to lab within 2 hours of collection. 2. Enteric transport medium (kit may be obtained from Laboratory Reception Desk).See appropriate clinical procedures for procedure being performed. Outpatient specimens or other specimens with expected delays in transport should be collected using the Enteric Transport Kit and Media.See: General Collection Instructions For All Stool Specimens in the appendices of this guide.
Specimen Processing: Untreated (no preservative) specimens must be transported to lab within 2 hours of collection. Outpatient specimens or other specimens with expected delays in transport should be collected using the Enteric Transport Kit and Media.
Special Instructions:
Transport/Storage Temperature:

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **STOOL CULTURE**; Enteric Screen includes: Campylobacter, Salmonella, Shigella, Yersinia, E.Coli O157:H7, Vibrio and Aeromonas. If a particular pathogen is suspected, please indicate in Order Entry. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2 to 3 days

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Screen for bacterial pathogenic organisms in the stool. Limitations: Non-bacterial pathogens (See Viral Culture) need to be isolated by other methods.

CULTURE, THROAT *See:* **THROAT CULTURE** in CHCS

Order Note: Submit a second additional swab and order: **STREP GP A SCREEN**, if a rapid test is also desired. For immunocompromised patients order upper respiratory culture to culture for pathogens other than Group A Strep. For suspected Gonococcal infections order GC culture and specify throat specimen.
Synonyms: Throat Culture, Group A Strep
CHCS IEN: 1405
Components:
Container (Preferred/Alternate): Culturette Swab

Specimen and Volume Required

Type(s): Throat Swab
Volume:
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: Obtain and submit throat swab using culturette. Crush ampule on bottom of culturette. Submit second swab and order: **STREP GP A SCREEN**, if a rapid strep screen test is also desired. See appropriate clinical procedures for procedure being performed
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **THROAT CULTURE ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Identify upper respiratory pathogen from the throat.

CULTURE, URINE *See:* **URINE CULTURE** in CHCS

Synonyms: UA Culture; Urine C&S
CHCS IEN: 1403
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid/Cap
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Clean Catch
Urine, Catheterized
Urine, Bladder Tap
Volume: 5 mL
Minimum Volume: 1 - 2 mL
Instructions
Patient Preparation:. Fluids are forced prior to collection to distend the bladder. Six to ten hours are required for the bladder to fill.
Collection: An early morning specimen yields the highest bacterial counts from overnight incubation in the bladder. Forced fluids for CCMS dilute the urine and may cause reduced colony counts. Avoid normal skin flora contamination. Clean catch midstream procedure is required, males should clean head of penis with soap and rinse. If not circumcised, pull the foreskin back and urinate into toilet. Catch midstream urine in specimen cup. Females should clean labia from front to back with soap. Urinate into toilet and catch urine in midstream in the specimen cup.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Refrigerate the specimen up to 24 hours, if delivery to the laboratory is delayed more than 30 minutes after collection. Refrigeration of specimens only slow the rate of growth, it does not inhibit the growth.
Rejection Criteria: Unrefrigerated specimen older than 30 minutes may be subject to overgrowth and may not yield valid results; improperly labeled specimen.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **URINE CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate if specimen is catheterized, clean catch or suprapubic puncture on laboratory request form.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range: No aerobic growth.
Critical Value:
Clinical Significance: To isolate and identify potentially pathogenic organisms causing tract infection.

CULTURE, VIRAL CULTURE BODY FLUIDS / TISSUE Q

Synonyms:
CHCS IEN: 4524
Test Code: 689
Components:
Container (Preferred/Alternate): Quest Diagnostics supplied V-C-M medium (green-cap) tube or equivalent
Specimen and Volume Required: Other sample types not listed may be acceptable when there is a special request for Mumps, Measles (Rubeola) or Rhinovirus. Refer to the laboratory.
Type(s):
Body fluids
Tissues
Conjunctiva
Newborn urine
Lower respiratory
Volume: 2 mL
Minimum Volume: 2 mL for Respiratory and Urine, 1 mL CSF
Instructions
Patient Preparation:
Collection: **Respiratory Sample**s: Bronchial lavage, bronchial wash, or tracheal aspirate- Transfer 5-10 mL of an aspirate or a wash into sterile leak-proof container. Place brush into sterile, leak-proof container with small amount of sterile saline/sterile water to prevent it from drying. **Lung biopsy:** Transport in sterile, leak-proof container with a small volume of sterile saline/sterile water to prevent it from drying . **Body fluids:** For all body fluids add an equal volume of specimen to transport medium (V-C-M or equivalent). **Newborn urine:** Random urine, random clean catch urine, catheterized urine, or first void catch urine in sterile screw-capped container. **Tissue and biopsy material:** Sterile screw-capped container with small amount of saline, no fixative or preservative. Requested volume is as much as possible. **Conjunctiva:** Conjunctival swabs in V-C-M or equivalent transport media. Note: A processing charge will be added if specimen is a tissue, and handling plus shipping charges will be added for return of a positive culture isolate to client
Specimen Processing:

Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: Unacceptable at room temperature, 4 days refrigerated 2-8 ºC, Unacceptable frozen at -20 ºC, 30 days frozen at -70 ºC. Raw specimens good for 72 hours refrigerated.
Rejection Criteria: Wooden shaft and calcium alginate swabs, Dry swabs, Transwabs or swabs in bacterial transport medium, DNA probe transports, Tissues in formalin or other fixatives, Transports for antigen detection by EIA, Received frozen (-20° C), Received room temperature, Whole blood, Bone marrow in EDTA (refer for PCR testing), Semen, Sputum, Expired viral transport media, Leaking specimens in cracked containers (possible contamination), Stability times or conditions exceeded, Insufficient volume (QNS)

Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **VIRAL CULTURE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Viral isolation in tissue culture remains the most sensitive method or "gold standard" for the detection of many common viruses. Successful isolation depends on the selection of the appropriate cell lines based on provisional diagnosis or symptoms and source of infection.

CURRY (F281), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 2916
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CYANIDE BLOOD

Synonyms:
CHCS IEN: 6231
Test Code: 400
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)

Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL Whole Blood
Minimum Volume: 2.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture. Gently invent tube 8 times to mix blood with additive.
Specimen Processing: Deliver to laboratory immediately***.***
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature or refrigerated. Specimen stability: 14 days at room temperature; 14 days refrigerated; 1 month Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Colormetric
Order Method: CHCS order entry under: **CYANIDE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CYCLIC CITRULLINATED PEPTI IGG

Synonyms: CCP
CHCS IEN: 4809
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. If Transporting from outside of MAMC, ship serum refrigerated after centrifuging and separating cells from serum. Store Refrigerated at 2-8 °C.
Specimen Stability: Room Temperature: 1 week; Refrigerated: 2 weeks; Frozen: 1 Month at -20 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC ***/*** ImmunoCAP 250
Order Method: CHCS order entry under: **CYCLIC CITRULLINATED PEPTI IGG;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Negative: <7 Equivocal EliA U/mL; Positive: 7-10 EliA U/mL
Critical Value:
Clinical Significance: A synthetic circular peptide containing citruline called CCP IgG has been found to be better at discriminating Rheumatoid Arthritis patients from other patients than either the perinuclear autoantibody test or the test for rheumatoid factor. Approximately 70% of patients with Rheumatoid Arthritis are positive for Anti-CCP IgG, while only about 2% of random blood donors and disease controls subjects are positive.

CYCLOSPORA AND ISOSPORA EXAM

Synonyms:
CHCS IEN: 2139
Test Code: 10018
Components:
Container (Preferred/Alternate): Preserved stool (10% formalin, SAF or ECOFIX); Sterile Plastic Screw-cap Formalin Vial

Specimen and Volume Required

Type(s): Stool/Preserved
Volume: Add stool to bring liquid level to the "Fill" line
Minimum Volume:

Instructions

Patient Preparation:
Collection: Stool must be collected without contamination by urine or water. Add a sufficient amount of stool to bring the

liquid level to the "fill to here" line on the formalin. Mix contents thoroughly, until homogenous. Stool must not contain residual-barium from diagnostic tests.
Specimen Processing: Deliver to laboratory immediately***.***
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature or refrigerated. Specimen stability: Indefinitely at room temperature; 30 days refrigerated; Unacceptable Frozen.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Concentration and Modified Acid-Fast Stain
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: *Cyclospora cayetanensis* and *Isospora belli* are coccidian parasites which cause malaise, low grade fever, and diarrhea. Fatigue, anorexia, vomiting, myalgia and weight loss occur. The clinical presentation for those patients infected with either disease is similar.

CYCLOSPORIN UW

Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Transport/Store and ship at Refrigerated Temperature.

Rejection Criteria: Clotted specimen; Hemolysis, Quantity Not Sufficent.

Admin Notes

Testing Location/Methodology: Testing done at University of Washington
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT:

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CYCLOSPORINE A, HPLC, BLOOD Q

Synonyms:
CHCS IEN: 2139
Test Code: 4845
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA)

Specimen and Volume Required

Type(s): Blood/whole
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Collect as a Trough 12 hours after last dose.
Specimen Processing:

Special Instructions:
Transport/Storage Temperature: Transport and ship at Room Temperature or refrigerated. Specimen stability: 6 days at at room temperature, 7 day refrigerated 2-8 C.; Unacceptable Frozen.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Direct Sequencing
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Cyclosporine (Cyclosporine A) is an immunosuppressant therapeutic agent used in the prevention of organ graft rejection. Clinical measurement of blood levels is required due to the inter-individual variability of metabolism as well as the toxicity associated with excessive dosage. Measurement of whole blood levels has been recommended because of the slow temperature dependent equilibration of cyclosporine between plasma and red blood cells.

CYSTIC FIBROSIS MUTATION ANALY O P

Order Note: If a screening test is desired, do **NOT** order this test. See: **CYSTIC FIBROSIS PRENATAL SCRN** in CHCS. Positive screens, follow up testing based on family history or previously identified CF mutations are ordered under this test.

Synonyms: CF
CHCS IEN: 4626
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K2EDTA)

Specimen and Volume Required

Type(s): Blood, whole
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.

Rejection Criteria: Clotted specimen; Hemolysis, Quantity Not Sufficent.

Admin Notes

Testing Location/Methodology: 81 Med Group Keesler AFB MS
Order Method: CHCS order entry under: **CYSTIC FIBROSIS MUTATION ANALY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Positive screens, follow up testing based on family history or previously identified CF mutations are ordered under this test and specimens are shipped to 81 Med Group Keesler AFB MS.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: WESTBOROUGH,MA METHODOLOGY: DNA is isolated from thesample and tested for 97 CF mutations. Regions of the CFTR gene are amplified enzymatically and hybridized to specific CF mutation oligonucleotide probes. Results are characterized as positive or negative, and specimens with positive results are tested for specific mutation identity. The assay discriminates between delta F508 and the following polymorphisms: F508C, 1506V, 1506M, and 1570V. This interpretation is based on the clinical information provided and the current understanding of the molecular genetics of this condition. Although DNA-based testing is highly accurate, rare diagnostic errors may occur. Examples include isinterpretation because of genetic variants, blood transfusion, bone marrow transplantation, or erroneous representation of family relationships or contamination of a fetal sample with maternal cells.

CYSTIC FIBROSIS PRENATAL SCRN O

Synonyms: CF, Cystic Fibrosis DNA
CHCS IEN: 6456
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (K2EDTA)

Specimen and Volume Required

Type(s):
Blood, whole
Amniotic Fluid (Maternal blood sample also required with AF)
Tissue
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing:
Special Instructions: Please indicate ethnicity of patient. For genetic testing, original tube required. Aliquots for other testing from original tube are permitted, if performed with out cross-contamination of samples and using sterile techniques.
Transport/Storage Temperature: Transport and ship at Room Temperature. Ship next day air.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: 81 Med Group Keesler AFB MS
Order Method: CHCS order entry under: **CYSTIC FIBROSIS PRENATAL SCRN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: May collect specimen Monday thru Friday. Ship specimen Monday thru Thursday only.
TAT: Routine
Other: Positive screens, follow up testing based on family history or previously identified CF mutations are ordered under this test and specimens are shipped to 81 Med Group Keesler AFB MS.

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

CYSTINE CRYSTALS *See:* **URINALYSIS (MAMC)** and **URINALYSIS, DIABETES** in this laboratory test information guide.

CYSTINE ON 24 HR URINE Q

Synonyms:
CHCS IEN: 3648
Test Code: 10947
Components:
Container (Preferred/Alternate): 24 hour urine container(s) without preservative.

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 2 mL aliquot from 24 hour urine specimen
Minimum volume: 0.5 mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: Do not use preservatives in collection container. 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store and ship aliquote frozen. Specimen stability: unacceptable at room temperature; Unacceptable at 2-8 ºC; 2 months frozen.

Rejection Criteria: Specimen with Preservative, pH <2.0, IVP within 48 hours of collection, Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **Q CYSTINE 24 HR URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range:
Critical Value: None

Clinical Significance:

CYTOLOGY GYN
Synonyms: PAP; PAP Smear; Cervical Smear
CHCS IEN: 39971
Components:
Container (Preferred/Alternate): See Chart below
Specimen and Volume Required
Type(s):
Cervical Scrape
Endocervical Brush
Vaginal Scrape (Hysterectomy Patients)
Volume:
Minimum Volume:
Instructions
Patient Preparation: Appropriate to the procedure being performed and the type of specimen being collected.
Collection: Appropriate to the procedure being performed and the type of specimen being collected.
Specimen Processing: Label each slide submitted using graphite pencil on Frosted end of slide with patient's last name, initial of first name and last four digits of sponser's SSN. Do not write the physician/clinician's name on the slide.
Special Instructions: Please write "PAP", the MEPRS code of originating clinic and collecting physician's name on the outside of the slide container(s) being submitted, to facilitate routing of specimens to the correct section of the lab.
Transport/Storage Temperature: Deliver to Cytology processing room G-34-5C at Room Temperature.
Rejection Criteria: In compliance with CLIA '88 guidelines, a diagnostic interpretation will not be rendered on unsatisfactory specimens.
Admin Notes
Testing Location/Methodology: Cytology Section, MAMC / Routine cytologic evaluation of prepared smears.
Order Method: CHCS order entry by typing "AP" and choosing "Cytologic GYN" from the picklist; MAMC Form 1597-1-L (Gynecologic Cytology Request) for CHCS non-availability.
Availability: Routinely performed during regular duty hours. Specimens may be delivered directly to Cytology processing in room G-34-C5 or to Clinical Pathology Specimen Processing after duty hours***.***
TAT: Routine: 2 to 14 working days. Upon completion and signing out of the case, the report will be available in CHCS.
Other: By providing the most complete patient history and clinical data, a more accurate interpretation can be rendered. All requests submitted without pertinent clinical information will contain a "Limited by" adequacy comment on the report. For questions call: Cytology at 968-1301.
Interpretive
Reference Range: Adequate specimen, within normal limits for patient history. Negative to Abnormal cells diagnostic of reactive deltas, dysplasia and malignant neoplasm.
Critical Value:
Clinical Significance: A specimen interpreted as unsatisfactory will have a stated reason for the inadequacy. Test used to detect the presence of cervical cancer or a precancerous condition (squamous intraepithelial lesion); to aid in diagnosis of cervical inflammatory conditions such as: Herpes virus, Candida, Trichomonas vaginalis, Human Papilloma Virus (HPV).

Pap Smear; Thin Prep® Collection w/ Medscand Cytobrush® Plus GT, gentle touch tip and Pap-Perfect® plastic spatula.	***Container:*** Preservcyt® Solution Vial (with Spatula and brush) Kit ***Volume:*** Adequate ectocervix sampling from both the spatula and brush ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Obtaining an adequate sampling from the ectocervix first using a plastic spatula: Select contoured end of the plastic spatula and rotate it 360° around the entire ectocervix. Remove spatula. Rinse the spatula as quickly as possible into the PreservCyt Solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula. Obtain an adequate sampling from the endocervix using an endocervical brush device: Insert the brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate ¼ to ½ turn in one direction, while maintaining tight contact with the ectocervical surface. Do Not Over-rotate. Additional rotation may cause bleeding and contaminate the specimen.Rinse the brush as quickly as possible in the PreservCyt Solution by rotating the device in the solution 10 times while pushing against the PreservCyt vial wall. Swirl the brush vigorously to further release material. Discard the brush. Tighten the cap so that the torque line on the cap passes the torque line on the vial. ***Specimen Processing:*** To collect specimen from the ectocervix, Remove- Remove the cap from the original Preservcyt® vial and rinse the Cytobrush® Plus GT in the Preservcyt® solution by rotating the device in the solution 10 times while pushing it against the wall of the vial. Swirl the device vigorously to further release material. Discard the device. Tighten- Tighten the Preservcyt® vial cap so that the torque line on the cap passes the torque line on the vial. Warning: Do Not use the Cytobrush® Plus GT cell collector gentle touch tip for endometrial

	sampling. Label the PreservCyt Solution vial with the patient's full name, FMP, sponsor's full SSN, patient's DOB, clinic name and full name of HCP. Please make label information legible. Deliver to Cytology processing room G-34-C5.
Pap Smear; Thin Prep® Collection with Broom-like Device	***Container:*** Preservcyt® Solution Vial (with Broom-like device) Kit ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Insert the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently, and rotate the broom in a clockwise direction five times. Rinse- Rinse the broom as quickly as possible into the Preservcyt® solution vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirl the broom vigorously to further release material. Discard the collection device. Tighten- Tighten the cap so that the torque line on the cap passes the torque line on the vial. Record- Record the patient's name and SSN/FMP on the vial. ***Specimen Processing:*** Place the vial and appropriate requisition form in a specimen bag and transport to the Cytology Section room G-34-C5.
Pap Smear; Conventional Pap Smear (Cervical-Vaginal Cytology)	***Container:*** Slide Smear (fixed with cytologic spray fixative or 95% ethanol) ***Volume:*** Submit only one glass slide ***Patient Preparation:*** See appropriate clinical procedures specific for procedure being performed. Prior to obtaining the smear, identify the slide by writing on the frosted end with a #2 pencil the patient's name, last four digits of SSN, and FMP. ***Collection:***. A cervical scrape and endocervical brush is recommended. Utilize the spatula for the ectocervical sample first and spread the material evenly onto the glass slide, then use the cytobrush for the endocervical sample and spread the brush material directly over the previously spread spatula sample by gently twirling the handle. Spray fix the slide IMMEDIATELY with a spray Pap fixative (Cyto-fix, Pro-fix, etc.). Make sure the nozzle of the spraying apparatus is held approximately 5 to 7 inches from the slide. Alternate Method to spray is to immerse slide in 95% ethyl alcohol. ***Note:*** An alternative to the spatula and brush is the Broom-like device which takes a sample from both the ectocervix and endocervix simultaneously and this is then spread onto a glass slide with a single smooth stroke again as above spray fix the slide IMMEDIATELY with Pap fixative (Cyto-fix, Pro-fix, etc.) and the nozzle apparatus about 8 to 10 inches from the slide. For cytohormonal evaluation, a lateral vaginal wall scraping smear from the middle third of the vagina is required (for evaluation of possible vaginal adenosis, the vagina should be free of mucus before smears are made.) ***Specimen Processing:*** If making separate smears from endocervical vs. ectocervical or vaginal, fix between specimens as well. Allow spray fixative to dry and place in cardboard slide holder, plastic cassette or slide box. Please write "PAP", the MEPRS code of originating clinic and collecting physician's name on the outside of the slide container(s) being submitted, to facilitate routing of specimens to the correct section of the lab. Deliver to Cytology processing room G-34-C5.

CYTOLOGY NON-GYN
Synonyms: Non Gyn; Non-Gyn
CHCS IEN: 3995
Components:
Container (Preferred/Alternate): Specimen and collection Method specific. See chart below.
Specimen and Volume Required

Type(s):
Abdominal Cavity Washings
Bladder or Ureteral Washing/Barbotage
Body Cavity Fluid
Breast Cyst Aspiration
Breast Nipple Discharge
Bronchial Brush
Bronchial Washings/Lavages (BAL)
Buccal Smears
Cerbrospinal Fluid Cytology (CSF)
Cytogenic Studies
Effusions and Fluids
Fine Needle Aspirations (FNA)
Gastrointestinal Tract Brushings or Washings
Post-Bronchial Sputum

Skin Scrapings or Mucosal Vesicular Fluid (Tzanck Cell Prep)
Sputum
Urine, Voided

Instructions: Deliver specimens immediately to the Cytology processing room G-34-C5 at Room Temperature unless stated otherwise in chart below. The possible non-gyn specimens sources will vary greatly in preservation and handling procedures. Please see the chart below for specific specimen source requirements.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Cytology Section, MAMC / Testing includes routine cytologic evaluation of smears with cell block and cytocentrifuge preparation when indicated.
Order Method: CHCS order entry by typing "AP" and choosing "Cytologic Non-Gyn" from the picklist; MAMC Form 1597-L (Non-Gynecologic Cytology Request) for CHCS non-availability.
Availability:
TAT: Routine: 24 to 48 hours. Longer if Cytology specimens are submitted on weekends or holidays. Upon completion and signing out of the case, the report will be available in CHCS.
Other: It is not necessary to submit each specimen to Cytology on those patients who undergo periodic centesis for therapeutic purposes only. Once a diagnosis of malignancy has been established cytologically, further collections for palliation can be discarded.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: To establish the presence or absence of neoplastic cells; to establish the presence of primary or metastatic neoplasms; aid in the diagnosis of rheumatoid pleuritis, Systemic Lupus Erythematosus, myeloproliferative and lymphoproliferative disorders, fungal and parasitic infestation of serous cavities and fistulas involving serous cavities; examination of synovial fluid from a joint effusion may aid in arthritis diagnosis of metabolic rheumatoid arthritis or traumatic arthritis; may be helpful in diagnosis of some systemic diseases and fungal or parasitic infections.

Abdominal Cavity Washings	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 50 mL or more ***Minimum Volume:*** 4 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Vigorously wash appropriate areas (diaphragm colic gutters, cul-de-sac, etc.) with adequate volumes of physiologic balanced salt solution (Plasmalyte). Normal saline is not recommended. Aspirate washing. Place heparin in container first, and agitate during specimen addition. Use 3 units of heparin per 1 mL of fluid to prevent clotting and entrapping of diagnostic cells. Submit specimen in a sterile, capped, leak-proof container. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Submit immediately (within one hour) to the laboratory. ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature. Refrigerate specimen if more than a 1 hour delay is expected in delivery.
Bladder or Ureteral Washing/Barbotage	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 25 mL or more ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Cytology processing room within 30 minutes after collection. Note: 24 hour urine specimens or those obtained from a Foley catheter bag cannot be evaluated cytologically. ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature. Place specimen on ice if more than a 30 minute delay is expected and deliver within one hour.
Body Cavity Fluid: (Peritoneal, Pleural, Abdominal, Thoracentesis and Pelvic Wash)	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 50 mL or more ***Minimum Volume:*** 4 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Use 3 units of heparin per 1 mL of fluid to prevent clotting and entrapping of diagnostic cells. Place heparin in container first and agitate during specimen addition. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Deliver promptly to Cytology processing room g-34-C5. ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature. Place specimen on ice if more than a 30 minute delay is expected and deliver within one hour.
Cyst Aspiration	***Container:*** Sterile Container ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect fresh fluid, any volume***.*** See appropriate clinical procedures for procedure being performed.

	Specimen Processing: Specimens of cyst fluid should be submitted unfixed to the Cytology processing room immediately. Do not add fixative. Refrigerate specimen if a delay in delivery is expected. ***Other:*** Cyst fluid may not yield malignant cells even if the lesion is malignat.
Breast Nipple Discharge	***Container:*** 6 to 10 Glass Slides (Sequentially numbered and fixed with 95% ethyl alcohol) ***Volume:*** Pea-sized drop accumulate per slide ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. Soak the nipple with warm saline in cotton or gauze for 10-15 minutes. gently strip subareolar area and nipple with thumb and forefinger. ***Collection:*** See appropriate clinical procedures for procedure being performed. Gently grip the subareolar area and nipple with thumbs and forefinger. When secretion occurs, allow only a pea-sized drop to accumulate. Touch a clean, labeled glass slide (Identify each slide by writing on the frosted end with a #2 pencil: slide sequence number, the patient's name, last four digits of SSN and FMP) to the nipple and withdraw slide quickly. Fix slide immediately with spray fixative or by immersing in 95% reagent alcohol. Repeat procedure making 6 to 10 sequentially numbered smears of nipple discharge. The latter smears usually contain more abnormal cells. Each slide should be fixed before starting the next. Smears of nipple discharge should be submitted without delay to the Cytology Section. ***Specimen Processing:*** Place glass slides in cardboard holders, plastic cassettes, slide boxes or immersed in 95% ethyl alcohol in Coplin jars. Deliver to Cytology (Room G-34-18) immediately.
Bronchial Brush	***Container:*** Sterile Container ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Prepare patients for bronchoscopy in the usual manner. Any visible lesions can be brushed. Cut brush off catheter and immediately place the brush along with any cell clumps into a pre-filled vial of Preservcyt® fixative or RPMI solution. Note: Preservcyt® fixative solution is a poison that contains methanol and it must never come in direct contact with the patient. Preservcyt® is available from the Cytology Section.
Bronchial Washings/Lavages (BAL)	***Container:*** Sterile Container ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Prepare patients for bronchoscopy in the usual manner. Fill the bronchus with Plasmalyte®, Normal Saline is NOT recommended. Aspirate and re-instill the solution several times. Aspirate all the fluid from the bronchus, label, and send immediately, without fixative, to the Cytology Section. If there will be more than a one-hour delay anticipated in forwarding the specimen to Cytology, place the fluid in a pre-filled vial of Cytolyt® fixative immediately after collecting the specimen. Cytolyt® is available from the Cytology Section. BALs should be sent to cytology unfixed especially if special stains are required. BALs performed during non-duty hours require coordination with the Pathologist on call: 291-0144. Safety Note: Cytolyt® fixative solution is a poison that contains methanol and it must never come in direct contact with the patient.
Brushings	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Brush lesion area and submit in container. Disposable brushes should be cut off leaving attached 1 to 1-1/2 inches (3-5 cm) of wire cable. Place immediately into container of 10-15 mL of balanced salt solution or RPMI (available through Cytology Section). Reusable brushes should be briskly agitated into similar container. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Cytology processing room within 30 minutes after collection. If delivery is to be delayed greater than 30 minutes, add 10 to 15 mL of Preservcyt® fixative ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature.
Buccal Smears	Call Cytology Section
Cerbrospinal Fluid Cytology (CSF)	***Container:*** Sterile Tube #4 with Screw-Top cap (no additive or fixative) ***Volume:*** 2 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Collect a CSF sample in a separate container for cytologic examination. As much volume as possible should be obtained. Spinal tap trays often supply 3 tubes submitted routinely for culture, chemistries and cell count. For cytologic analyisis, a #4 tube is collected and delivered to Cytology processing room (G-34-C5).

	Specimen Processing: Deliver fresh fluid sample immediately (within one hour) to the Cytology processing room (G-34-20) without fixative. Samples for cell count, chemical, microbiological studies, and/or flow cytometry should be delivered to the main Specimen Processing Area.
Effusions and Fluids	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Fluids yield the best cytologic diagnosis if the specimen is immediately processed without fixation. Refrigerate if delay is expected.
Fine Needle Aspirations (FNA)	***Container:*** Submit needle rinses in capped, 50 mL conical tube with 5 mL RPMI. Coplin jars are to be used for slides immersed in 95% ethy alcohol. Cardboard slide folders are to be used for air dried slides and slides fixed with cytofixative spray. ***Volume:*** No specific volume ***Patient Preparation:*** Informed Consent- The patients must be counseled about the procedure and any associated risks (infection, bleeding, bruise, pain, swelling, and damage to vital structures). In addition, limitations of representative sampling, to include non-diagnostic or inadequate samples, and the alternative of open tissue biopsy should be discussed. A written informed consent (MAMC Form 1172-PS) must be completed. See appropriate clinical procedures for procedure being performed. ***Collection:*** Aspiration biopsies should be coordinated and scheduled with the Cytology Section at 968-1729 and/or Medical Director, Cytology (968-1723) preferably with a one day notice for optimal processing and correlation with clinical and radiographic findings. A cytotechnologist and/or pathologist assistant will be provided upon request. Due to processing requirements, assistance for FNAs cannot be provided after 1530 (regular duty hours). Any FNA assistance needed during non-duty hours requires coordination with the Pathologist at pager # 291-1509. Deliver specimens to Cytology processing room G-34-C5. FNA Equipment- A FNA cart with all the necessary equipment and materials is available which allows performance of the procedure in any location of the hospital (clinic, inpatient ward, radiology suite, operating room, etc.). A cytotechnologist is available during normal duty hours to assist in preparing smears and/or render a determineation of specimen adequacy. If necessary, a preliminary diagnosis can be rendered by a pathologist, only, during or immediately after the procedure. Pathologists are also available to perform FNAs on superficial lesions. See appropriate clinical procedures for procedure being performed. Procedure for FNA of Superficial Palpable Masses- The area to be aspirated is examined and cleansed with alcohol pads. A local anesthetic may or may not be used. In general, superficial palpable masses are aspirated using small gauge needles (22 to 25 gauge, 5/8, 1 or 1 ½ inch long), attached to a 10 or 20 cc syringe in a plastic Inrad syringe holder or metal Cameco holder. After proper mobilization of the mass, the needle is inserted, suction is applied and maintained, and the needle is moved in and out of the mass in short, rapid strokes. When aspirate material (including blood) is visible in the hub of the needle, release suction and remove the needle from the mass and skin. If no obvious material is seen in the hub of the needle, continue the aspiration attempt for at least 15 seconds, then release the suction and remove the needle. Gentle pressure should be applied to the aspiration site. Three to five separate aspiration passes should be performed for each palpable mass being evaluated by FNA. This will improve sampling adequacy. ***Specimen Processing:*** Submit needle rinses in capped, 50 mL conical tube with 15 mL RPMI. Coplin jars are to be used for slides immersed in 95% ethy alcohol. Cardboard slide folders are to be used for air dried slides and slides fixed with cytofixative spray. Slide Staining/Needle Rinsing- One air-dried slide preparation is stained with Diff-Quik solution (Romanowsky-type stain) for immediate review. The other slide is submitted to the Cytology Laboratory for rehydration and subsequent fixation in 95% alcohol and Pap staining. The aspiration needle is rinsed in Cytolyt solution which is sent for preparation of ThinPrep monolayer smear (Pap-stained) and, if enough cellular material is available in the rinse fluid, a paraffin-embedded cell block will be made (hematoxylin and eosin stain). When the differential diagnosis includes lymphoproliferative disorders, flow cytometry for lymphoid surface marker analysis can be performed on any material rinsed into a vial of pink-colored RPMI sterile solution (provided by the Cytology Laboratory). In addition, aspiration material can be submitted in sterile saline for culture, or glutaraldehyde for electron microscopy (prior coordination with Cytology Laboratory is required in the request of a culture or EM). Smear Preparation- Place bevel of needle directly on one of the glass slides, in approximately the center of the slide. A small drop of fine needle aspirate material is expressed onto the glass slide. Lay another slide parallel or cross-way to and on top of the first so that the aspirate spreads to create a thin smear. Air-dry both slides completely. ***Order Method:*** CHCS order entry by typing "AP" and choosing "Cytologic Non-Gyn" from the picklist; MAMC Form 1597-L (Non-Gynecologic Cytology Request) for CHCS non-availability. A consultation form (SF 513) must also be provided with a complete patient history, including prior

	malignancies, clinical location of mass, how long present and clinical diagnosis. ***Availability:*** Monday thru Friday 0730 to 1630 hrs. ***Other:*** Superficial FNA – Physicians or service anticipating frequent use of the technique, may arrange for training sessions or literature by contacting the Cytology Section. Guided FNA- To obtain Cytology assistance, which includes rapid stains to determinee adequacy, schedule needle aspirate in advance by calling the Cytology Section at 968-1301
Gastrointestinal Tract Brushings	***Container:*** Sterile Container ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Prepare patients for endoscopy as usual. Any visible lesions (esophageal, gastric, small intestinal, colonic) can be brushed or lavaged. The disposable brush tip ("brush cut") can be placed into a pre-filled vial of Cytolyt solution. Note: Cytolyt® fixative solution is a poison that contains methanol and it must never come in direct contact with the patient. Gastrointestinal tract washings or lavages can be sent in the trap bottles and/or placed into sterile specimen cup(s) with approximately 30 ml of RPMI or Cytolyt® labeled with the patient's name, SSN, specimen source, and type of specimen (e.g., washing).
Post-Bronchial Sputum	***Container:*** Sterile Container ***Volume:*** ***Patient Preparation:*** Give the patient a specimen cup before the bronchoscope is withdrawn. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Give the patient a specimen cup before the bronchoscope is withdrawn. All sputum expectorated after bronchoscopy and for the next one hour should be collected in the patient's specimen cup and than have approximately 30 ml of Cytolyt fixative added to cover the sputa. Note: Cytolyt® fixative solution is a poison that contains methanol and it must not come in direct contact with the patient.
Skin Scrapings or Mucosal Vesicular Fluid (Tzanck Cell Prep)	***Container:*** Glass Slide ***Volume:*** No specific volume ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Collect wet-fixed or air-dried smear of scrapings from skin lesion. Submit 2 smears, one spray fixed with Pap fixative and one air-dried un-fixed for Diff Quik staining. ***Specimen Processing:***
Sputum	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. Sputum production may be induced by having the patient inhale aerosolized physiologic saline over 15 minutes. ***Collection:*** See appropriate clinical procedures for procedure being performed. Have patient rinse mouth with water and then expectorate a deep cough specimen of at least 5 mL, into container. No saliva or nasal aspirates. ***Specimen Processing:*** Fresh specimens are preferred. If a delay in transport is anticipated, add enough Saccomano fixative to cover the specimen.
Urine, Voided	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 25 mL or more ***Patient Preparation:*** Fully hydrate patient for clean catch voided urine. See appropriate clinical procedures for procedure being performed. ***Collection:*** Fresh voided or instrumented urine only. First morning urine is not acceptable due to degeneration. Collect a clean catch specimen after the first morning sample has been voided (50-100ml of midstream urine). See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Cytology processing room within 30 minutes after collection. Note: 24 hour urine specimens or those obtained from a Foley catheter bag cannot be evaluated cytologically. ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature. Place specimen on ice if more than a 30 minute delay is expected and deliver within one hour. If a longer delay is expected, add equal amount of Preservcyt®
Wang Aspiration	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** No specific volume ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collection using Wang Needle apparatus (bronchoscopy) in clean capped, leak-proof sterile container. See appropriate clinical procedures for procedure being performed. Collect using a balanced salt solution or RPMI (Do not use normal saline); solution available through Cytology Section. ***Specimen Processing***: Immediately deliver the specimen to the Cytology processing room within

	30 minutes after collection. If delivery is to be delayed greater than 30 minutes, express material into container of 10 to 15 mLs of RPMI or Preservcyt® ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature.
Washings	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 2 mL or more ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Target area specimen obtained by physician. Collect using a balanced salt solution or RPMI (Do not use normal saline); solution available through Cytology Section. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Cytology processing room within 30 minutes after collection. If delivery is to be delayed greater than 12 hours, add an equal volume of Preservcyt® fixative ***Transport/Storage Temperature:*** Transport to Cytology Section immediately at Room Temperature.

CYTOMEGALOVIRUS ANTIBODY (IGG) Q

Synonyms:
CHCS IEN: 3669
Test Code: 403
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia, Plasma
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **CYTOMEGALOVIRUS IGG;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: CMV infections are common and usually asymptomatic. In patients who are immunocompromised, CMV may cause disseminated, severe disease. CMV may cause birth defects in a minority of infected newborns. Antibody IgG may represent prior exposure or recent infection if there is a significant change in titer between acute and convalescent specimens.

CYTOMEGALOVIRUS ANTIBODY (IGM) Q

Synonyms:
CHCS IEN: 3766
Test Code: 8503
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia, Plasma
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **CYTOMEGALOVIRUS IGM;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CYTOMEGALOVIRUS CONVENTRIONAL AND RAPID CULTURE Q P

Synonyms:
CHCS IEN: 3749
Test Code: 2627
Components:
CMV Culture, Rapid
CMV Culture, Conventional
Container (Preferred/Alternate): Quest Diagnostics supplied V-C-M medium (green-cap) tube or equivalent
Specimen and Volume Required
Type(s):
Urine
Respiratory tract specimens
Tissue
Swab specimens (use Cotton, Rayon or Dacron ® swab with plastic or metal shaft)
Urine in sterile leak-proof container
Volume: 0.5 mL Transport Media; 0.5 mL Body Fluids
Minimum Volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storge Temperature: Urine specimens must not be shipped frozen unless preserved in V-C-M medium (green-cap) tube or equivalent prior to transport. **V-C-M Medium Specimen Stability:** Unacceptable at room temperature, 4 days refrigerated 2-8 ºC, Unacceptable frozen at -20 C, 30 days frozen at -70 C. **Urine Specimen Stablility:** Unacceptable at room temperature, 48 hours refrigerated, Unacceptable Frozen.
Rejection Criteria: Wooden-shaft and calcium alginate swabs may inhibit recovery of viruses and *chlamydiae* , Stool specimens, Dry swabs, Gel based transport systems, Nucleic acid transport systems, Any specimen in formalin or fixative, Slides, Whole blood, Serum, Plasma ,V-C-M medium (green-cap) tube or equivalent received at room temperature or frozen -20° C, Urine in a sterile container received at room temperature or frozen
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry: **Q CMV CULTURE, COMP ($34.60)** **;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

CYTOMEGALOVIRUS DNA, PCR QL

Order Note: This is the Qualitative CMV DNA PCR. For the Quantitative test, please order: **CYTOMEGALOVIRUS DNA** in CHCS.
Synonyms: CMV PCR Qualitative, Cytomegalovirus PCR Qualitative
CHCS IEN: 6425
Components:
Container (Preferred/Alternate): See Chart below
Specimen and Volume Required: Specimen specific. See chart below
Type(s):
Bronchial Alveolar Lavage
Blood/Plasma
CSF
Other
Urine, Randomrg
Instructions: See Chart below
Rejection Criteria: Green-Top tube (Heparin), Blood drawn from a line which has heparin, Frozen whole blood, Bronchial, nasopharyngeal, or tracheal lavage/wash; 24 hour urine, catheterized urine, Synovial, pericardial, peritoneal pleural or vitreous fluid; Sputum, Eye, Lesion (vesicle) aspirate, Nasal/nasopharyngeal swab, Bone marrow, Buffy coat, Tissue.
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / Real-time PCR
Order Method: CHCS order entry: **CYTOMEGALOVIRUS DNA, PCR QL** , Please indicate source in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabilit.
Availability:

TAT:
Other: This CMV PCR assay utilizes real-time Polymerase Chain Reaction (RT-PCR) technology. The primers and probes for this assay target both the CMV glycoprotein B and the intermediate early protein gene. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA has determineed that such clearance or approval is not necessary. Use is intended for clinical purposes only and should not be regarded as investigational or for research. This laboratory is regulated by the Clinical Laboratory Improvement Amendments of 1988 (CLIA'88) as qualified to perform high complexity clinical testing.

Interpretive

Reference Range: While a negative result for CMV by a properly performed PCR assay definitely rules out the possibility of a CMV related disease, a positive result does not necessarily indicate the presence of the disease. Due to the extreme sensitivity of the PCR, this assay may detect latent CMV DNA not associated with the disease in which case the quantity of the viral particle will remain low.
Critical Value:
Clinical Significance: CMV infections are common and usually asymptomatic. In patients who are immunocompromised, CMV may cause disseminated, severe disease. CMV may cause birth defects in a minority of infected newborns. DNA methods provide the highest sensitivity and specificity of any Method. The CMV PCR results obtained with this assay should not be used as the sole determineant of diagnosis. Due to the extreme sensitivity of the PCR, this assay may detect latent CMV DNA not associated with the disease in which case the quantity of the viral particle will remain low.
A positive or negative PCR results should be considered in conjunction with clinical presentation and additional diagnostic test prior to establishing a diagnosis.

Bronchial Alveolar Lavage	***Container:*** Viral Transport Media (VTM) ***Volume:*** 1 mL or more ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Molecular Diagnostics Section after collection. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 °C) if DNA isolation will be delayed for more than 3 days. All frozen sample must be transported on dry ice and should not be allowed to thaw out before arrival to lab. ***Transport/Storage Temperature:*** Transport to Molecular Diagnostics Section immediately at Room Temperature. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 C) if DNA isolation will be delayed for more than 3 days. All frozen sample must be transported on dry ice and should not be allowed to thaw out before arrival to lab.
Blood / Plasma	***Container:*** Lavendar-Top Tube (K_2EDTA) ***Volume:*** 6 mL ***Minimum Volume:*** 0.5 mL Plasma ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Routine Venipuncture. ***Specimen Processing***: Gently invert tube 10 times to mix blood with additive. Immediately deliver the specimen to the Molecular Diagnostics Section after collection. Centrifuge to separate plasma from cell witin 1 hour of sample collection. Freeze plasma at -18 °C if DNA isolation will be delayed for more than 3 days. ***Transport/Storage Temperature:*** Transport to Molecular Diagnostics Section immediately at Room Temperature. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 °C) if DNA isolation will be delayed for more than 3 days. All frozen samples must be transported on dry ice and should not be allowed to thaw out before arrival to lab.
Cerebrospinal Fluid (CSF)	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 1 mL or more ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Do not draw blood from a line which has heparin. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Molecular Diagnostics Section after collection. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 °C) if DNA isolation will be delayed for more than 3 days. All frozen sample must be transported on dry ice and should not be allowed to thaw out before arrival to lab. ***Transport/Storage Temperature:*** Transport to Molecular Diagnostics Section immediately at Room Temperature. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 C) if DNA isolation will be delayed for more than 3 days. All frozen samples must be transported on dry ice and should not be allowed to thaw out before arrival to lab.
Other, Misc	***Container:*** Viral Transport Media (VTM) ***Volume:*** 1 mL or more ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed.

	Specimen Processing: Immediately deliver the specimen fresh (unfixed) to the Molecular Diagnostics Section after collection. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 °C) if DNA isolation will be delayed for more than 3 days. All frozen sample must be transported on dry ice and should not be allowed to thaw out before arrival to lab. ***Transport/Storage Temperature:*** Transport to Molecular Diagnostics Section immediately at Room Temperature. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 C) if DNA isolation will be delayed for more than 3 days. All frozen samples must be transported on dry ice and should not be allowed to thaw out before arrival to lab.
Urine, Random	***Container:*** Sterile Container with Screw-Top cap ***Volume:*** 2 mL or more ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Single, clean voided specimen***.*** Utilize sterile technique and avoid contamination with normal flora. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh (unfixed) to the Molecular Diagnostics Section after collection. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 °C) if DNA isolation will be delayed for more than 3 days. All frozen sample must be transported on dry ice and should not be allowed to thaw out before arrival to lab. ***Transport/Storage Temperature:*** Transport to Molecular Diagnostics Section immediately at Room Temperature. Refrigerate specimen upon receipt. Specimen must be Frozen (-18 C) if DNA isolation will be delayed for more than 3 days. All frozen samples must be transported on dry ice and should not be allowed to thaw out before arrival to lab.

CYTOMEGALOVIRUS DNA, QUANTITATIVE REAL-TIME PCR Q

Order Note: This is the Quantitative CMV DNA PCR. For the Qualitative test, please order: **CYTOMEGALOVIRUS DNA, PCR QL** in CHCS.

Synonyms: CMV DNA, CMV QNT

CHCS IEN: 4647

Test Code: 10600

Container (Preferred/Alternate): 6 mL Lavendar-Top Tube (K2EDTA)

Specimen and Volume Required

Type(s):
Blood/Whole
Blood/Plasma
CSF
Amniotic Fluid

Volume: 1 mL

Minimum Volume: 0.3 mL

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube. **Whole blood:** Collect whole blood in sterile tubes containing EDTA or ACD as anticoagulant. Store refrigerated. Blood collected in tubes containing ACD anticoagulant will yield results approximately 15% lower when compared to EDTA tubes due to a dilution effect. Do not freeze whole blood. **Plasma:** Collect blood in sterile tubes containing EDTA or ACD as anticoagulant or in Plasma Preparation Tubes (PPTs). Store collected whole blood at room temperature and separate plasma from cells within 2 hours of collection. Transfer plasma to sterile, plastic, screw-cap tubes and store refrigerated or frozen. If blood is collected in a PPT tube, centrifuge within 2 hours of collection and store refrigerated or frozen. It is not necessary to transfer the plasma from a PPT tube to aliquot tubes. Blood collected in tubes containing ACD anticoagulant will yield results approximately 15% lower when compared to EDTA tubes due to a dilution effect. **Serum, CSF, amniotic fluid:** Collect in a sterile container and ship refrigerated or frozen. **Urine:** Collect in a sterile container and ship frozen.

Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.

Special Instructions:

Transport/Storage Temperature: Ship to Quest to Refrigerated at 2-8 ºC.

Rejection Criteria: Frozen blood, Received frozen whole blood, Bronchial, nasopharyngeal, or tracheal lavage/wash, Synovial, pericardial, peritoneal, pleural or vitreous fluid, Sputum, Eye, Lesion (vesicle) aspirate, Nasal/nasopharyngeal swab, Bone marrow ,Buffy coat, Tissue, 24-hour urine, Catheterized urine, Heparin whole blood or plasma.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Real-Time PCR

Order Method: CHCS order entry under: **CYTOMEGALOVIRUS DNA** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine

Other:

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

D-DIMER.

Synonyms:

CHCS IEN: 4337

Components:

Container (Preferred/Alternate): Blue-Top Tube (Sodium Citrate 3.2%); Light Blue–Top Tube 1.8 mL (Sodium Citrate 3.2%) for pediatric draws

Specimen and Volume Required

Type(s): Blood/Plasma (Platelet poor plasma)

Volume: 4.5 mL

Minimum Volume: 1.8 mL

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Do not over or underfill vacutainer tube.

Specimen Processing: Gently invert tube 8 times to mix blood with additive.

Special Instructions: Deliver to laboratory immediately

Transport/Storage Temperature: Deliver tube to laboratory immediately at Room Temperature. Store platelet poor plasma Frozen (-18 °C).

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Immunoturbidometric
Order Method: CHCS order entry under: **D-DIMER.** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT: 1 hour; ASAP: 2 hours; Routine: 8 hours

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
ALL/ALL	0	0.5			µg/dL

Critical Value:
Clinical Significance: D-Dimer is one of the measurable by-products of activation of the fibrinolytic system. Quantitation of D-Dimer assesses fibrinolyic and intravascular thrombosis. D-Dimer is of particular value in excluding the diagnosis of venous thromboembolism among patients at high risk. Evaluation to rule-out DVT/PE: In patients with a low pretest probability for DVT/PE, a negative d-Dimer assay (<0.40 µg/mL) has a high sensitivity and negative predictive value approaching 100%. Therefore, in patients with a low clinical probability for DVT/PE, a negative D-Dimer essentially rules-out the presence of a thrombotic lesion. In patients with a moderate to high pretest clinical probability for DVT/PE, the negative predictive value is much lower and a negative D-Dimer result should not prevent further diagnostic testing in these patients. Evaluation of DIC: Elevated levels of D-Dimer (>0.5 µg/mL) in the appropriate clinical setting are evidence of fibrin clot degradation in either the setting of acute or chronic disseminated intravascular coagulation. The D-Dimer test will not detect primary fibrinolysis (fibrinogenolysis).

D-DIMER (CSF ONLY)

Synonyms:
CHCS IEN: 4342
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap (No additives)

Specimen and Volume Required

Type(s): Cerebrospinal Fluid
Volume: 1 mL
Minimum Volume: 0.5 mL CSF

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: Transport at Room Temperature to Specimen Processing Section immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Immunoturbidometric
Order Method: CHCS order entry under: **D-DIMER (CSF ONLY)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
ALL/ALL	0	0.5			µg/dL

When used for Subarachnoid Hemorrhage this test has high sensitivity but low specificity. A negative result (<0.5 µg/dL) indicates SAH is unlikely. A positive result may be seen in disorders other than SAH. This result must be correlated with clinical, radiologic and other Laboratory findings.

Critical Value:
Clinical Significance: Studies performed a MAMC indicate a negative test makes subarachnoid hemorrhage (SAH) unlikely. A positive test is less useful as other disorders can cause a positive D-Dimer. The test should be ordered only on adult or children with a suspicion of SAH. It is not validated for neonates/infants less than one year old and will not be run on specimens from these patients. D-Dimer is one of the measurable by-products of activation of the fibrinolytic system. Quantitation of D-Dimer assesses fibrinolyic and intravascular thrombosis. D-Dimer is of particular value in excluding the diagnosis of venous thromboembolism among patients at high risk.

D PTERONYSSINUS IGE Not orderable as single test . See: **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

DAP 9 MECONIUM Q P
Synonyms:
CHCS IEN: 6033
Test Code: 30427
Components:
Cocaine
Cannabinoids
Opiates
Amphetamines
Phencyclidine
Barbiturates
Benzodiazepines
Methadone
Propoxyphene
Container (Preferred/Alternate): Sterile Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Meconium
Volume: 5 grams
Minimum Volume: 1 grams
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC.. Specimen stability: 48 hours at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **DRUG SCREEN, MECONIUM;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance

DENGUE FEVER IGG Q
Synonyms:
CHCS IEN: 2139
Test Code: 37579
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DENGUE FEVER IGM Q
Synonyms:
CHCS IEN: 2139
Test Code: 37580
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-cap vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DERMATOPHAGOIDES FARINAE (D2) IGE Q
Synonyms:
CHCS IEN: 6070
Test Code: 2722
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **D FARINAE IGE PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DESIPRAMINE Q
Synonyms:
CHCS IEN: 1872
Test Code: 412
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Additive or No Gel Barrier); Plastic Screw-top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation: Optimum time to collect sample is 10-14 hours post oral dose.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells as soon as possible.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature, 5 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **DESIPRAMINE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DEXAMETHASONE Q
Synonyms:
CHCS IEN: 2139
Test Code: 29391
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Additive or No Gel Barrier); Plastic Screw-top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.6 mL serum
Instructions
Patient Preparation: Optimum draw time: 8:00 to 10:00 a.m.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells as soon as possible.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 24 hours at room temperature, 7 days refrigerated 2-8 ºC, 2 years frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DHEA SULFATE
Synonyms: Dehydroepiandrosterone Sulfate; DHEA-S
CHCS IEN: 2863

Components:
Container (Preferred/Alternate): Gold-Top Tube/SST (Clot Activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently mix tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC /Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **DHEA SULFATE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP: 2 hours; Routine: 8 hours
Interpretive
Reference Range:

Sex/Age Group		Ref Low	Ref High	Panic Low	Panic High	Units
MALE	18-20 Years	24	537			µg/dL
	21-30 Years	85	690			
	31-40 Years	106	464			
	41-50 Years	70	495			
	51-60 Years	38	313			
	61-70 Years	24	244			
	>70 Years	5	253			
FEMALE/	8-20 Years	51	321			
	21-30 Years	18	391			
	31-40 Years	23	266			
	41-50 Years	19	231			
	51-60 Years	8	188			
	61-70 Years	12	133			
	>70 Years	7	177			

Critical Value:
Clinical Significance: DHEA-S is the sulfated form of DHEA and is the major androgen produced by the adrenal glands. This test is used in the differential diagnosis of hirsute or virilized female patients and for the diagnosis of isolated premature adrenarche and adrenal tumors. About 10% of hirsute women with Plycystic Ovarian syndrome (PCOS) have elevated DHEA-S but normal levels of other androgens.

DIC PANEL

Synonyms: Disseminated Intravascular Coagulation Panel
CHCS IEN: 4419
Components:
Protime
Partial Thromboplastin Time
Fibrinogen
D-Dimer
Container (Preferred/Alternate): Blue-Top Tube (Sodium Citrate 3.2%); Light Blue–Top Tube 1.8 mL (Sodium Citrate 3.2%) for pediatric draws
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not over or underfill vacutainer tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.
Specimen Stability: Room Temperature: 4 hours
Rejection Criteria

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry: **DIC PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Test panel for Disseminated Intravascular Coagulation evaluation.

DIGOXIN

Synonyms: Lanoxin
CHCS IEN: 107
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator); 1 Pink-Top Microtainer tube for Pediatric draws.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion. Collect as a Trough just prior to next dose. Peak collection done when maxium concentration is usually reached by IV administration immediately after drug is administered or by Oral administration 60-90 minutes after dosage. Collect sample 6-8 hours after last dose for Tissue Equilibration.
Specimen Processing:
Special Instructions: Collect as a Trough just prior to next dose. Peak collection done when maxium concentration is usually reached by IV administration immediately after drug is administered or by Oral administration 60-90 minutes after dosage. Collect sample 6-8 hours after last dose for Tissue Equilibration.
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Serum Separator Tube (SST)

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **DIGOXIN;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	0.8	2.0	0	2.5	ng/mL
CHF Ranges	0.8	1.5			
Arrhythmia	1.5	2.0			

Critical Value: >2.5 Toxic
Clinical Significance: Digoxin is a cardiac glycoside derived from the digitalis plant. It is used to treat congestive heart failure and atrial dysrhythmias. Digoxin levels are monitored to assure adequate theroapeutic levels are achieved and to avoid toxicity.

DIHYDROTESTOSTERONE Q
Synonyms:
CHCS IEN: 2139
Test Code: 204
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 4 mL serum
Minimum Volume: 1.1 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions: Specify age and sex on test requisition.
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 2 days at room temperature, 7 days refrigerated 2-8 ºC, 2 years frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DIPTHERIA ANTITOXOID ANTIBODY Q
Synonyms:
CHCS IEN: 2139
Test Code: 4865
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions: Specify age and sex on test requisition.
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 4 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DIPHTHERIA CULTURE O
Synonyms: Corynebacterium Diphtheriae Culture

CHCS IEN: 2754
Test Code:
Container (Preferred/Alternate): WA State Public Health Lab collection kit with Swabs
Specimen and Volume Required
Type(s): 1 Swab in media for Throat and 1 Swab for both nares of the Nose
Volume:
Minimum Volume:
Instructions
Patient Preparation:
Collection: The throat and nose (both nares) must be cultured. Using one swab, sample both sides and the back of the throat and then streak one of the slant tubes. After streaking the media, break off the end of the swab and leave it in the tube. Using another swab, sample the inside of both nostrils and transfer to the other slant in the same manner.
Specimen Processing: Completely fill out forms required by the State and return the kit to Microbiology Section for shipping.
Special Instructions: All slant tubes (media) must be labeled with patient's name, date and site cultured.
Transport/Storge Temperature:
Rejection Criteria:
Admin Notes
Testing Location/Methodology: WA State Public Health Lab / Culture
Order Method: CHCS order entry under: **DIPHTHERIA CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Specimens are shipped on Monday, Wednesday and Friday.
TAT: Routine: up to 2 weeks for results
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DIRECT ANTIGLOBULIN TEST- CHCS
Synonyms: DAT; Direct Coombs
CHCS IEN: 6513
Components:
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/Cord Blood
Blood/Whole Blood
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Deliver to Laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.
Rejection Criteria*:* Gross Hemolysis, Serum Separator Tube (SST), Frozen, Red-Top Tube
Admin Notes
Testing Location/Methodology: Transfusion Service, MAMC / Immune Agglutination
Order Method: CHCS order entry: **DIRECT ANTIGLOBULIN TEST- CHCS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The DAT (Direct Coomb's test) is positive if red cells have been coated, in vivo, with immunoglobulin, complement, or both. A positive result can occur in immune-mediated red cell destruction, autoimmune hemolytic anemia, a transfusion reaction, Hemolytic Disease of the Newborn or in patients receiving certain drugs.

DIRECT COOMBS *See:* **DIRECT ANTIGLOBULIN TEST- CHCS** *in this laboratory test information guide.*

DIRECT EXAMINATION FOR 0+P
Synonyms: Direct Wet Mount

CHCS IEN: 1876
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 Grams
Minimum Volume:
Instructions
Patient Preparation: Coordinate with the Microbiology Section at 968-1753 before specimen collection.
Collection: See: General Collection Instructions For All Stool Specimens in the appedices of this manual.
Specimen Processing: Deliver fresh Stool to laboratory within 1 hour after collection. If specimen arrives 1 hour after collection, this test will be cancelled and a routine O&P will be ordered and performed.
Special Instructions: If Raw specimen is received and it has been more than one hour since collection, preserve part of the specimen in PVA and in Formalin tubes. Retain the unpreserved portion of the specimen.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature.
Rejection Criteria: Specimen delivered longer than 1 hour after collection.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Direct Microscopic Exam
Order Method: CHCS order entry under: **DIRECT EXAMINATION FOR 0+P**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Schedule with Microbiology Section before collection of specimen.
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Diseases caused by human parasites remain on a worldwide basis among the principle causes of morbidity and mortality. Correct diagnosis of intestinal parasitic infection depends on proper collection, transport, detection and identification of parasites in stool specimens. Symptoms range from malaise to death. Treatment is dependent upon examining multiple stool exams due to the erratic shed rates of some parasites.

DISSEMINATED INTRAVASCULAR COAGULATION PANEL *P*

Synonyms: Disseminated Intravascular Coagulation Panel, DIC
CHCS IEN: 4419
Components:
Protime
Partial Thromboplastin Time
Fibrinogen
D-Dimer
Container (Preferred/Alternate): Blue-Top Tube (Sodium Citrate 3.2%); Light Blue–Top Tube 1.8 mL (Sodium Citrate 3.2%) for pediatric draws
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not over or underfill vacutainer tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.
Specimen Stability: Room Temperature: 4 hours
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **DIC PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Test panel for Disseminated Intravascular Coagulation evaluation.

DNA DOUBLE STAND AB Q
Synonyms: DNA Double Strand AB, DS DNA, Quest Name: DNA (DS) ANTIBODY
CHCS IEN: 2127
Test Code: 255
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics
Order Method: CHCS order entry under: **DNA DOUBLE STRAND AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DNASE B ANTIBODY Q
Synonyms: Anti DNASE B Titer; 256
CHCS IEN: 3826
Test Code: 256
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.3 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC.. Specimen stability: 24 days at room temperature, 1 week refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics / Tube Test
Order Method: CHCS order entry under: **DNASE B AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DOG DANDER IGE Not orderable as a single test. See: **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

DOPAMINE, PLASMA Q

Synonyms:
CHCS IEN: 2139
Test Code: 14762
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Plastic Screw-Top Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4 mL Plasma
Minimum Volume: 2 mL
Instructions
Patient Preparation: Overnight fasting is required. Patient should avoid alcohol, coffee, tea, tobacco and strenuous exercise prior to collection***.*** Patient shoud be relaxed in either a supine or upright position before blood is drawn. States of anxiety and stress can cause fluctuations in the catecholamine levels.
Collection: Routine venipuncture. Draw blood in prechilled Green-top tube***.*** Gently invent tube 8 times to mix blood with additive.
Specimen Processing: Deliver to laboratory immediately***.*** Centrifuge specimen in refrigerated centrifuge 2-8 ºC within 30 mins of collection to separate plasma and then immediately freeze plasma at -20 ºC.
Special Instructions:.
Transport/Storage Temperature: Store and ship frozen at -20 ºC. Specimen stability: 6 hours at room temperature; 6 hours refrigerated; 1 month Frozen.
Rejection Criteria: Received thawed.
Admin Notes
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DRUG ABUSE PANEL 9 SERUM Q

Synonyms:
CHCS IEN: 2139
Test Code: 19733
Components:
Marijuana Metabolites
Amphetamines
Barbituates
Benzodiazepines
Cocaine Metabolites
Opiates
Methadone
Propoxyphene
PCP (Phencyclidine)
Container (Preferred/Alternate): 5 mL Red-Top (No gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 10 mL serum
Minimum Volume: 5 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature, 14 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diganostics /Gas Chromatography/Mass Spectrometry (GC/MS), Immunoassay, Chromatography
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

DRUG SCREEN-UR (MAMC/BREM/MMC) P

Synonyms: DOA
CHCS IEN: 4471
Components:
Amphetamines
Barbiturates
Benzodiazepines
Buprenorphine
Cocaine
Methadone
Opiates
Oxycodone (Oxy)
Phencyclidine
Propoxyphene
THC (Cannabinoids)
Tricyclic Antidepressants
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Urine, Random
Volume: 50 mL
Minimum Volume: 1mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See: Instructions for Collecting a Clean Catch Urine Sample in the appendices of this manual.

Collection: Random clean catch urine. See: Instructions for Collecting a Clean Catch Urine Sample in the appendices of this manual.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Deliver specimen at Room Temperature.

Rejection Criteria*:* Cloudy or precipitation in urine

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Signify Drugs of Abuse Screen Kit
Order Method: CHCS order entr: **DRUG SCREEN-UR (MAMC/BREM/MMC);** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: Negative
Critical Value:
Clinical Significance:

ECHOVIRUS ANTIBODY PANEL, SERUM Q P

Synonyms:
CHCS IEN: 2139
Test Code: 35139
Components:
Serotypes: 4,7,9,11 and 30.
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The echovirus serotypes used in this panel will vary depending upon current epidemiological data available from inhouse isolations CDC reports. Generally, the serotypes used are those most commonly associated with viral meningitis. Although there is cross-reactivity among the enteroviruses, most healthy people do not have detectable CF titers (>1:8). Therefore, detectable titers, especially those >1:32, should be considered diagnostic. Confirmed serodiagnosis is made by demonstration of a four-fold change in titers between acute and convalescent sera.

EGG MIX (F245), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2919
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

EGG WHITE (F1) IGE Q

Synonyms:
CHCS IEN: 6071
Test Code: 2801
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **EGG WHITE IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

EGG WHITE IGE *Not orderable as a single test. See:* **PED FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

EGG YOLK (F75) IGE Q

Synonyms:
CHCS IEN: 6126
Test Code: 2856
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **EGG YOLK IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ELECTROLYTES P *See:* **CHEM 4 ELECTRO LYTE PANEL** in this laboratory test nformation guide

ELECTROLYTES, FECES Q P

Synonyms:
CHCS IEN: 6226
Test Code: 31595
Components:
Sodium Stool
Potassium Stool
Chloride Stool
Container (Preferred/Alternate): Plastic Leak-Proof Container
Specimen and Volume Required
Type(s): Feces/Liquid
Volume: 10 mL Liguid Feces.
Minimum Volume: 3 mL
Instructions
Patient Preparation:
Collection: Submit frozen smaples of liquid feces. Keep 2-8 ºC during collection. Liquid stool is the only acceptable specimen for this test.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory refrigerated or frozen. Specimen stability: 48 hours at room temperature, 14 days refrigerated at 2-8 ºC, 6 months frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Coulometric Titration, Flame Photometric
Order Method: CHCS order entry: **Q STOOL ELECTROLYTES;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

ELECTROLYTES, URINE *See:* **URINE LYTES (MAMC)** in this laboratory test nformation guide

ENDOCRINE LAB TFT PANEL P

Order Note: This test panel only available to Endocrinology Staff for ordering
Synonyms:
CHCS IEN: 1579
Components:
TSH, Sensitive
Container (Preferred/Alternate): Gold-Top Tube/SST (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry: **ENDOCRINE LAB TFT PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ENTAMOEBA HISTOLYTICA ANTIBODY (IgG) ELISA Q

Synonyms:
CHCS IEN: 2139
Test Code: 34278
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.25 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Serologic studies may be helpful in the diagnosis of invasive intestinal and extra-intestinal amebiasis. Asymptomatic cyst passers usually have negative serologic tests. Eighty-five percent of patients with biopsy proven invasive intestinal amebiasis are antibody positive whereas 95-100% of patients with extra intestinal amebiasis are positive. Values may remain elevated 6 to 18 months following invasive disease.

ENTEROVIRUS RNA

Synonyms: Enterovirus; Poliovirus, Echoviruses, Coxsackie viruses
CHCS IEN: 4638
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA); Sterile Container with Screw-Top Cap; Viral Transport Medium and Swab
Specimen and Volume Required
Type(s):
CSF
Blood/Plasma
Body Fluids
Volume: 6 mL
Minimum Volume: 1 mL Plasma; 0.5 mL minimum for CSF and other Body Fluids
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture. See appropriate clinical procedures for procedure being performed. Do not collect samples with Calcium alginate swabs or wood staffed cotton swabs as they are inhibitory to the PCR as well as culture.
Specimen Processing: Gently invert lavender-top tube 10 times to mix blood with additive. Separate plasma from cells within 1 hour of collection. For swab samples, submit the swab in a viral transport medium. Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Refrigerate specimen. Store and/or Ship Frozen at ≤ -70 °C if testing is to be delayed more than 3 days. Avoid repeated freezing and thawing of specimen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry: **ENTEROVIRUS RNA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Schedule with Molecular Diagnostics Section for setup days and time.
TAT: Notify and Routine, Routine: 2 working days

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Human Enterovirus (HEV) is composed of 64 known serotypes of 5 species. These 5 species are Poliovirus 1, 2 and 3; HEV-A (includes Coxsackievirus A2,A3,A5,A7,A8,A10,A12,A14,A16 and Enterovirus 71***;*** HEV-B (includes Coxsackievirus A9, Coxsackievirus B1-B6, Echovirus 1-7,9,11-21,24-27,29-33 and enterovirus 69; HEV-C (which includes Coxsackievirus A1,A11,A13,A15,A17-A22 and A24; HEV-D (includes Human Enterovirus 68 and 70. Coxsackie virus A23, Echoviruses 8,10,22,23,28 and Enterovirus 72 have been reclassified. The detection of enterovirus RNA is based upon reverse transcription (RT) of the highly conserved Human Enterovirus specific site called the 5'noncoding region (5'NCR). At MAMC, enterovirus PCR is performed using the TaqMan real-time RT-PCR Method with the LightCycler instrument. The MAMC Enterovirus PCR system was tested against the following 21 enterovirus serotypes: Echovirus 4,6,7,9,11,13,16,30,31, Poliovirus 1,2,3, Coxasckievirus A9,A24,B1,B2,B3,B4,B5 and Enterovirus 70 and 71. All tested were positive for enterovirus. All other tested viruses (nonenteroviruses) were negative with this test. The enterovirus PCR result obtained with this assay should not be used as the sole determineant of diagnosis. A positive or negative RT-PCR results should be considered in conjunction with clinical presentation and additional diagnostic test prior to establishing a diagnosis. This assay and the test's performance characteristics was developed by the Molecular Diagnostics Section, MAMC. This test has not been cleared or approved by the U.S.Food and Drug Administration (FDA). The FDA has determineed that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under Clinical Laboratory Improvements Amedments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

EPINEPHRINE, PLASMA Q

Synonyms:

CHCS IEN: 2139

Test Code: 37560

Components:

Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Plastic Screw-Top Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 4 mL Plasma

Minimum Volume: 2 mL

Instructions

Patient Preparation: Overnight fasting is required. Patient should avoid alcohol, coffee, tea, tobacco and strenuous exercise prior to collection***.*** Patient shoud be relaxed in either a supine or upright position before blood is drawn. States of anxiety and stress can cause fluctuations in the catecholamine levels.

Collection: Routine venipuncture. Draw blood in prechilled Green-top tube***.*** Gently invent tube 8 times to mix blood with additive.

Specimen Processing: Deliver to laboratory immediately***.*** Centrifuge specimen in refrigerated centrifuge 2-8 ºC within 30 mins of collection to separate plasma and then immediately freeze plasma at -20 ºC.

Special Instructions:.

Transport/Storage Temperature: *S*tore and ship frozen at -20 ºC. Specimen stability: 6 hours at room temperature; 6 hours refrigerated; 1 month Frozen.

Rejection Criteria: Received thawed.

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

EPSTEIN-BARR VIRUS ANTIBODY PANEL Q P

Synonyms:

CHCS IEN: 4477

Test Code: 6421

Components:

Epstein Barr Virus Capsid IgG
EBV IGG Signal Strength
Epstein Barr Virus Nuclear gGG
EBV NA IGG Signal Strength

Epstein Barr Viru Capsid IgM
EBV IgM Signal Strength
Interpretation 3:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.6 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **EBV ABS PNL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

EPSTEIN BARR VIRUS DNA, QUANTITATIVE REAL-TIME PCR

Order Note: This test is performed inhouse at MAMC. This assay should only be used for patients with a clinical history and symptoms consistent with EBV infrection. This test should not be used to screen asymptomatic patients as this test may detect low level viral shedding or secretion by asymptomatic individuals.

Synonyms: EPSTEIN-BARR VIRUS PCR, EBV PCR (MAMC ONLY)

CHCS IEN: 6506

Components:

Container (Preferred/Alternate):

Specimen and Volume Required: See Chart Below

Type(s):
Blood/Plasma
Bonchial Alveolar Lavage
Cerebrospinal Fluid
Other Misc (Specify Source)
Pleural Fluid
Swab (Other)
Urine, Random
Volume: See Chart Below
Minimum Volume:

Instructions: See Chart Below

Transport/Storage Temperature: Samples that will take more than 1 hour to transport should be transported refrigerated. Freeze at ≤ -18º C if DNA isolation will be delayed for more than 3 days. All frozen samples should be transported on dry ice and should not be allowed to thaw.

Rejection Criteria: Green-top tube (Heparine) Not acceptable

Admin Notes

Testing Location/Methodology: Microbiolgy Section, MAMC
Order Method: CHCS order entry under: **EPSTEIN BARR VIRUS DNA QL, PCR**; Order Required Data Set: COLLECTION_SITE. Specify specimen source. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine:72 hours
Other: Questions: (253) 968-1753 Microbiolgy Section, MAMC

Interpretive

Reference Range: Caution is required interpreting positive Epstein-Barr virus results. Asymptomatic individuals are known to secrete the virus in saliva and, to a less extent, in plasma. Low level of the virus may not be associated with a disease. However, any level of positive EBV PCR from CSF samples has been associated with EBV disease.
Critical Value:

Clinical Significance: The EBV Real-time PCR targets the BamH and EBNA sequences. This is a qualitative assay. All positive samples will be shipped to a reference laboratory for quantitative assay. This limit of detection by this assay is 400 copies of EBV per mL of sample. This assay was developed by the Molecular Diagnostics section at MAMC. This test has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determineed that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing. Address questions to the Molecular Diagnostics Section, MAMC at (253) 968-1743

Blood, Plasma	***Container:*** Lavendar-top Tube (EDTA) Note: Green-top tube (Heparin) is NOT acceptable ***Volume:*** 3 mL ***Minimum Volume:*** 1 mL Plasma ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Gently invert lavender-top tube 10 times to mix blood with additive. Transport to laboratory immediately. Centrifuge and separate to obtain plasma within 24 hours of drawing.
Bronchoalveolar Lavage	***Container:*** Sterile ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:***
Cerebrospinal Fluid	***Container:*** Sterile ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:***
Other Misc (Specify Source)	***Container:*** Sterile ***Volume:***.0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** ***Specimen Processing:***
Pleural Fluid	***Container:*** Sterile ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** ***Specimen Processing:***
Swab (other)	***Container:*** Submit swab in Viral Transport Medium (VTM) ***Volume:*** Swab ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:***
Urine, Random	***Container:*** Sterile ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:***

EPSTEIN-BARR VIRUS DNA, QUANTITATIVE REAL-TIME PCR Q

Synonyms:
CHCS IEN: 4690
Test Code: 10186
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA) or White-Top Tube (PPT-EDTA)
Specimen and Volume Required
Type(s): Blood/ Whole or Plasma
Volume: 1 mL
Minimum Volume: 0.5 mL whole blood
Instructions
Patient Preparation: None
Collection
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship refrigerated at 2-8 ºC. Specimen stability: 48 hours at room temperature, 8 days refrigerated 2-8 ºC, Whole blood Unacceptable Frozen, Plasma 30 day frozen.
Rejection Criteria: Frozen tissue or blood.
Admin Notes

Testing Location/Methodology: Quest Diagnostics/Direct Sequencing
Order Method: CHCS order entry under: **EPSTEIN-BARR VIRUS DNA** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance

EPSTEIN-BARR VIRUS VIRAL CAPSID ANTIGEN (VCA) ANTIBODY (IGM) Q

Synonyms:
CHCS IEN:
Test Code: 8426
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **EPSTEIN BARR VIRUS CAPSID IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ERYTHROPOIETIN Q

Synonyms:
CHCS IEN: 1902
Test Code: 427
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 60 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **ERYTHROPOIETIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

ERYTHROCYTE SEDIMENTATION RATE (ESR)

Order Note: This test can be combined with **CBC**. Submit an additional Microtainer Tube for pediatric draw, if combining with CBC.

Synonyms: Erythrocyte Sedimentation Rate

CHCS IEN: 287

Components:

Container (Preferred/Alternate): Lavendar-Top Tube (3.5 mL)

Specimen and Volume Required

Type(s): Blood/Whole Blood
Volume: 3 mL (Tube must be filled at least 2/3 of stated volume)
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert lavender-top tube 10 times to mix blood with additive. Test must be done within 4 hours of collection.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature

Rejection Criteria: Clotted, Hemolysis, Quantity not sufficient

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Modified Westergren
Order Method: CHCS order entryunder: **ESR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) (Hematology) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/Child	0	10			mm/hr
12-50 Years	0	15			
>50 Years	0	20			
Female/12-50 Years	0	20			mm/hr
>50 Years	0	30			

Critical Value:
Clinical Significance: Useful in differentiating inflammatory and neoplastic diseases and as a index of disease severity. CRP is also useful in monitoring inflammatory diease states.

ESR *See:* **ERYTHROCYTE SEDIMENTATION RATE (ESR)** in this laboratory test nformation guide

ESTRADIOL
Synonyms: Estrogen
CHCS IEN: 1903
Components:
Container (Preferred/Alternate): Gold-Top Tube/SST (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Allow to clot, centrifuge and separate serum from cells as soon as possible after clotting. Serum should not be allowed to remain in contact with SST gel longer than 24 hours.
Special Instructions: Do not add an estradiol test to an existing barrier gel specimen older than 24 hours. Estradiol binds to barrier gel causing decreased values.
Transport/Storage Temperature: Transport at Room Temperature.
Specimen Stability: Refrigerated: 1 Week; Frozen: 6 Months
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry: **ESTRADIOL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Female/Non-Pregnant					
Mid-Follicular Phase	27	122			PG/mL
Periovulatory	95	433			
Mid-Luteal Phase	49	291			
Post Menopausal (not on hormone therapy)	<20	40			
Male/All	<20	47			PG/mL

Critical Value:
Clinical Significance: Measuring the circulating levels of estradiol is important for assessing the ovarian function and monitoring follicular development for assisted reproduction protocols. Estadiol plays an essential role throughout the human menstrual cycle. Elevated estradiol levels in females may also result from primary or secondary ovarian hyperfunction. Very high estradiol levels are found during the induction of ovulation for assisted reproduction therapy or in pregnancy. Decreased estradiol levels in females may result from either lack of ovarian synthesis (primary ovarian hypofunction and menopause) or a lesion in the hypothalamus-pituitary axis (secondary ovarian hypofunction). Elevated estradiol levels in males may be due to increased aromatization of androgens, resulting in gynecomastia.

ETHANOL/ALCOHOL *See:* **ALCOHOL, MEDICAL** (MAMC,BREM,EVT) in this laboratory test information guide.

ETHOSUXIMIDE (ZARONTIN) Q
Synonyms:
CHCS IEN: 3225
Test Code: 214
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/No additive)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Optimum time to collect sample is 4 hours post oral dose.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:

Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 5 daysat room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.

Rejection Criteria: Gel barrier tubes , Serum Separator Tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diganostics / Immunoassay

Order Method: CHCS order entry under: **ETHOSUXIMIDE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Ethosuximide is an anticonvulsant used to treat patients with petit mal, myoclonic, and akinetic seizures. Therapeutic drug monitoring is useful to optimize dose and avoid toxicity.

ETHYLENE GLYCOL Q

Synonyms:

CHCS IEN: 2139

Test Code: 801

Components:

Container (Preferred/Alternate): 5 mL Grey-Top Tube (Sodium Fluoride)

Specimen and Volume Required

Type(s): Blood/Whole

Volume: 1 mL serum

Minimum Volume: 0.5 mL serum

Instructions

Patient Preparation:

Collection: Routine Venipuncture. Optimum time to collect sample is 4 hours post oral dose.

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately.

Special Instructions:

Transport/Storge Temperature: Ship to Quest at room temperature. Specimen stability: 1 day at room temperature, 5 days refrigerated 2-8 ºC

Rejection Criteria: 3.2% sodium citrate (light blue-top), 3.8% sodium citrate (light blue-top), ACD solution B (yellow-top), SST ® (red-top/glass), SST ® (red-top/plastic)

Admin Notes

Testing Location/Methodology: Quest Diganostics / Gas Chromatography (GC)

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Ethylene glycol (present in antifreeze) may be ingested accidentally or for purpose of suicide. It is relatively non-toxic but metabolizes to toxic oxalic acid and glycolic acids. Toxicity is manifested as neurological abnormalities, severe metabolic acidosis, acute renal failure and cardiopulmonary failure.

EXTRAVASCULAR FLUID DIFF P

Synonyms:

CHCS IEN: 2177

Components:

Neutrophils
Lymphocytes
Monocytes
Eosinophils
Basophils
Macrophages
Mesothelial Cell
Synovial Cells
Bronchial Epithelial Cells
Other NOS
Mononuclear Cells
Polynuclear Cells

Container (Preferred/Alternate): CSF -Sterile Container; Fluids- Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Ascites Fluid
Body Fluid, Other
Bronchoalveolar Lavage
Bursa Fluid
CSF
Cyst Fluid
Dialysate Fluid
Pericardial Fluid
Peritoneal Fluid
Pleural Fluid
Volume:
Minimum Volume: Lab Staff will work with any volume obtained and submitted; will notify requester if volume is QNS
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC / Manual Differiental
Order Method: CHCS order entry: **EXTRAVASCULAR FLUID DIFF**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FACTOR II ASSAY
Synonyms: F II; Factor 2
CHCS IEN: 2003
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.
Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube.
Admin Notes
Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry: **FACTOR II ASSAY**; Include brief clinical history with request. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/Adult	79	131			%

Critical Value:
Clinical Significance: Bleeding disorders may be due to inherited or acquired deficiencies of a clotting factor.

FACTOR IX ASSAY
Synonyms: F IX; Factor 9
CHCS IEN: 2005
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.
Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube
Admin Notes
Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry under: **FACTOR IX ASSAY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief clinical history with request.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	65	150			%

Critical Value:
Clinical Significance: Bleeding disorders may be due to inherited or acquired deficiencies of a clotting factor.

FACTOR V ASSAY
Order Note: This test is for Factor V activity levels. If the intent is to screen for the Factor V (Leiden) Mutation please order the Activated Protein C Resistance Assay (APC-R). *See*: **APC-R (MAMC)** in CHCS
Synonyms:
CHCS IEN: 2006
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.
Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube
Admin Notes
Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry under: **FACTOR V ASSAY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief clinical history with request.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	62	139			%

Critical Value:
Clinical Significance: Bleeding disorders may be due to inherited or acquired deficiencies of a clotting factor.

FACTOR V DNA MUTATION

Order Note: This test is ordered only by Molecular Diagnostic Section personnel. The **APC-R(MAMC)** test should be ordered and performed prior to ordering this test. This test is automatically ordered for all APC-R positive result samples.

Synonyms:

CHCS IEN: 4047

Components:

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 0.5 mL

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture. Do not over or under fill tube, allow to fill by vaccum to at least 2/3 of stated volume on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions: Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport directly to Molecular Diagnostics Section at room temperature when collection done at MAMC. If shipping to MAMC, ship whole blood refrigerated or frozen.

Rejection Criteria*:*

Admin Notes

Testing Location/Methodology: Molecular Diagnostics Section, MAMC
Order Method: CHCS order entry under: **xFACTOR V DNA MUTATION** ; Include brief clinical history with request. Order Required Data Set: FACTOR V (LEIDEN) QUESTIONS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine: up to 14 days
Other: MAMC HCPs: APC-R screen must be ordered first! Factor V DNA Mutation (Leiden) testing should only be performed on patient's with an abnormal APC-R.

Interpretive

Reference Range: **No Factor V Leiden Mutation Detected:** The DNA sequence coding for the normal arginine (ARG, or R) at position 506 was identified in this analysis. The Factor V Leiden mutation (DNA mutation: G1691A; amino acid mutation: ARG 506 to GLN, or R506Q) was not detected. Approximately 90-95% of activated protein C (APC) resistance is due to this mutation. If the patient has reproducible APC resistance, there may be another genetic basis for this abnormality. Other causes of inherited venous thrombosis besides the Factor V Leiden mutation include the prothrombin G20210A mutation and deficiencies in protein C, protein S, and antithrombin. The Method used is a real-time PCR with melting curve analysis. A 222bp fragment of the factor V Leiden gene is amplified from a DNA sample extracted from the patient's blood. Two probes, each coupled with fluorescein or LC Red 620, are used to visualize the accumulation of the PCR product utilizing the fluorescent-resonance-energy-transfer principle. The PCR product is then subjected to melting curve analysis. The melting peak for the normal wild type factor V gene will be at 65 degrees C+/- 2.5 degrees Celsius. If the factor V Leiden gene mutation is present, the melting peak will be at 57 degrees C +/- 2.5 degrees Celsius, a change of 8 degrees C. A heteraozygous sample will exhibit two melting peaks corresponding to both of the wild type peak and the factor V Leiden mutation peak. **Heterozygous Factor V Leiden Identified:** One normal allele and one variant allele coding for the arginine (ARG) 506 to glutamine (GLN) Factor V Leiden mutation were identified in this analysis. Approximately 90-95% of activated protein C (APC) resistance is due to this mutation. APC resistance is one of the most common causes of hereditary thrombophilia (20-50% of cases). The Factor V Leiden mutation is found primarily in caucasoid subpopulations, with a heterozygote (carrier) prevalence of 2-13% The relative risk of thrombosis is thought to be increased 7-fold for carriers of this mutations. **Homozygous Factor V Leiden identified:** The arginine (ARG) 506 to glutamine (GLN) Factor V Leiden mutation was identified on both alleles in this analysis. Approximately 90-95% of activated protein C (APC) resistance is due to this mutation. APC resistance is one of the most common causes of hereditary thrombophilia (20-50% of cases). The relative risk of thrombosis is thought to be increased approximately 80-fold for the Factor V Leiden homozygotes. This assay and the test's performance characteristics, were developed by Roche Diagnostics, Indianapolis, IN, USA. This test has been approved by the U.S. Food and Drug Administration (FDA). This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.
Critical Value:
Clinical Significance: Bleeding disorders may be due to inherited or acquired deficiencies of a clotting factor. This test will be ordered as a follow-up to an abnormal Activated Protein C-Resistance assay to confirm and determinee the genotype of the patient's Factor V with respect to the ARG 506 to Gln mutation, by the Special Hematology section, MAMC.

FACTOR VII ASSAY
Synonyms: F VII; Factor 7
CHCS IEN: 2007
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.
Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube
Admin Notes
Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry under: **FACTOR VII ASSAY** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief clinical history with request.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	50	129			%

Critical Value:
Clinical Significance: Factor VII activity clotting

FACTOR VIII ACTIVITY, CLOTTING Q
Synonyms:
CHCS IEN: 4428
Test Code: 347
Components:
Container (Preferred/Alternate): Three 4.5 mL Light Blue-Top Tubes (3.2% Sodium Citrate)
Specimen and Volume Required
Type(s): Blood/Plasma (Frozen Platelet Poor)
Volume: 6 mL (Three separate 2mL aliquots required)
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Three L. Blue-Top tubes required. Centrifuge light blue-top tubes for 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/mcl). Freeze immediately and ship three 2 mL aliquots on dry ice.
Note: Storage of whole blood at refrigerated temperatures prior to processing may lead to cryoprecipitate formation and falsely low Factor VIII and von Willebrand Factor studies.
Specimen Processing:
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.
Rejection Criteria*:* Hemolysis, Received room temperature, Received refrigerated, Received thawed, QNS (must receive three 2 mL aliquots).
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Clotting
Order Method: CHCS order entry under: **Q VON WILLEBRAND PANEL(NEW)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: This test is useful to evaluate a prolonged aPTT. The most common form of hemophilia is caused by a deficiency of Factor VIII. Hemophilia A is an X-linked disorder affecting between 1 in 5000 to 10000 males.

FACTOR VIII ASSAY

Synonyms: F 8; Factor 8

CHCS IEN: 2008

Components:

Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 4.5 mL

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.

Specimen Processing: Gently invert tube 8 times to mix blood with additive

Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.

Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.

Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.

Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, underfilled tube.

Admin Notes

Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection

Order Method: CHCS order entry under: **FACOTR VIII ASSAY;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief clinical history with request.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	50	150			%

Critical Value:

Clinical Significance: This test is useful to evaluate a prolonged aPTT. The most common form of hemophilia is caused by a deficiency of Factor VIII. Hemophilia A is an X-Linked disorder affecting between 1 in 5000 to 10000 males.

FACTOR X ASSAY

Order Note: This test is for Factor X Activity levels. If the intent is to order the Anti-Factor XA test to monitor Lovenox/enoxaparin levels please order: **HEPARIN LOW MOLECULAR WEIGHT** in CHCS

Synonyms: F 10; Factor 10

CHCS IEN: 2009

Components:

Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 4.5 mL

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.

Specimen Processing: Gently invert tube 8 times to mix blood with additive

Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.

Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.

Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.

Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube

Admin Notes

Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry under: **FACTOR X ASSAY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief clinical history with request.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	77	131			%

Critical Value:
Clinical Significance:

FACTOR XI ASSAY

Synonyms: F 11; Factor 11
CHCS IEN: 1933
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.
Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.

Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube.

Admin Notes

Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection
Order Method: CHCS order entry under: **FACTOR XI ASSAY**; Include brief clinical history with request. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	65	150			%

Critical Value:
Clinical Significance: This test is useful to evaluate a prolonged aPTT. Deficiency of Factor XI is most common among those with Ashkenazi Jewish heritage.

FACTOR XII ASSAY

Synonyms: F 12; Factor 12
CHCS IEN: 1934
Components:
Container (Preferred/Alternate): Light Blue-Top Tubes (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive
Special Instructions: If testing is delayed, separate plasma and quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C if shipping to MAMC and/or if testing will be delayed.

Specimen Stability: Room Temperature: Unacceptable, Refrigerated: Unacceptable, Frozen: 14 days at -20 °C, 1 Year at -70 °C.

Rejection Criteria*:* Hemolysis, Received thawed after freezing. Sample not frozen and over 4 hours old. Clotted, Unfilled tube**Admin Notes**

Testing Location/Methodology: Coagulation Section, MAMC / Photometric Clot Detection

Order Method: CHCS order entry under: **Factor XII Assay**; Include brief clinical history with request. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine: 8 days (Batched tested). Please call if urgent testing is required.

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ Adult	65	150			%

Critical Value:

Clinical Significance:

FACTOR XIII FUNCTION Q

Synonyms:

CHCS IEN: 2139

Test Code: 14461

Components:

Container (Preferred/Alternate): 5 mL Light Blue-Top Tube (3.2% Sodium Citrate)

Specimen and Volume Required

Type(s): Blood/Plasma (Frozen Platelet Poor)

Volume: 1 mL

Minimum Volume: 0.3 mL

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Centrifuge light blue-top tube for 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Plasma must be free of platelets (<10, 000/mcl). Freeze immediately and ship on dry ice. Note oral anticoagulant therapy.

Specimen Processing:

Special Instructions: Quick Freeze at -70 °C. Preform PT, PTT testing prior to freezing plasma. Include brief clinical history on patient with request form.

Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Quick Freeze plasma at -70 °C.

Specimen Stability: 24 hours at room temperature, 24 hours Refrigerated at 2-8 C, 14 day frozen.

Rejection Criteria*:* Room temperature, Received refrigerated, Received thawed

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Clotting

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Low Factor XIII levels, i.e., <15%, may cause a bleeding disorder and levels <2% have been associated with spontaneous introcranial hemorrhage

FASTING GLUCOSE

Order Note: Please order as "STAT" priority when ordering this test is part of the 3 Hour GTT procedure.

Synonyms: GTT Fasting; FBS

CHCS IEN: 1306

Components:

Container (Preferred/Alternate):

Preferred: Gray-Top Tube (Sodium Fluoride/Potassiumoxalate)

Alternate: Gold-Top Tube (Clot Activator and Gel for Serum Separation)

Specimen and Volume Required

Type(s): Blood/Plasma; Blood/Serum

Volume: 6 mL

Minimum volume:

Instructions

Patient Preparation: Fasting is required. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.
Collection: First specimen obtained fasting. Second specimen collected 2 hours following a meal. Label each specimen with specific draw time. Draw blood using routine venipuncture procedures. Label specimen with specific draw time.
Specimen Processing: Gently invert tube 8 times to mix additive. Tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature / Store plasma refrigerated at 2-8 °C.

Rejection Criteria: Anticoagulants other than lithium heparin, sodium heparin or fluoride/oxalate.

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry: **FASTING GLUCOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Malel/All	75	110	45	450	mg/dL
Female/All	65	105	45	450	

Critical Value: <45 mg/dL, >450 mg/dL; Neonate: <30, >300 mg/dL
Clinical Significance: Plasma glucose levels may be abnormally high (hyperglycemia) or abnormally low (hypoglycemia). Glucose measurements are used in the diagnosis and treatment of carbohydrate metabolic disorders including diabetes mellitus, idiopathic hypoglycemia, and pancreatic islet cell neoplasm.

FAT-URINE/BODY FLUID

Synonyms:
CHCS IEN: 2213
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap

Specimen and Volume Required

Type(s):
Urine, Random
Body Fluids
Volume: 10 mL
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Single, clean voided specimen. See appropriate clinical procedures for Body Fluid type being collected.
Specimen Processing: Deliver to laboratory within 1 hour of specimen collection
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature***.***

Rejection Criteria

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Microscopic Examination – fat droplets under polarized light with Sudan III stain.
Order Method: CHCS order entry: **FAT-URINE/BODY FLUID**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Specify specimen source on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

FECAL FAT QUALITATIVE

Synonyms:
CHCS IEN: 1293
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap (without preservatives)

Specimen and Volume Required

Type(s): Stool, Raw (unpreserved)
Volume: 5 grams
Minimum Volume:

Instructions

Patient Preparation: Patient must be on high fat diet. No suppository or mineral oil before sample collection.
Collection: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions for All Stool Specimens in the appendices of the Directory of Services, Testing and Specimen Submission.
Specimen Processing: Deliver to laboratory within 1 hour of specimen collection.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature. Specimen Stability: 2 days Refrigerated.

Rejection Criteria*:* Specimens in transport media or on swabs

Admin Notes

Testing Location/Methodology: Parasitology Section, MAMC / Microscopic Examination of Sudan-Stained Smear
Order Method: CHCS order entry under: **FECAL FAT QUALITATIVE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Results may indicate malabsorption or maldigestion. False positive results can occur due to mineral oil or castor oil present in the specimen. Large number of neutral fat globules may indicate steatorrhea***.***

FECAL FAT, TOTAL, QUANTITATIVE Q P

Synonyms:
CHCS IEN: 6190
Test Code: 455
Components:
Fecal Fat, QN
Collection Duration
Specimen Weight

Container (Preferred/Alternate): Sterile Container with Screw-Top Cap (without preservatives)

Specimen and Volume Required

Type(s): Stool, Raw (unpreserved)
Volume: 5 grams of feces from a timed (24,48,72 hours) stool collection.
Minimum Volume: 3 grams
Instructions
Patient Preparation: Patient should be on a diet including 100 grams of fat per day. No suppository or mineral oil before sample collection.
Collection: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions for All Stool Specimens in the appendices of this manual. Stool should be collected in a plastic container with tight lid, and refrigerated during collection. 20g of feces from a timed (24, 48, or 72 hour) stool collection. Record total specimen weight and total collection time on the test requisition and container. Seal container in a plastic bag to avoid leakage and ship frozen. Send the entire collection sample-use a 1 gallon, plastic leak-proof container with screw cap. Sending an aliquot sample-use a yellow cap, 120 mL specimen container. Submit a well-mixed timed stool collection. Record total collection time (24, 48, or 72 hours) and weight on test requisition. If entire collection is sent to the lab, the lab will weigh the sample. If an aliquot is sent, please enter the total collected weight of stool on test requisition. Keep refrigerated during collection. Do not submit specimen in metal paint cans, as processing poses a safety hazard**.** Specimens received in paint cans will be rejected. Do not thaw.
Specimen Processing: Deliver to laboratory within 1 hour of specimen collection.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 4 days at room temperature, 6 days refrigerated at 2-8C, 2 weeks frozen.

Rejection Criteria*:*

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Nuclear Magnetic Resonance (NMR)
Order Method: CHCS order entry under: **Q FECAL LIPIDS, QUANTITATIVE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

FECAL LEUKOCYTES (MAMC ONLY)

Synonyms: Fecal WBCS
CHCS IEN: 4396

Components:
Container (Preferred/Alternate): Sterile Container (Rigid) with Screw-Top Cap
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 grams
Minimum Volume: 1 gram
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions for All Stool Specimens in the appendices of this manual. Rectal swabs are not accepted.
Specimen Processing: Deliver to laboratory within 2 hours of collection. Feces submitted in Enteric Transport Media is acceptable for testing.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature or Refrigerated. Do Not Freeze Specimen.
Rejection Criteria: Received Frozen; Rectal swabs are not accepted.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Latex Agglutination Method
Order Method: CHCS order entry under: **FECAL LEUKOCYTES (MAMC ONLY)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Positive result indicates the presence of fecal leukocytes.
Critical Value:
Clinical Significance: The presence of leukocytes is an indicator of inflammation. Generally, inflammation is a product of bacteria-host interaction.

FELBAMATE (FELBATOL) Q
Synonyms:
CHCS IEN: 2139
Test Code: 3081
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/No additive); Plastic Screw-Top Cap
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation: Optimum time to collect sample is 1 hour before the next does.
Collection: Routine Venipuncture. Optimum time to collect sample is 4 hours post oral dose.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 72 hours at room temperature, 5 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gel barrier tubes , Serum Separator Tube (SST ®)
Admin Notes
Testing Location/Methodology: Quest Diganostics / Immunoassay
Order Method: Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FERRITIN
Synonyms:
CHCS IEN: 113
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature
Rejection Criteria*:* Gross Hemolysis, Plasma
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entryunder: **FERRITIN** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine***,*** Routine: 8 hours
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/All	23.9	336.2			ng/mL
Female/All	11	306.8			ng/mL

Critical Value: Iron overload >382 ng/mL
Clinical Significance: Useful in the diagnosis of hypochromic, microcytic anemias. Decreased in iron deficiency anemia and increased in iron overload.

FETAL BLEED SCREEN *See:* **FETAL CELL SCREEN** *in this laboratory test information guide.*

FETAL CELL SCREEN
Synonyms: Fetal Bleed Screen, Fetal Screen
CHCS IEN: 3003
Components:
Container (Preferred/Alternate):
Prefeered: Pink-Top Tube (K_2EDTA)
Alternate: Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Draw after delivery of infant and preferably within 24 hours.
Specimen Processing: Deliver to laboratory immedately
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Transfusion Service, MAMC / Erythrocyte Rosette Test
Order Method: CHCS order entry under: **FETAL CELL SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: The absence of agglutinated cells (or the presence of fewer than one clump per three low power fields) constitutes a negative test result, and indicates that a large feto-maternal hemorrhage of D-positive cells did not occur. The appearance of rosettes or mixed-field agglutinates indicates the presence of D positive Cells.
Critical Value:
Clinical Significance: In some cases larger than usual volume of fetal red blood cells may enter the maternal circulation, compromising the ability of the antibody present in a single dose of Rh Immune Globulin (RHIG) to prevent Rh immunization. The Rosette test is a qualitative procedure for the detection of D Positive fetal blood cells in the maternal circulation. In most cases, the amount of feto-maternal hemorrhage is not enough to give a positive result, but if a significant bleed does occur the test alerts the tech that a quantitative test (Kleihauer-Betke) needs to be run to determinee if more than one vial of RHIG is required.

FETAL FIBRONECTIN

Synonyms: fFN; FFN
CHCS IEN: 5034
Components:
Container (Preferred/Alternate): Adeza Test Kit
Specimen and Volume Required
Type(s): Vaginal
Volume:
Minimum Volume:
Instructions
Patient Preparation: Patients with suspected or known placental abruption, placenta previa, or moderate or gross vaginal bleeding should not be tested for fFN***.*** See appropriate clinical procedures for procedure being performed
Collection: See appropriate clinical procedures for procedure being performed. Specimen must be collected in the Adeza Biomedical Specimen Collection Kit. Samples should be collected from the posterior fornix of the vagina or the ectocervical region of the external cervical os. Samples from other locations are not acceptable. Care must be taken not to contaminate the swab or cervicovaginal secretions with lubricants, soaps, disinfectants, or creams e.g., K-Y Jelly lubricant, Betadine disinfectant, Monistat cream, hexachlorophene. These substances may interfere with absorption of the specimen by the swab or with the antibody-antigen reation of the Rapid fFN test. Specimens should not be collected less than 24 hours after intercourse. However, even when a patient reports having had intercourse in the previous 24 hours, a negative fetal fibronectin test result is valid. Manipulation of the cervix may lead to false positive results. Specimens should be obtained prior to digital examination or manipulation of the cervix.
Specimen Processing: Specimens not tested within 8 hours of collection must be refrigerated and assayed within 3 days of collection otherwise they must be frozen. For samples that are to be tested within 8 hours, do not refrigerate.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature to laboratory immediately after collection (if to be tested within 8 hours after collection). Specimens not tested within 8 hours of collection must be refrigerated and assayed within 3 days of collection otherwise they must be frozen. Do Not Refrigerate samples that are to be tested within 8 hours.
Rejection Criteria: Samples collected in any device other than Adeza Biomedical Collection Kit will be rejected; Samples collected from locations other than the posterior fornix of the vagina or the ectocervical region of the external cervical os.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Rapid fFN Kit
Order Method: CHCS order entry under: **FETAL FIBRONECTIN** *;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 4 to 24 hours. This test when ordered as ASAP takes approximately 25 minutes to complete once started. This test is not available as STAT.
Other: Assay interference from the following components has not been ruled out: douches, white cells, red blood cells, bacteria and bilirubin. Manipulation of the cervix may lead to false positive results.
For Collection and test information contact Chemistry Supervisor or Chemistry Medical Director at: 968-1945. Assay interference from semen has not been ruled out.
Interpretive
Reference Range Negative: The result is negative if the value derived from the patient sample is less than the reference calibration value specified by the calibration code. Invalid: The results is invalid if the test does not meet internal quality controls.***:*** Positive: The Result is positive if the value derived from the patient sample is greater than or equal to the reference calibration value specified by the calibration code.
Critical Value:
Clinical Significance: Fetal fibronectin is a protein that performs two roles during pregnancy. It is produced by the placenta and acts as the glue that attaches the placeta to the uterine wall. In late pregnancy, it acts as a lubricant, aiding in the passage of the newborn through the vaginal canal. Amniotic fluid contains fetal fibronectin and when the membranes leak, fetal fibronectin can be detected in cervicovaginal collection. This can be used as a predictor of pre-term delivery, defined as less than 37 weeks gestation. The Rapid fFN result should not be interpreted as absolute evidence for the presence or absence of a process that will result in delivery in less than or equal to 7 to 14 days from specimen collection in symptomatic women or delivery in less than or equal to 34 weeks, 6 days in asymptomatic women evaluated between 22 weeks, 0 days and 30 weeks, 6 days of gestation. A positive fFN result may be observed for patients who have experienced cervical disruption caused by, but not limited to events such as sexual intercourse, digital cervical examination, or vaginal probe ultrasound. The Rapid fFN result should always be used in conjunction with information available from the clinical evaluation of the patient and other diagnostic procedures such as cervical examination, cervical microbiological culture, assessment of uterine activity, and evaluation of other risk factors. The presence of infections has not been ruled out as a confounding factor to risk of preterm delivery.

FETAL HEMOGLOBIN Q
Synonyms:
CHCS IEN: 2139
Test Code: 513
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA). Submit two tubes if a CBC is also requested.

Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Do not over or under fill tube, allow to fill by vaccum to at least 2/3 of stated volume on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions: Include brief clinical history on patient with request form. Transport directly to Molecular Diagnostics Section at room temperature when collection done at MAMC.
Transport/Storage Temperature: Transport to Laboratory at Room Temperature. Specimen Stability: 2 days at room temperature, 2 day refrigerated 2-8 C.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other:
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Fetal hemoglobin is increased in sickle cell anemia, leukemias, beta-thalassemia and hereditary persistence of fetal hemoglobin. The production of fetal hemoglobin may be triggered as a response to sickle crisis.

FETAL LUNG MATURITY TEST P

Order Note: This test a MAMC "in-house" test for the quantitative measurement of the ratio of surfactant to albumin. Please do not select this test for ordering LS/PG Ratio. Order: **MISCELLANEOUS SHIPPING** in CHCS and type LS/PG in the order comment, if LS/PG Ratio send-out test is desired.
Synonyms: FLM; Surfactant/Albumin Ratio
CHCS IEN: 2704
Components:
Fetal Lung Maturity Test
CSF/AF Supernatant Appearance
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Amniotic Fluid
Volume: 0.5 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: Deliver to laboratory immediately. **Do Not** centrifuge specimen***.***
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature to laboratory immediately. Refrigerate if testing is delayed.
Rejection Criteria: Hemolysis, Meconium contamination
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Abbott TDx/FLx (Fluorescence Polarization Assay)
Order Method: CHCS order entry: **FETAL LUNG MATURITY TEST**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Blood or meconium contamination interferes with this test. Results may be variable. Contamination with blood significantly increases the surfactant/albumin ratio of "immature" and "intermediate" samples. Serum often decreases the surfactant/albumin ratio in "mature" samples. Effects of meconium are less predictable.
Interpretive
Reference Range: Immature: <39 mg/g High risk for Respiratory Distress Syndrome;Transitional: 40-54 mg/g Grey zone clinical correlation required; Mature: >55 mg/g Low risk for Respiratory Distress Syndrome.
Critical Value:
Clinical Significance: Test used for accessing fetal pulmonary maturity; evaluating risks for Respiratory Distress Syndrome (RDS) in infants requiring premature delivery.

FFP: FRESH FROZEN PLASMA *See*: **TYPE AND CROSS (MAMC ONLY)** in this laboratory information guide.

FIBRINOGEN
Synonyms: Factor 1
CHCS IEN: 35
Components:
Container (Preferred/Alternate): Lt. Blue-Top Tube (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture. Do not overfill or underfill tube. If multiple tests are being drawn, draw fibrinogen tube first.
Specimen Processing: Gently invert tube 8 times to mix blood with additive. Deliver to laboratory immediately. Separate plasma from cells and freeze plasma if test is not run within one hour.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Freeze plasma if testing is to be delayed for more than 8 hours.
Specimen Stability: Frozen: 1 month
Rejection Criteria*:* Hemolysis, Clotted, underfilled tube.
Admin Notes
Testing Location/Methodology: Coagulation Section, MAMC / Latex Agglutination
Order Method: CHCS order entry under: **FIBRINOGEN** ; If patient is receiving anticoagulant therapy, specify the type on the test request form and in the CHCS under order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/Adult	182	436	100		mg/dL

Critical Value:
Clinical Significance: Identification of congenital afibrinogenemia, Disseminated Intravascular Coagulation, and fibrinolytic activity. Interpretations of results may be limited if patient is receiving a Direct Thrombin inhibitor Anticoagulant therapy. Increased in patients on oral contraceptives.

FIRE ANT (I70) Q P
Synonyms: Quest Name: IMPORTED FIRE ANT (I70) IGE
CHCS IEN: 6381
Test Code: 2739
Components:
Fire Ant IgE KU/L
Fire Ant IgE
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **FIRE ANT IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

FISH ALL, +4,+1-,+17 Q

Synonyms:
CHCS IEN: 2139
Test Code: 19856
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required

Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

FISH, ALL, EXTENDED PANEL Q P

Synonyms:
CHCS IEN: 2139
Test Code: 40050
Components: 11q (MLL), 4,10,17, 8q (MYC), 14q (IGH), t(9;22), t(12;21), 19p (E2A), 9p (CDKN2A)
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required

Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Critical Value:
Clinical Significance:

FISH, ALL PRE-B PANEL Q P
Synonyms:
CHCS IEN: 2139
Test Code: 40052
Components: 11q (MLL), 4,10,17, t(9;22), t(12;21)
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FISH, ALL ,TEL/AML 1 Q
Synonyms:
CHCS IEN: 2139
Test Code: 14618
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Rule out pediatric acute lymphoblastic leukemia (ALL). Most frequently missed abnormality in pediatric ALL.

FISH, AML,CBFB/MYH11 INVERSION 16 Q

Synonyms:
CHCS IEN: 2139
Test Code: 10635
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: The Fluorescence in situ Hybridzation, (FISH) test can be used to detect inversion, inv (16) (p13; Q22), translocation, t (16; 16) (p13; Q22) and deletion of 16q22 in acute myeloid leukemia of FAB M4 Eo subtype. The FISH test can be used on interphases and metaphases to diagnose and monitor leukemia. The FISH detection of chromosome 16 rearrangements conveys a favorable prognosis and determinees the risk-adapted treatment.

FISH AML1/ETO TRANSLOCATION S;21 Q

Synonyms:
CHCS IEN: 2139
Test Code: 10106
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: The (8: 21) translocation is the most frequently observed karyotypic abnormality associated with

Acute Myeloid Leukemia (AML), subtype M2. Patients with this type of aml have a high remission rate with conventional chemotherapy.

FISH AML1/ETO TRANSLOCATION 9;22

Synonyms:
CHCS IEN: 2139
Test Code: 12070
Components
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: CML, Chronic Myelogenous Leukemia (CML) Blast Crisis, ALL

FISH, AMLM3, PML/RARA TRANSLOCATION 15,17

Synonyms:
CHCS IEN: 2139
Test Code: 14617
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Bone Marrow or Blood/Whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FISH, BURKITT Q
Synonyms:
CHCS IEN: 2139
Test Code: 17352
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Transport media available upon request.
Specimen and Volume Required
Type(s):
Bone Marrow
Blood/Whole
Lymph Node Biopsy
Volume: 3 mL bone marrow or 5 mL whole blood or Lymph node biopsy 5x5 mm or formalin-fixed paraffin embedded tissue.
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The translocation t (8; 14) (q24. 1; 14q32) is assayed by Fluorescense *in situ* Hubridization (FISH) with probes from the regions c-Myc (8q24. 1) and IgH (14q32). This assay is useful to diagnose Burkitt's type lymphoma and some cases of acute lymphoblastic leukemia.

FISH, C-CELL CLL PANEL Q
Synonyms:
CHCS IEN: 2139
Test Code: 16864
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)
Transport media available upon request.
Specimen and Volume Required
Type(s):
Bone Marrow
Blood/Whole
Lymph Node Biopsy
Volume: 3 mL bone marrow or 5 mL whole blood or Lymph node biopsy 5x5 mm or formalin-fixed paraffin embedded tissue.
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommended, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:"

when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: This FISH assay uses selected markers for regions of chromosomes 6, 11, 12, 13, and 17 that are useful for prognostic assessment in patients diagnosed with B-cell chronic lymphocytic leukemia (B-CLL).

FISH, HER-2/NEU Q

Synonyms:
CHCS IEN: 2139
Test Code: 14620
Components:
Container (Preferred/Alternate): Paraffin block bag

Specimen and Volume Required
Type(s):
Formalin fixed paraffin embedded tissue.
Invasive or metastatic breast cancer formalin fixed paraffin embedded tissue
or slides from formalin fixed paraffin embedded tissue.
Volume:
Minimum volume:

Instructions
Patient Preparation:
Collection: Specimen must be fixed in 10% neutral buffered formalin. Fixation between 6 and 48 hours is recommended. Pathology report must accompany paraffin block or slides. Information required in this report includes: Physician identification, specimen identifiers (case and block number), specimen site and type, tissue processing used (routine or microwave), type of fixative, time and duration of fixation, pathologic diagnosis, and IHC score, if performed elsewhere. Ship at room temperature. Do not freeze. HER2 testing will not be performed on non-invasive tumors.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: HER-2 oncogene amplification in stage 2 lymph node positive breast cancer which aids in treatment selection and prognostication.

FISH MANTLE CELL LYMPHOMA, IGH/CCND1, t(11;14) Q

Synonyms:
CHCS IEN: 2139
Test Code: 17346
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin) or Formalin-Fixed, Paraffin embedded Tissue

Specimen and Volume Required
Type(s):
Bone Marrow
Blood/Whole
Formalin-Fixed, Paraffin Embedded Tissue
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.

Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: 2 days, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Translocation t (11; 14) (q32; Q21. 3) is assayed by FISH with probes from BCL1 (11q13) and IgH (14q32). This assay is useful to diagnose Mantle cell lymphoma and some cases of multiple myeloma.

FISH, IGH/BCL T14,18

Synonyms:
CHCS IEN: 2139
Test Code: 17347
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin) or Formalin-fixed, Paraffin Embedded Tissue.

Specimen and Volume Required

Type(s):
Bone Marrow
Blood/Whole
Formalin-Fixed, Paraffin Embedded Tissue
Fresh (Unfixed) Tissue)
Volume: 3 mL bone marrow or 10 mL whole blood
Minimum volume: 1 mL Bone Marrow or 3 mL whole blood

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: 2 days, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determinee viability.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Translocation t (14; 18) (q32; Q21. 3) is assayed by FISH with probes from the regions IgH (14q32) and BCL2 (18q21. 3). This assay is useful to diagnose follicular lymphoma (> 75%) and diffuse large cell lymphomas (25%).

FISH, MULTIPLE MYELOMA,13 q-17p-,rea 14q32

Synonyms:
CHCS IEN: 2139
Test Code: 16077
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required

Type(s): Bone Marrow

Volume: 3 mL bone marrow
Minimum volume: 1 mL Bone Marrow

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection. Bone marrow is the preferred specimen. For bone marrow sample, please submit 1-3 mL in transport media (preferred) or bone marrow in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. In rare cases of plasma cell leukemia, peripheral blood, typically with greater than 20% plasma cells, is an acceptable specimen. For blood sample, please submit 3-5 mL in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. Ship at room temperature. Do not freeze. Specimen viability decreases during transit. Send specimen to testing lab for viability determineation.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determinee viability.

Rejection Criteria: Do not reject.

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Multiple Myeloma (MM) is characterized by the proliferation of malignant monoclonal plasma cells in the bone marrow. In most cases, there is low proliferation index of terminally different malignant plasma cells. As a result, conventional cytogenetic analysis frequently yields normal results. The most frequent abnormalities with prognostic association have been included in this panel (13q-, 14q rearrangements and 17p-). Interphase FISH studies can enhance the detection rate and complement conventional cytogenetic techniques.

FISH, MULTIPLE MYELOMA CHROMOSOMES 5,9,15 Q

Synonyms:
CHCS IEN: 2139
Test Code: 19619
Components:
Container (Preferred/Alternate): Bone Marrow in Transport Media or Whole Blood in Green-Top Tube (Sodium Heparin)

Specimen and Volume Required

Type(s): Bone Marrow
Volume: 3 mL bone marrow
Minimum volume: 1 mL Bone Marrow

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection. Bone marrow is the preferred specimen. For bone marrow sample, please submit 1-3 mL in transport media (preferred) or bone marrow in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. In rare cases of plasma cell leukemia, peripheral blood, typically with greater than 20% plasma cells, is an acceptable specimen. For blood sample, please submit 3-5 mL in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. Ship at room temperature. Do not freeze. Specimen viability decreases during transit. Send specimen to testing lab for viability determineation.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determinee viability.

Rejection Criteria: Do not reject.

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

FISH, MYELOID LYMPHOID LEUKEMIA (Hq23), GENE REARRANGEMENT Q

Synonyms:
CHCS IEN: 2139
Test Code: 36055
Components:
Container (Preferred/Alternate): Bone Marrow in Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Bone Marrow
Volume: 3 mL bone marrow
Minimum volume: 1 mL Bone Marrow
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection. Bone marrow is the preferred specimen. For bone marrow sample, please submit 1-3 mL in transport media (preferred) or bone marrow in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. In rare cases of plasma cell leukemia, peripheral blood, typically with greater than 20% plasma cells, is an acceptable specimen. For blood sample, please submit 3-5 mL in sodium heparin (green-top, dark/royal blue-top or tan-top) tube. Ship at room temperature. Do not freeze. Specimen viability decreases during transit. Send specimen to testing lab for viability determineation.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Specimen viability decreases during transit. Send specimen to Quest to determinee viability.
Rejection Criteria: Do not reject.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FISH, N-MYC AMPLIFICATION, NEUROBLASTOMA Q

Synonyms:
CHCS IEN: 2139
Test Code: 14621
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s):
Bone Marrow
Tumor Biopsy
Embedded Malignant Tissue
Volume: 3 mL bone marrow or 1mm Tissue
Minimum volume: 1 mL Bone Marrow
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: 2 days, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determinee viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FISH, X/Y POST, BMT Q
Synonyms:
CHCS IEN: 2139
Test Code: 14619
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin);
Specimen and Volume Required
Type(s):
Bone Marrow
Blood/whole
Volume: 3 mL bone marrow or 5 mL whole blood
Minimum volume: 1 mL Bone Marrow
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for Bone Marrow collection.
Specimen Processing: Do Not Freeze specimen.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Room temperature: 2 days Refrigerated: Not recommed, Frozen: Unacceptable. Specimen viability decreases during transit. Send specimen to Quest to determine viability.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorescence *in situ* hybridization (FISH)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FK 506 UW
Synonyms: Prograf; Tacrolimus
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 volume stated on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after collection. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Transport/Store and ship at Refrigerated Temperature.
Rejection Criteria: Clotted specimen; Hemolysis, Quantity Not Sufficent.
Admin Notes
Testing Location/Methodology: Testing done at University of Washington
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance:

FLIGHT PHYSICAL-CHEMISTRY
Synonyms:
CHCS IEN: 2842
Components:
Cholesterol
HDL Cholesterol
Triglyceride
HDL/Cholesterol Total
LDL Cholesterol
Glucose
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently mix tube 5 times to mix blood with additive. Deliver to laboratory.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature. Store Refrigerated at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **FLIGHT PHYSICAL-CHEMISTRY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

FLOW CYTOMETRY
Synonyms:
CHCS IEN: 3905
Components:
CD45
CD14
CD2
CD38
CD7
CD4
CD8
CD56
CD20
CD3
HLA-DR
CD5
CD19
CD10
CD25
CD23
CD22
CD13
CD33
CD34
CD15
CD11b
CD41
FMC-7

CD16
CD57
CD11c
TDT
CD79a
CD71
CD61
CD103
CD117
CD138
CD64
CD 123
IgM
MPO
7-AAD
Kappa Light Chains (Flow Cyt)
Lambda Light Chains (Flow Cyt)
Interpretation
Interpreted by (Flow Cyt)
Supervised by (flow Cyt)

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) (3.5mL)

Specimen and Volume Required

Type(s):
Blood/Whole
Bone Marrow
Peritoneal Fluid
Pleural Fuid
Body Fluid/Other
Volume: 3 mL
Minimum Volume: 1 mL for Fluids

Instructions

Patient Preparation: None; See appropriate clinical procedures for procedure being performed.
Collection: Blood- Routine Venipuncture, allowing tube to fill by vacuum to at least 2/3 of stated volume on tube; See appropriate clinical procedures for procedure being performed.
Specimen Processing: Gently invert tube 10 times to mix blood with additive**.** Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria*:* Clotted Specimen

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Beckman Coulter Flow Cytometer
Order Method: CHCS order entry under: **FLOW CYTOMETRY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: 4 to 24 hours; 7 days for Fluids

Interpretive

Reference Range: Lymph Subsets
Critical Value:
Clinical Significance: Various malignancy states

FLT3 MUTATIONS ITD Q

Synonyms:
CHCS IEN: 2139
Test Code: 14998
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (K_2EDTA); Sterile Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/whole
Volume: 5 mL
Minimum Volume: 1 mL

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture.
Specimen Processing: Deliver to laboratory at Room Temperature immediately after collection.
Special Instructions:
Transport/Storage Temperature: Do Not Centrifuge. Ship refrigerated 2-8 ºC. Frozen cells are acceptable. Specimen

Stability: 1 week at room temperature, 2 weeks refrigerated and 6 years Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics /

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine

Other:

Interpretive

Reference Range:

Critical Value:

Clinical Significance:: Quest Diagnostics

FLUNITRAZEPAMM AND METABOLITES SCREEN

Order Note: Not for Legal Purposes. Medical use only.

Synonyms: Rohypnol

CHCS IEN: 2139

Test Code: 37596

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume: 1 mL Serum

Instructions

Patient Preparation:

Collection: Routine Venipuncture.

Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Promptly centrifuge and separate serum from cells.

Special Instructions:

Transport/Storage Temperature: : Deliver to laboratory at Room Temperature. Store serum refrigerated. Ships to Quest refrigerated at 2-8 ºC on ice packs. Specimen stablility: 2 day room temperature, 14 days refrigerated, 90 frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics /

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Other:

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

FLUORIDE

Synonyms:

CHCS IEN: 3013

Test Code: 37402

Components:

Container (Preferred/Alternate): Plastic Screw-Top Cap Vial

Specimen and Volume Required

Type(s): Urine

Volume: 20 mL

Minimum Volume: 5 mL

Instructions

Patient Preparation:

Collection: Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of Directory of Services, Testing and Specimen Submission. Single, clean, first morning voided specimen

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: : Deliver to laboratory at Room Temperature. Ship at room temperature or refrigerated

at 2-8 ºC. Specimen Stablility: 3 days at room temperature; 3 days refrigerated at 2-8 C, 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **Q URINE FLUORIDE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Other:

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

FOLATE

Synonyms: Folic Acid

CHCS IEN: 4602

Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.

Collection: Routine Venipuncture. Do not draw above intravenous infusion

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: : Deliver to laboratory at Room Temperature. Store serum refrigerated.

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800

Order Method: CHCS order entry: **FOLATE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Notify and Routine, Routine: 4 to 24 hours

Other: This test may only be order by MAMC Urology Service or other non-MAMC health care providers.

Interpretive

Reference Range: Normal >3.0ng/mL; Indetermineate 2.5 to 3.0 ng/mL; Deficient <2.5 ng/mL

Critical Value:

Clinical Significance: Folic Acid deficiency is common in pregnant women, alcoholics, in patients whose diets do not include raw fruits and vegetables, and in people with structural damage to the small intestine. The most reliable and direct Method of diagnosing folate deficiency is the dtermination of folate levels in both erythrocytes and serum. Low folic acid levels, however, can also be the result of a primar vitamin B12 deficiency that decreases the ability of cells to take up folic acid.

FOLATE, RBC Q

Synonyms:

CHCS IEN: 2030

Test Code: 467

Components:

Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/whole

Volume: 3 mL

Minimum Volume: 0.2 mL

Instructions

Patient Preparation: None.

Collection: Routine Venipuncture.

Specimen Processing: Deliver to laboratory at Room Temperature immediately after collection. Both the HCT and Folate will be performed on this tube. Do not refrigerate as this will affect the HCT. If specimen can not arrive at Quest within 48 hours, a HCT should be provided to Quest.

Special Instructions:

Transport/Storage Temperature: Specimen Stability: Folate**:** 72 hours at Room temperature,72 hours Refrigerated at 2-8 ºC, 30 days Frozen. Hematocrit: 48 hours at Room temperature, Unacceptable Refrigerated or Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics

Order Method: CHCS order entry under: **FOLATE RBC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

FOLLICLE STIMULATING HORMONE *See:* **LH/FSH PANEL** in this laboratory test information guide.

FRAGILE X G

Synonyms:

CHCS IEN: 2139

Components:

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/whole

Volume: 3 mL

Minimum Volume:

Instructions

Patient Preparation: None.

Collection: Routine Venipuncture.

Specimen Processing: Deliver to laboratory at Room Temperature immediately after collection.

Special Instructions:

Transport/Storage Temperature: Do Not Centrifuge. Ship refrigerated.

Rejection Criteria: Gross Hemolysis, Gross lipemia, Grossly icteric.

Admin Notes

Testing Location/Methodology: Genzyme Genetics

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine: 8 to 12 days after receiving at Genzymes Genetics.

Other: Please note: Call a laboratory genetic coordinator prior to obtaining any specimens. Prenatal testing is recommended only for women who are carriers with identified mutations. In some circumstances, specimens from other family members may be required. All prenatal specimens (including cord blood) must be accompanied by a maternal blood specimen for analysis of possible maternal cell contamination.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Fragile X syndrome is the leading cause of inherited mental retardation, affecting approximately 1 in 4,000 males and 1 in 8,000 females. Women may decide to have testing to find out if they are carriers, and therefore are at risk of having a child with Fragile X syndrome. The carrier frequency in women is approximately 1 in 260. Carrier testing may be done before or during pregnancy. If a woman is found to be a carrier, prenatal diagnosis by amniocentesis is available. Additionally, indications for fragile X testing include: Individuals with undiagnosed mental retardation, developmental delay or autism; carrier testing for women with infertility problems associated with elevated follicle stimulating hormone (FSH) levels; premature ovarian insufficiency (POI) or unexplained early menopause; and men and women with late onset intention tremor and cerebellar ataxia of unknown origin. Genzyme Genetics fragile X testing includes both PCR and Southern blot analysis to provide the most accurate results.

FRAGILE X SYNDROME PCR O

Synonyms: Fragile X PCR, Frag X, Keesler

CHCS IEN: 6484

Components:

Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.

Specimen and Volume Required

Type(s):

Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.

Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.

Admin Notes

Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **FRAGILE X SYNDROME PCR .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

FREE PSA PANEL P

Order Note: This is the Free PSA panel. For the single test: Prostate Specific Antigen, See: **PROSTATIC SPECIFIC ANTIGEN TOT** in this laboratory test information guide.

Synonyms: Free PSA Panel

CHCS IEN: 6342

Components:

Prostate Specific Antigen Total
Prostate Specific AG Free
PSA Percent Free (Calculated)

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. Do not draw specimen after a transrectal biopsy.
Specimen Processing: Deliver to laboratory at Room Temperature.
Special Instructions:
Transport/Storage Temperature: Ship serum refrigerated or frozen. If specimen has been previously frozen and thawed, do not refreeze.

Rejection Criteria: Gross Hemolysis, Gross lipemia, Grossly icteric.

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under***:*** **FREE PSA PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours

Interpretive

Reference Range: Free PSA: 0.2 – 4.9 ng/mL; %Free PSA: <25% for probability of prostate cancer
Critical Value:
Clinical Significance: In men over 50 years with total PSA between 4.0 and 10.0ng/mL, the percent (%) free PSA (calculated) gives an estimate of the probability of cancer. In these circumstances calculation of % free PSA may aid in avoiding unnecessary biopsies. Elevated levels of Prosate Specific Antigen (PSA) have been associated with benign and malignant prostatic disorders. Studies indicate that in men 50 years or older measurement of PSA is a useful addition to the digital rectal exam in the early detection of prostate cancer. In addition, PSA decreases to undetectable levels following

complete resection of the tumor and may rise again with recurrent diease or persist with residual disease. Thus, PSA levels may be of assistance in the management of prostate cancer patients.

FRESH FROZEN PLASMA *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory information guide.

FRIEDREICH ATAXIA DNA O

Synonyms: F Ataxia, Friedreich DNA, Keesler
CHCS IEN: 6489
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.
Specimen and Volume Required
Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.
Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.
Admin Notes
Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry: **FRIEDREICH ATAXIA DNA .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

FTA
Order Note: Test not done unless clinically indicated and documented in CHCS/request order comment.
Synonyms: FTA-ABS
CHCS IEN: 129
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria*: Gross Hemolysis, Gross Lipemia*
Admin Notes
Testing Location/Methodology: Serology Section, MAMC / Immunofluorescent Assay
Order Method: CHCS order entry under: **FTA**; Test not done unless clinically indicated. Place indication in CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Nonreactive
Critical Value:
Clinical Significance: A reactive FTA-ABS test confirms the presence of treponemal antibodies but does not indicate the stage or presence of active infection. The FTA-ABS does not distinguish between syphilis and other trponemal infections. Once the FTA-ABS becomes positive, it remains so for long periods, regardless of therapy. False positive reactions have been associated with diseases with increased or abnormal globulins, patients with lupus erythematosus, positive Anti-Nuclear Antibodies (ANA) and during pregnancy.

FUNGAL AB TITER PANEL Q P
Synonyms: Fungal AB Titer Panel; Q Fungal AB Titer Panel
CHCS IEN: 4474
Test Code: 36563
Components:
Aspergillus Niger AB
Aspergillus Fumigatus AB
Aspergillus Flavus AB
Blastomyces ID CF
Coccidioides IDCF
Histoplasma Yeast AB
Histoplasma Mycelial AB
Testing Location/Methodology: Quest Diagnostics /
Order Method: CHCS order entry under: **Q FUNGAL AB TITER PANEL**

FUNGAL BLOOD CULTURE
Synonyms:
CHCS IEN: 2480
Components:
Container (Preferred/Alternate): 2- BactT/Alert B Aerobic Blood Culture Bottles.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5-10 mL of blood
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of blood culture.
Collection: Collect 5 to 10 mL of blood and inject aseptically into each of two (2) different BacT/Alert Aerobic blood culture bottles. See appropriate clinical procedure for collection of blood culture.
Specimen Processing: When labeling bottles, do not cover any part of the printed barcode or the sensor located in the base of the bottles. Do not Refrigerate or Freeze.
Special Instructions: If dimorphic fungi is suspected, consult MAMC Infectious Disease Service to obtain

Transport/Storage Temperature: Room Temperature

Rejection Criteria: Blood specimens collected in EDTA, Sodium Citrate or anticoagulants other than SPS or heparin. Frozen specimens

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC / Automated continuous monitoring using fluorescent detection. Antibiotic susceptibility testing when appropriate.

Order Method: CHCS order entry under: **FUNGAL BLOOD CULTURE**; Please note in order comment if patient is on lipid hyperalimentation and/or antimicrobial therapy. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Bacterial sepsis constitutes one of the most serious infectious diseases. The detection of microorganisms in a patient's blood has importance in the diagnosis and prognosis of endocarditis, septicemia, or chronic bacteremia.

FUNGAL CULTURE

Synonyms: Mycology Culture

CHCS IEN: 554

Components:

Container (Preferred/Alternate): CSF- Sterile Tube #1 or #4. Bone Marrow- Heparinized or SPS (Blood Culture) Tube only. Sterile Container with Screw-top Cap for other fluids. No EDTA or Citrate additives.

Specimen and Volume Required

Type(s):

Volume: Volume varies with source. Submit the largest amount possible. See Chart Below.

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for each specific type of specimen.

Collection: See appropriate clinical procedure for collection of each specific type of specimen

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Immediately Deliver to Laboratory at Room Temperature. Store Refrigerated.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbioloy Section, MAMC / Culture

Order Method: CHCS order entry: **FUNGAL CULTURE**; Provide specimen site/source in CHCS/Request order comment. Order required data set: GS Lab Specimen Source. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Notify and Routine, Routine: Up to 5 weeks. Detection of growth will be reported immediately and identification will follow.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: The clinical significance of an isolate varies with the identification, source and clinical symptoms manifested.

Abscess	***Container:*** Sterile Container; Syringe (with needle remove); Culturettes (if unable to collect other) ***Volume:*** 1-5 mL of Fluid Aspirate; ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated..
Body Fluid / Other Miscellaneous, Brochoalveolar Lavage, Bronchial Washing, Pericardial Fluid, Peritoneal Fluid, Pleural Fluid, Synovial,	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE.

Tracheal Aspirate	***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Bone Marrow	***Container:*** Heparinized Tube (EDTA or Citrate NOT accepted) ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. If Isolator Tube is desired for recovery of dimorphic fungi, please contact Infectious Disease Service, MAMC ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
CSF	***Container:*** CSF Sterile Tube with Screw-Top Cap #2 or #3 ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Skin, Nail	***Container:*** Sterile Container; Alternately, sample materials may be placed on mycology media obtained from the Microbiology Section. ***Volume:*** Submit visible amount of scrapings ***Minimum Volume:*** ***Patient Preparation:*** Thoroughly clean area to be sampled and allow to dry. See appropriate clinical procedures for procedure being performed. ***Collection:*** Scape skin at advancing edges of lesion or cut nails into small pieces with sterile instruments. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Sputum/Expectorated, Sputum/Induced	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Stool	***Container:*** Sterile Container with Screw-Top Lid ***Volume:*** 5 grams ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Tissue	***Container:*** Sterile Container ***Volume:*** Volume varies with source. Submit the largest amount possible. ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Cover tissue sample with enough sterile saline to cover specimen. Do not use culturette swabs. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Provide source of tissue or material in CHCS Order Comments. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Urine, Random	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 100 mL ***Minimum Volume:*** 50 mL (Smaller amounts can be processed, but may not allow for detection of dimorphic fungi) ***Patient Preparation:*** Instruct patient to utilize clean catch procedure for collecting urine random

	urine specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Wound	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated 2-8 °C.

FUNGAL SMEAR

Synonyms:

CHCS IEN: 1117

Components:

Container (Preferred/Alternate): CSF- Sterile Tube #2 or #3. Bone Marrow- Heparinized or SPS (Blood Culture) Tube only. Sterile Container with Screw-top Cap for other fluids. Do not use culturette swabs. No EDTA or Citrate additives.

Specimen and Volume Required

Type(s):

Volume: Volume varies with source. Submit the largest amount possible. See Chart Below.

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedure for each specific type of specimen.

Collection: See appropriate clinical procedure for collection of each specific type of specimen

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Immediately Deliver to Laboratory at Room Temperature. Store Refrigerated.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbioloy Section, MAMC / Culture

Order Method: CHCS order entry under: **FUNGAL SMEAR**; Provide specimen site/source in CHCS/Request order comment. Order required data set: GS Lab Specimen Source. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Monday thru Friday only.

TAT: Notify and Routine: Up to 5 weeks. Smears up to 72 hours. Cultures up to 5 weeks. Detection of growth will be reported immediately with identification to follow.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: The clinical significance of an isolate varies with the identification, source and clinical symptoms manifested.

Abscess	***Container:*** Sterile Container; Syringe (with needle remove); Culturettes (if unable to collect other) ***Volume:*** 1-5 mL of Fluid Aspirate; ***Minimum Volume:*** 3-5 Culturettes ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated..
Body Fluid / Other Miscellaneous, Brochoalveolar Lavage, Bronchial Washing, Pericardial Fluid, Peritoneal Fluid, Pleural Fluid, Synovial, Tracheal Aspirate	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Bone Marrow	***Container:*** Heparinized Tube (EDTA or Citrate NOT accepted) ***Volume:***

	Minimum Volume: ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. If Isolator Tube is desired for recovery of dimorphic fungi, please contact Infectious Disease Service, MAMC ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
CSF	***Container:*** CSF Sterile Tube with Screw-Top Cap #2 or #3 ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Skin, Nail	***Container:*** Sterile Container; Alternately, sample materials may be placed on mycology media obtained from the Microbiology Section. ***Volume:*** Submit visible amount of scrapings ***Minimum Volume:*** ***Patient Preparation:*** Thoroughly clean area to be sampled and allow to dry. See appropriate clinical procedures for procedure being performed. ***Collection:*** Scape skin at advancing edges of lesion or cut nails into small pieces with sterile instruments. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Sputum/Expectorated, Sputum/Induced	***Container:*** Sterile Container ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Stool	***Container:*** Sterile Container with Screw-Top Lid ***Volume:*** 5 grams ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Tissue	***Container:*** Sterile Container ***Volume:*** Volume varies with source. Submit the largest amount possible. ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. Cover tissue sample with enough sterile saline to cover specimen. Do not use culturette swabs. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Provide source of tissue or material in CHCS Order Comments. Order Required Data Set: GS LAB SPECIMEN SOURCE. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated.
Urine, Random	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 100 mL ***Minimum Volume:*** 50 mL (Smaller amounts can be processed, but may not allow for detection of dimorphic fungi) ***Patient Preparation:*** Instruct patient to utilize clean catch procedure for collecting urine random urine specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store

	Refrigerated.
Wound	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processin****g*: Immediately deliver the specimen fresh to the laboratory after collection. Order Required Data Set: GS LAB SPECIMEN SOURCE ***Transport/Storage Temperature:*** Immedately Transport to laboratory Room Temperature. Store Refrigerated 2-8 °C.

G-6-PD QN *See:* **GLUCOSE-6-PHOSPHATE DEHYDROGENASE, QUANTITATIVE** in this laboratory test information guide:

G-6-PD SCREEN
Synonyms: Glucose 6 Phosphate Dehydrogenase
CHCS IEN: 1279
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least ¾ of stated volume of tube.
Specimen Processing: Deliver at Room Temperature to laboratory immediately. Do not freeze.
Special Instructions:
Transport/Storate Temperature: Store Refrigerated at 2-8 °C if testing is delayed.
Rejection Criteria: Frozen
Admin Notes
Test Location/Methodology: Hematology Section, MAMC / Colormetric
Order method: : CHCS order entry under: **G-6-PD SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: ASAP, Routine
Other: This is a "screening" test only. If a Quantitative assay is required, *order*: **G6PD QN** in CHCS.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: G-6-PD is the most common enzyme deficiency in the world. Newborns with G-6-PD may have prolonged and more pronounced neonatal jaundice than other newborns. Older individuals are subject to hemolytic anemia that can be induced by some foods, drugs (i.e., Primaquine, Tafenoquine, Sulfonamides, Co-trimoxazola, Nitrofurantoin, Quinidine, Thiazide Diuretics and Tolbutamide), and infections. Soldiers, civilians and other beneficiares, are screened for G6-PD deficiency before receiving a prescription for, or being issued, primaquine phosphate for malaria prophylaxis. Since G6-PD deficiency remains constant over time, a single screening test is sufficient. Deployable Soldiers to malarious areas are screened for G6-PD pre-deployment during Soldier Readiness Processing (SRP) and is documented as part of the soldier's Individual Medical Readiness (IMR). For beneficiaries, screening takes place before travel to malarious areas where Primaquine phosphate may be used for chemoprophylaxis. Health care providers are responsible for determineing and documenting the G-6-PD status of their patient(s) before issuing a prescription of Primaquine.

GABAPENTIN, PLASMA Q
Synonyms:
CHCS IEN: 3939
Test Code: 3557
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (K_2EDTA), Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 3 mL Plasma
Minimum volume: 1 mL Plasma
Instructions
Patient Preparation: Draw sample 2 hours after last dose at steady state.
Collection: Routine Venipuncture. Centrifuge blood at 15-30° C and 2000-2200 rpm (800-1000 g) for 5-6 minutes. Separate plasma from red cells; pipet or pour plasma into polypropylene or polyethylene tubes. Separate plasma from cells as soon as possible..
Specimen Processing: Deliver at Room Temperature to laboratory immediately. Do not freeze.
Special Instructions:
Transport/Storate Temperature: Ship to Quest at room temperature. Store Refrigerated at 2-8 °C if testing is delayed. Specimen stability: 5 days at room temperature, 12 days refrigerated at 2-8 ºC, 1 month Frozen.
Rejection Criteria:
Admin Notes
Test Location/Methodology: Quest Diagnostics /
Order method: : CHCS order entry under: **Q GABAPENTIN, SERUM OR PLASMA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other:

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Gabapentin is an anticonvulsant drug commonly used as adjunctive therapy to treat partial seizures. Therapeutic drug monitoring is useful to optimize dose and avoid toxicity.

GAMMA GLUTAMYL TRANSFERASE (GGT)

Synonyms: GGTP; Gamma Glutamyl Transferase; GGT
CHCS IEN: 192
Components:
Container (Preferred/Alternate):
Preferred: Gold-Top /SST Tube (Clot Activator and Gel Separator), 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Alternate: Green-Top Tube (Lithium or Sodium Heparin), 1 Green-Top Microtainer Tube for pediatric draws
Specimen and Volume Required
Type(s): Blood/Serum or Blood/Plasma
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw intravenous infusion.
Specimen Processing: Gently invert Gold-Top /SST tube 5 times to mix blood with additive (Gently invert Green-top tube 8 times). Deliver to laboratory immediately.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature.
Rejection Criteria: Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **GAMMA –GT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
MALE/All	15	73			U/L
FEMALE/All	12	43			

Critical Value:
Clinical Significance: Elevated GGT is found in all forms of liver disease. Measurement of GGT is used in the diagnosis and treatment of alcoholic cirrhosis, as well as primary and secondary liver tumors. It is more sensitive than alkaline phosphatase, the transaminases, and leucine aminopeptidase in detecting obstructive jaundice, cholangitis, and cholecystitis. Normal levels of GGT are seen in skeletal diseases, thus, GGT in serum can be used to ascertain whether a disease, suggested by elevated alkaline phosphatase, is skeletal or hepatobiliary.

GANGLIOSIDE GD1B ANTIBODY (IgG), EIA Q
Synonyms:
CHCS IEN: 2139
Test Code: 39461
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 C on cold packs.. Specimen stability: 2 days at room temperature, 1 weeks refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Room Temperature
Admin Notes

Testing Location/Methodology: Quest Diganostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Ganglioside GD1B antibody IgG is associated with acute sensory ataxia neuropathy variant of the guillain-barre syndrome

GANGLIOSIDE GM-I ANTIBODIES (IGG,IGM), EIA Q

Synonyms:
CHCS IEN: 6240
Test Code: 37093
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.2 mL serum

Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 C on cold packs.. Specimen stability: 2 days at room temperature, 2 weeks refrigerated 2-8 ºC, 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diganostics / Immunoassay
Order Method: CHCS order entry under: **GANGLIOSIDE GMI ABS (IGG+IGM)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Ganglioside GM-1 Antibody IgG is associated with the Guillain-Barre syndrome, particularly the acute motor axonal neuropathy variant. Antibody IgM is associated with chronic multifocal motor neuropathy.

GARLIC (F47) IGE Q
Synonyms:
CHCS IEN: 6123
Test Code: 2847
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **GARLIC IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GASTRIC OCCULT BLOOD AND PH P
Synonyms:
CHCS IEN: 3281
Components:
pH
Gastric Occult Blood
Container (Preferred/Alternate): Clean Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Gastric Contents; Gastric Vomitus
Volume: 1 mL or more
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedure for collection of gastric specim*ens*
Collection: See appropriate clinical procedure for collection of gastric specim*ens*
Specimen Processing: Transport to laboratory as soon as specimen is collected***.***
Special Instructions:
Transport/Storage Temperature: Deliver immediately at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **GASTRIC OCCULT BLOOD AND PH** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GASTRIN Q
Synonyms:
CHCS IEN: 2135
Test Code: 478
Components:
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells and freeze.
Special Instructions:
Transport/Storge Temperature: Ship to Quest frozen. Specimen stability: Not acceptable at room temperature, Not acceptable refrigerated, 28 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Received thawed, Received room temperature, Received refrigerated, Grossly icteric
Admin Notes
Testing Location/Methodology: Quest Diganostics / Immunoassay
Order Method: CHCS order entry under: **GASTRIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GAUCHER DISEASE DNA MUTATION ANALYSIS Q
Synonyms:
CHCS IEN: 2139
Test Code: 21503
Components:
Specimen and Volume Required: 5 mL Lavender-Top Tube (EDTA)
Type(s):
Preferred: Blood/Whole
Amniotic fluid
Amniocyte culture
Dissected chorionic villus (CVS) biopsy
Volume: 5 mL Whole Blood or 20 mL Amniotic fluid
Minimum volume: 3 mL Whole Blood
Instructions
Patient Preparation: Draw sample 2 hours after last dose at steady state. For prenatal diagnosis on a fetal specimen: 1) Parents must be documented carriers of one of the mutations tested. 2) Maternal blood or DNA must be available. 3) Contact the Quest Diagnostics laboratory genetic counselor before collection and submission.
Collection: Whole Blood: Routine Venipuncture. Specimen stability is crucial. Deliver at room temperature. Do not freeze. Amniotic fluid (acceptable): Normal collection procedure. Specimen stability is crucial. Store and ship room temperature immediately. Do not refrigerate or freeze. Amniocyte culture (acceptable): Sterile T25 flasks, filled with culture medium. Specimen stability is crucial. Store and ship room temperature immediately. Do not refrigerate or freeze.
Dissected chorionic villus (CVS) biopsy (acceptable): 10-20 mg dissected chorionic villi collected in sterile tube filled with sterile culture media. Specimen stability is crucial. Store and ship room temperature immediately. Do not refrigerate or freeze.
Special Instructions:
Transport/Storate Temperature: Ship to Quest at room temperature. Store Refrigerated at 2-8 °C if testing is delayed. Specimen stability: 8 days at room temperature, 8 days refrigerated at 2-8 ºC, Unaccepted Frozen.
Rejection Criteria: Frozen
Admin Notes
Test Location/Methodology: Quest Diagnostics /Allele-Specific Primer Extension, Fluorescent Detection Using Color Coded Microspheres, Polymerase Chain Reaction (PCR)
Order method: : CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:"

when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other:

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GC CULTURE
Synonyms: Gonorrhea
CHCS IEN: 1764
Components:
Container (Preferred/Alternate): Culturette
Specimen and Volume Required
Type(s):
Cervical Swab
Oral Cavity
Rectal Swab
Urethra
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport Temperature:
Rejection Criteria: Specimens >24 hours old, Frozen specimens
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Culture, Isolation and Identification.
Order Method: CHCS order entry under: **GC CULTURE**; Indicate source of specimen on label, request form and CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availabioity.
Availability: 24 hours / 7 days a week
***TAT*:** Notify and Routine, Routine: 2-3 days

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Neisseria Gonorrhoeae is considered a pathogen whenever isolated and its identification is important in initiating appropriate therapy to prevent the spread of the infection as well as the serious sequelae***.***

Cervical Swab, Oral Cavity, Rectal Swab	***Container:*** Culturette ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** When present, remove mucous and/or secreation with swab and discard before collecting specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** Use an appropriate size swab for the specimen being collected. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: GC are very sensitive to environmental conditions and delay or variations in temperature during transport will compromise chances of recovery. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Urethra	***Container:*** Culturette ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** When present, remove mucous and/or secretion with swab and discard before collecting specimen. See appropriate clinical procedures for procedure being performed. ***Collection:*** Use an appropriate size swab for the specimen being collected. For males, insert 2-3 cm into urethral lumen, rotate swab and leave in place for at least 2 seconds***.*** For females, collect secretions on swab by massaging urethra against pubic symphysis through vagina. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: GC are very sensitive to environmental conditions and delay or variations in temperature during transport will compromise chances of recovery. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.

GENTAMICIN PEAK *See:* **GENTAMICIN** in this laboratory test information guide.

GENTAMICIN, 18-HOUR *See:* **GENTAMICIN** in this laboratory test information guide.

GENTAMICIN
Synonyms:
CHCS IEN: 2365
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator); 1 Pink-Top Microtainer Tube for pediatric draws. Do not draw in Serum Separator tube.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature.
Rejection Criteria: Serum Separator Tube
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **GENTAMICIN,RANDOM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Timing of samples draws: For Peak level draw 30 minutes after infusion has been completed or 1 hour after I.M. injection. For Trough level draw immediately prior to next dose.
Interpretive
Reference Range: Reference Interval for Gentamicin

Classification	Values	Units
Therapeutic – Trough Less Severe Infections	< 1.00	µg/mL
Therapeutic – Trough Life-threatening Infections	<2.00	
Toxic - Trough	≥ 2.00	
Therapeutic – Peak Less Severe Infections	5.00 – 8.00	
Thereapeutic – Peak Life-Threatening Infections	8.00 – 12.00	
Toxic - Peak	> 12.00	

The guidelines above have been recommended by the National Academy of Clinical Biochemistry for patients undergoing conventional dosing regimens.
Critical Value:
Clinical Significance: Gentamicin is an aminoglycoside antibiotic used in the treatment of gram-positive and gram-negative bacterial infections, especially Pseudomonas, Proteus, Klebsiella and Staphylococcus. Gentamicin is potentially nephrotoxic and ototoxic. Serial monitoring of peak and trough serum levels may provide the clinician with information to maintain safe and therapeutic levels.

GENTAMICIN, TROUGH *See:* **GENTAMICIN** in this laboratory test information guide.

GGT *See:* **GAMMA GLUAMYL TRANSFERASE (GGT)** in this laboratory test information guide. Order: **GAMMA-GT** in CHCS

GIARDIA ANTIBOY, IFA Q
Synonyms:
CHCS IEN: 2139
Test Code: 34265
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.25 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 ºC. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GIARDIA LAMBLIA AG
Order Note: Order this test only when clinically indicated after 3 negative O&P results.
Synonyms:
CHCS IEN: 2255
Components:
Container (Preferred/Alternate):
Sterile Container with Screw-Top Lid (No preservative)
Formalin Transport Vial (10% Formalin)
Specimen and Volume Required
Type(s): Stool, Raw or Stool in preservative
Volume: 5 grams (5 mL)
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of Stool.
Collection: Collect raw sample. See appropriate clinical procedure for collection of Stool. See: General Collection Instructions For All Stool Specimens within the Appendices of this guide.
Specimen Processing: Submit Fresh specimen (unpreserved) to laboratory within 24 hours after collection. If delivery/testing is to be delayed longer than 24 hours, submit specimen in Formalin Transport Vial with 10% formalin. Transfer fresh stool specimen into Formalin Transport Vial and fill to the line on the Vial.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Specimen Stability: <48 hours at Room Temperature unpreserved; Indefinately at Room Temperature is preserved in Para Pak kit.
Rejection Criteria: Unpreserved specimen older than 24 hours.
Admin Notes
Testing Location/Methodology: Parasitology Section, MAMC /
Order Method: CHCS order entry under: **GIARDIA LAMBLIA AG** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Giardia is a protozoan that can cause diarrhea. Infection occurs after ingestion of contaminated food or water. Antigen detection is considered an alternative to stool examination.

GLIADIN ANTIBODY PANEL (IgG, IgA) *See:* **CELIAC DISEASE PANEL (MAMC)** in this laboratory test Information guide.

GLIADIN DISEASE PANEL(MAMC) *Do not order. See:* **CELIAC DISEASE PANEL (MAMC)** in this laboratory test Information guide.

GLIADIN IGA *Test not orderable as a single test. See:* **CELIAC DISEASE PANEL (MAMC)** in this laboratory test Information guide.

GLIADIN IGG *Test not orderable as a single test. See:* **CELIAC DISEASE PANEL (MAMC)** in this laboratory test Information guide.

GLOMERULAR BASEMENT MEMBRANE ANTIBODY (IGG) Q
Synonyms:
CHCS IEN: 6220
Test Code: 257
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.25 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **GLOMERULAR BASEMENT MEMB AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GLUCAGON Q
Synonyms:
CHCS IEN: 6303
Test Code: 519
Specimen and Volume Required: 5 mL Lavender-Top Tube (EDTA); Plastic Scew-Cap Vial
Type(s): Blood/Plasma
Volume: 3 mL
Minimum volume: 1 mL Plasma
Instructions
Patient Preparation: Overnight fasting is required.
Collection: Routine Venipuncture.
Special Instructions:
Transport/Storate Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature, 7 days refrigerated at 2-8 ºC, 28 days Frozen.
Rejection Criteria: Moderate or gross icterus, Received room temperature, Received refrigerated
Admin Notes

Test Location/Methodology: Quest Diagnostics /
Order method: CHCS order entry under: **GLUCAGON**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other:

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Glucagon measurement is useful primarily when considering a glucagon-secreting tumor of the pancreas. Glucagon is also used to diagnose glucagon deficiency in patients with hypoglycemia.

GLUCOSE

Synonyms: Blood Sugar; 114
CHCS IEN: 175
Components:
Container (Preferred/Alternate):
Preferred: Gold-Top /SST Tube (Clot Activator and Gel Separator) or Grey-Top Tube (Potassium Oxalate/Sodium Fluoride)
1 Red or Amber-Top Microtainer Tube for pediatric draw
Other: Sterile Container with Screw-Top Cap for Body Fluids

Specimen and Volume Required

Type(s):
Blood/Serum
Synovial Fluid
Amniotic Fluid
Pericardial Fluid
Peritoneal Fluid
Pleural Fluid
Urine, Random
Urine, 24 Hour
Body Fluid/Other
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None. See appropriate clinical procedure for collection of specific Body Fluid.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See appropriate clinical procedure for collection of specific Body Fluid.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions: Provide specimen source/type in CHCS order comment and on Request form.
Transport/Storage Temperature: Room Temperature. Ship/store Serum Refrigerated at 2-8 °C.

Rejection Criteria*:*

Admin Notes

Testing Location/Methodology: Chemistry Section / Vitros 5600
Order Method: CHCS order entry under: **GLUCOSE.** ; Provide specimen source/type in CHCS order comment and on Request form. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: No validation studies have been performed on Amniotic Fluid at MAMC and therefore a glucose result performed on Amniotic fluid may not be valid.

Interpretive

Reference Range:

Serum and Plasma

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/ 0-6 Days	30	90	30	300	mg/dL
Up to 12 years	60	110	45	450	
Up to 49 years	65	110	45	450	
50 years and up	70	125	45	450	

Urine

All/All	0	30			mg/dL

Critical Value:
Clinical Significance: Serum glucose levels may be abnormally high (hyperglycemia) or abnormally low (hypoglycemia). Glucose measurements are used in the diagnosis and treatment of carbohydrate metabolic disorders including diabetes mellitus, idiopathic hypoglycemia, and pancreatic islet cell neoplasm.

GLUCOSE, 1 HR SCREEN GDM
Synonyms: GTT 1 HR, 1 HR GTT screening test
CHCS IEN: 4048
Components:
Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassium oxalate)
Specimen and Volume Required
Type(s): Blood (Plasma)
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation: Fasting not required. Patient is given 50 gram dose of Glucola
Collection: A single blood specimen is collected. Collect 1 hour after Glucola dose using normal venipuncture procedures.
Specimen Processing: Gently invert tube 8 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions: Draw 1 hour post glucose ingestion.
Transport/Storage Temperature: Transport at Room Temperature, Store plasma refrigerated at 2-8 °C.
Rejection Criteria: Red-Top or non-plasma separator tubes. Anticoagulants other than lithium heparin, sodium heparin or fluoride/oxalate.
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **1 HR SCREEN FOR GDM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday 0800-1530
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All /All	65	135	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL
Clinical Significance: A value of 130 mg/dL or greater indicates the need for a full diagnostic, gestational glucose tolerance performed in the fasting state to determinee if the patient has gestational diabetes***.***

GLUCOSE, 1ST HR OF 3 HR GTT
Synonyms: Glucose 1 HR, 1 HR Glucose
CHCS IEN: 1308
Components: Part 1 of the 3 CHCS orders required for the 3 hour (4 specimen draw) glucose tolerance testing.
Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassiumoxalate)
Specimen and Volume Required
Type(s): Blood (Plasma)
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: Immediately after collecting a fasting specimen, have patient ingest a 100 gram load of glucose (Glucola) within 5 minutes. Draw blood 1 hour post glucose ingestion using routine venipuncture procedures. Label each specimen with specific draw time.
Specimen Processing: Gently invert tube to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions: Draw fasting glucose and Draw 1 hour post glucose ingestion.
Transport/Storage Temperature: Transport at Room Temperature / Store plasma refrigerated at 2-8 °C.
Rejection Criteria: Red-Top or non-plasma separator tubes. Anticoagulants other than lithium heparin, sodium heparin or fluoride/oxalate.
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **1ST HR OF 3 HR GTT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday 0800-1300
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	120	180	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL
Clinical Significance: Test is offered for pregnant patients and endocrine consults only. This test is part of the 3 hour oral glucose tolerance test order set used to test for gestational diabetes. Do not confuse this test with the 1 hour screening test

for gestational diabetes.

GLUCOSE, 2ND HR OF 2 HR GTT-75 GM GLUC
Synonyms: 2HR GTT, 2HR GTT Screen
CHCS IEN: 4336
Components:
Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassiumoxalate)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: Draw blood 2 hours post glucose ingestion using routine venipuncture procedures. Label each specimen with specific draw time.
Specimen Processing: Gently invert tube 8 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions: Draw fasting glucose and Draw 2 hours post glucose ingestion. Note: A 1 hour post glucose is not drawn during the 2 HR GTT-75 GM Gluc test, unless requested by HCP.
Transport/Storage Temperature: Transport at Room Temperature / Store plasma refrigerated at 2-8 °C
Rejection Criteria: Red-Top or non-plasma separator tubes. Anticoagulants other than lithium heparin, sodium heparin or fluoride/oxalate.
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **2ND HR OF 2 HR GGT-75 GM GLUC**; Procedure Request) for CHCS non-availability. MAMC Form (Clinical Lab Test.
Availability: Monday thru Friday 0800-1400
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	70	155	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL
Clinical Significance: Do not confuse this test with the 2ND HR of 3HR GTT-MAMC when ordering in CHCS. This test is used for the routine diagnosis of diabetes in children and the non-pregnant adult. For appropriate interpretation of this test, the patient must fast overnight to then have a fasting glucose specimen drawn. If the fasting glucose result is < 126 mg/dL , the pateint then ingests a 75 gram load of glucose. For Children, the glucose load is 1.75g/Kg of ideal body weight, up to 75 grams glucose. The diagnosis of diabetes mellitus is made if the fasting glucose is ≥ 126 mg/dL or if the 2 hour specimen is ≥ 200 mg/dL. An Impaired Fasting Glucose condition exists if the fasting glucose result is 100-125 mg/dL. An Impaired Glucose Tolerance condition exists if fasting glucose is < 126 mg/dL and the 2 hour glucose result is 140-199 mg/dL.

GLUCOSE, 2ND HR OF 3 HR GTT
Synonyms: 2GTT, 2HR GTT
CHCS IEN: 1310
Components: Part 2 of the 3 CHCS test orders required for the 3 hour (4 specimen draw) glucose tolerance testing.
Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassiumoxalate)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: Draw a third blood specimen 2 hours post glucose ingestion. Label each specimen with specific draw time.
Specimen Processing: Gently invert tube 8 times to mix additive with blood, tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions: Draw a fasting glucose and a 1 hour post glucose ingestion sample before drawing the 2 hour post glucose sample.
Transport/Storage Temperature: Transport at Room Temperature / Store plasma refrigerated at 2-8 °C.
Rejection Criteria: Red-Top or non-plasma separator tubes.
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **2ND HR OR 3 HR GTT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday 0800-1300
TAT: ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	70	120	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL

Clinical Significance: Test is offered for pregnant patients and endocrine consults only. Plasma glucose levels may be abnormally high (hyperglycemia) or abnormally low (hypoglycemia). Glucose measurements are used in the diagnosis and treatment of carbohydrate metabolic disorders.

GLUCOSE, 2 HR POST PRANDIAL BLD GLUCOSE

Synonyms: 2HR PP, 2HR Post Prandial

CHCS IEN: 2486

Components:

Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassiumoxalate)

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 6 mL

Minimum volume:

Instructions

Patient Preparation:

Collection: First specimen obtained fasting. Second specimen collected 2 hours following a meal. Label each specimen with specific draw time. Draw blood using routine venipuncture procedures. Label each specimen with specific draw time.

Specimen Processing: Gently invert tube to mix additive. Tranport to lab immediately. Centrifuge and separate plasma from cells.

Special Instructions: Draw fasting glucose and Draw 2 hour post meal ingestion.

Transport/Storage Temperature: Transport at Room Temperature

Rejection Criteria: Red-Top or non-plasma separator tubes.

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600

Order Method: CHCS order entry under: **2 HR POST PRANDIAL BLD GLUCOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	70	120	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL

Clinical Significance: Prostprandial glucose levels may be abnormally high in patients with gestational diabetes. If results are positive, and the patient is pregneant, a 3 hour oral glucose tolerance test should be performed for confirmation of gestational diabetes.

GLUCOSE, 24-HOUR URINE P

Synonyms: Urine 24HR Glucose, 24HR Glucose Urine

CHCS IEN: 2366

Components:

Glucose
Total Volume
Glucose, Urine 24 HR

Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative

Specimen and Volume Required

Type(s): Urine/24 hour

Volume: Submit total volume collected in 24 hours

Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.

Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.

Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.

Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.

Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection

period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry/Vitros 5600

Order Method: CHCS order entry under: **24-HOUR URINE GLUCOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: ASAP, Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: When glucose level exceeds the renal threshold of 10-12 mmol/L, glucose is excreted in the urine. Abnormal glucose values may be indicative of Renal Glycosuria, Diabetes Mellitus, Renal Gluycosuria during pregnancy or excessive consumption of carbohydrates.

GLUCOSE, 3RD HR OF 3 HR GTT *See:* **x3HR GlUCOSE** in CHCS; type 3HR at test prompt.

Synonyms: x3HR Glucose, GTT 3HR, 3HR, Glucose 3 HR

CHCS IEN: 2368

Components: Part 3 of the 3 CHCS test orders required for the 3 hour (4 specimen draw) glucose tolerance testing.

Container (Preferred/Alternate): Gray-Top Tube (sodium fluoride/potassiumoxalate)

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 6 mL

Minimum volume:

Instructions

Patient Preparation:

Collection: Draw the 4th and last blood specimen 3 hours post glucose ingestion. Label each specimen with specific draw time.

Specimen Processing: Gently invert tube 8 times to mix additive and blood. Tranport to lab immediately. Centrifuge and separate plasma from cells.

Special Instructions: Draw both a fasting glucose, 1 hour and 2 hour post glucose ingestion samples before drawing the 3 hour post glucose sample.

Transport/Storage Temperature: Transport at Room Temperature / Store plasma refrigerated at 2-8 °C.

Rejection Criteria: Red-Top or non-plasma separator tubes.

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600

Order Method: CHCS order entry under: **x3HR GLUCOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Monday thru Friday 0800-1300

TAT: ASAP: 2 hours; Routine: 4 to 24 hours

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/All	75	140	45	450	mg/dL
Female/All	65	145	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL

Clinical Significance: Test is offered for pregnant patients and endocrine consults only. Plasma glucose levels may be abnormally high (hyperglycemia) or abnormally low (hypoglycemia). Glucose measurements are used in the diagnosis and treatment of carbohydrate metabolic disorders.

GLUCOSE-6-PHOSPHATE DEHYDROGENASE, QUANTIATIVE Q

Synonyms: G6PD QN
CHCS IEN: 4220
Test Code: 500
Container (Preferred/Alternate): 3mL Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 1 mL Whole Blood
Minimum volume: 0.2 mL Whole Blood
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least ¾ of stated volume of tube.
Specimen Processing: Deliver at Room Temperature to laboratory immediately. Do not freeze.
Special Instructions:
Transport/Storate Temperature: Ships to Quest refrigerated at 2-8 °C on ice packs. if testing is delayed. Specimen stability: 2 days at room temperature, 1 week refrigerated 2-8 °C, Unaccepted Frozen.
Rejection Criteria: Frozen
Admin Notes
Test Location/Methodology: Quest Diagnostics / Immunoassay
Order method: CHCS order entry under: **G6PD QN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other:
Interpretive
Reference Range:
Critical Value:
Clinical Significance: G-6-PD is the most common enzyme deficiency in the world. Newborns with G-6-PD may have prolonged and more pronounced neonatal jaundice than other newborns. Older individuals are subject to hemolytic anemia that can be induced by some foods, drugs, and infections.

GLUCOSE-6-PHOSPHATE DEHYDROGENAS , SCREEN

Synonyms: Glucose 6 Phosphate Dehydrogenase, G-6-PD SCREEN
CHCS IEN: 1279
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least ¾ of stated volume of tube.
Specimen Processing: Deliver at Room Temperature to laboratory immediately. Do not freeze.
Special Instructions:
Transport/Storate Temperature: Store Refrigerated at 2-8 °C if testing is delayed.
Rejection Criteria: Frozen
Admin Notes
Test Location/Methodology: Hematology Section, MAMC / Colormetric
Order method: CHCS order entry under: **G-6-PD SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: ASAP, Routine
Other: This is a "screening" test only. If a Quantitative assay is required, *See*: **G6PD QN**
Interpretive
Reference Range:
Critical Value:
Clinical Significance: G-6-PD is the most common enzyme deficiency in the world. Newborns with G-6-PD may have prolonged and more pronounced neonatal jaundice than other newborns. Older individuals are subject to hemolytic anemia that can be induced by some foods, drugs (i.e., Primaquine, Tafenoquine, Sulfonamides, Co-trimoxazola, Nitrofurantoin, Quinidine, Thiazide Diuretics and Tolbutamide), and infections. Soldiers, civilians and other beneficiares, are screened for G6-PD deficiency before receiving a prescription for, or being issued, primaquine phosphate for malaria prophylaxis. Since G6-PD deficiency remains constant over time, a single screening test is sufficient. Deployable Soldiers to malarious areas are screened for G6-PD pre-deployment during Soldier Readiness Processing (SRP) and is documented as part of the soldier's

Individual Medical Readiness (IMR). For beneficiaries, screening takes place before travel to malarious areas where Primaquine phosphate may be used for chemoprophylaxis. Health care providers are responsible for determineing and documenting the G-6-PD status of their patient(s) before issuing a prescription of Primaquine.

GLUCOSE BODY FLUID
Synonyms:
CHCS IEN: 2608
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s):
Amniotic
Body Fluid/Other
Pericardial
Peritoneal
Pleural
Synovial
Volume: 2 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedure for collection of specific specimen source.
Collection: See appropriate clinical procedure for collection of specific specimen source.
Specimen Processing: Deliver to laboratory immediately after collection.
Special Instructions:
Transport/Store Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **GLUCOSE BODY FLUID;** Provide specimen source/type in CHCS order comment and on Request form. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: *24 hours / 7 days a week*
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GLUCOSE, FASTING
Order Note: Please order as "STAT" priority when ordering this test is part of the 3 Hour GTT procedure.
Synonyms: GTT Fasting; FBS
CHCS IEN: 1306
Components:
Container (Preferred/Alternate):
Preferred: Gray-Top Tube (Sodium Fluoride/Potassiumoxalate)
Alternate: Gold-Top Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Plasma; Blood/Serum
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: First specimen obtained fasting. Second specimen collected 2 hours following a meal. Label each specimen with specific draw time. Draw blood using routine venipuncture procedures. Label specimen with specific draw time.
Specimen Processing: Gently invert tube 8 times to mix additive. Tranport to lab immediately. Centrifuge and separate plasma from cells.
Special Instructions:
Transport/Storage Temperature: Transport at Room Temperature
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **FASTING GLUCOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	70	120	45	450	mg/dL

Critical Value: <45 mg/dL, >450 mg/dL

Clinical Significance: Plasma glucose levels may be abnormally high (hyperglycemia) or abnormally low (hypoglycemia). Glucose measurements are used in the diagnosis and treatment of carbohydrate metabolic disorders including diabetes mellitus, idiopathic hypoglycemia, and pancreatic islet cell neoplasm.

GLUCOSE/PROTEIN CSF PANEL

Synonyms:

CHCS IEN: 2703

Components:

Glucose, CSF
CSF/AF Supernatant Appearance
CSF Protein

Container (Preferred/Alternate): Sterile Container with Screw-Top Cap

Specimen and Volume Required

Type(s): CSF
Volume:
Minimum Volume: 0.5 mL

Instructions

Patient Preparation: See appropriate clinical procedure for collection of specific specimen source.
Collection: See appropriate clinical procedure for collection of specific specimen source.
Specimen Processing: Deliver to laboratory immediately after collection.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature immediately after collection. Freeze immediately after collection if testing to be delayed.

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **GLUCOSE/PROTEIN CSF PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Assess bacterial infection of CNS.

GLUCOSE-URINE *See:* **URINALYSIS (MAMC) and URINALYSIS, DIABETES** panels in this laboratory test information guide.

GLUCOSE, CONTINUED For Additional **Glucose** Testing, also see the following panels in this laboratory test information guide: **BMP (MAMC)**, **CMP(MAMC)**, **RENAL FUNCTION PANEL (MAMC)** and **PE PANEL.**

GLUTAMIC ACID DECARBOXYLASE-65 (GAD-65) AUTOANTIBODY Q
Synonyms:
CHCS IEN: 4868
Test Code: 34878
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 8 hours at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **GLUTAMATE DECARBOXYLASE 65 AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Glutamic Acid Decarboxylase (GAD-65) Antibody is useful to diagnose insulin dependent diabetes mellitus (IDDM, Type I diabetes), to assess risk for development of IDDM, to predict onset of IDDM, and risk of development of related endocrine disorders, e.g., thyroiditis. Before clinical onset, Type I diabetes is characterized by lymphocytic infiltration of the islet cells, and by circulating autoantibodies against a variety of islet cell antigens, including GAD-65, IA-2 (a tyrosine phosphatase-like protein), and insulin autoantibody (IAA).

GLYCOHEMOGLOBIN *See:* **HEMOGLOBIN A1C** in this laboratory test information guide.

GRAM STAIN
Synonyms: GS
CHCS IEN: 362
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required
Type(s):
Amniotic Fluid
CSF
Other Miscellaneous (Specify Source)
Peritoneal Fluid
Sputum, Expectorated
Sputum, Induced
Tracheal Aspirate
Urethral Aspect of Penis
Urine, Randum
Wound (if 2 swabs submitted)
Volume: See Specific Specimen/Chart Below
Minimum Volume:
Instructions: See Chart Below

Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport Temperature:

Rejection Criteria

Admin Notes

Testing Location/Methodology:
Order Method: CHCS order entry under: **GRAM STAIN**; Please specify source in CHCS order entry comments and on request form. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: For detection of Tubercle bacilli, an acid fast stain (AFB) must be requested. Gram Stains are routinely not done on Vaginal/Cervical specimens. Gram Stains on normally sterile sites and fluids are available at all times.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: To establish the presence of potentially pathogenic organisms; to determinee presence of bacteria, yeast, neutrophils, and epithelial cells. A urethral Gram stain is diagnostic in males if Gram Negative Intracellular Diplococci (GNID) are present. A Gram stain is not reliable for diagnosis of cervical, rectal, pharyngeal or asymptomatic urethral gonococcal infections. Gram stain is also used by the laboratory to evaluate the appropriateness of the specimen for culture (sputum). Gram stain on urines requires special notification and not routinely ordered or processed, please call laboratory first. Swab needs to be thinly rolled on slide.

Amniotic Fluid	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** 0.5 mL of fluid aspirate in appropriate container. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect a minimum of 0.5 mL of fluid aspirate. Remove needle if submitting a syringe. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
CSF	***Container:*** Sterile Container with Screw-top Cap; CSF tube #2 or #3 ***Volume:*** ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Sterile lumbar puncture technique. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Do not refrigerate or freeze. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Other Miscellaneous (Specific Source)	***Container:*** Sterile Container; Culturette Swab ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect material or swab from area of interest. See appropriate clinical procedures for procedure being performed. Gram Stains on normally sterile sites and fluids are available at all times. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Peritoneal Fluid; Pleural Fluid	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Utilize sterile technique and avoid contamination with normal flora. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Sputum/Expectorated, Sputum/Induced	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** Deep cough sputum or tracheal aspirate. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.

Tracheal Aspirate	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Urethral Aspect of Penis	***Container:*** Microscope Slide in Slide Holder/container. ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Urine, Random	***Container:*** Sterile Container ***Volume:*** ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect clean catch or catheterized specimen. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Prepare slide with .001 Loop and unspun urine sample. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.
Wound	***Container:*** Culturette Swab; Sterile Container ***Volume:*** ***Minimum Volume:*** 0.5 mL for specimens other than swabs. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature.

GREEN BEAN (F315), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2680
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ FEIA
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

GUINEA PIG EPITH (E6), IGE IMCAP Q

Synonyms:

CHCS IEN: 2139
Test Code: 2606
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ FEIA
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HAEMOPHILUS INFLUENZAE ANTIGEN *See:* **CSF LATEX AGGLUTINATION PANEL and URINE LATEX AGGLUTINATION** panels in this laboratory test information guide.

HAEMOPHILUS INFLUENZAE TYPE B
Synonyms:
CHCS IEN: 2139
Test Code: 35135
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 ºC on cold packs. Specimen stability: 48 hours at room temperature; 1 week at 2-8 ºC; 30 days frozen at -20 ºC.
Rejection Criteria: Avoid repeated thawing and freezing
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Enzyme Immunoassay (EIA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 1.0 or more mcg/mL . The precise level of antibody required for protection is not known, however geometric mean titers of 1.0 mcg/mL are considered to be indicative of long term protection.
Critical Value:
Clinical Significance: For evaluation of pre and post-vaccination antibody levels

HALOPERIDOL (HALDOL) Q

Synonyms:
CHCS IEN: 2136
Test Code: 564
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/No additive); Plastic Screw-Cap Vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Collect sample 11-17 hours after last dose.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge and separate serum from cells.
Special Instructions:
Transport/Storge Temperature: Ship to Quest refrigerated at 2-8 ºC on ice packs. Specimen stability: 2 days at room temperature, 7 days refrigerated 2-8 ºC, 30 days frozen.
Rejection Criteria: Gross hemolysis, Lipemia, Received room temperature, Gel barrier tubes
Admin Notes
Testing Location/Methodology: Quest Diganostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Monitoring the haloperidol concentration is used to assure compliance and avoid toxicity of this antipsychotic drug. It is used to treat psychotic disorders, to control tics and vocal utterances associated with Gilles de la Tourette syndrome and to treat combative, explosive hyperexcitability in children.

HAPTOGLOBIN

Synonyms:
CHCS IEN: 3248
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport to lab at room temperature. Store Serum Refrigerated at 2-8 °C.
Rejection Criteria*:* Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **HAPTOGLOBIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	30	200			mg/dL

Critical Value:
Clinical Significance: Decreased haptoglobin is found in hemolytic disease, hepatocellular disease and infectious mononucleosis. Increased level is found in inflammatory disease in the presence of tissue necrosis and in general acute inflammatory condition.

HAZELNUT (F17) IGE Q
Synonyms:
CHCS IEN: 6092
Test Code: 2817
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum Volume: 0.25 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 14 days at room temperature, 14 days refrigerated at 2-8C, 30 days Frozen.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **HAZEL NUT IGE PANEL.** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance: Allergy

HCG QL
Order Note: When order ing qualitative and quantitative HCG, if the qualitative is negative the quantitative will be cancelled. Any inquires please call Chief of Core Laboratory: Dr. Hall at 968-1731 or Chemistry Supervisor: Ms Laramee at 968-1945.
Synonyms: BHCG Qualitative Serum; Beta HCG Qual Serum
CHCS IEN: 515
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter Icon 25 kit
Order Method: CHCS order entry under: **HCG QL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive: Positive: <25 mIU/mL – HCG or interfering substance is present which yields a test reaction less intense than the internal test control. Recommend repeat testing after 48 hours if circumstances allow. Consider an "Add-on" test for this specimen i.e., BHCG, Quantitative). Negative**:** is defined as absence of visually detectable B-HCG. A negative B-HCG does not rule out pregnancy. Borderline: A borderline result states that neither a positive or negative result can currently be reported. A redraw within 48 hours is requested. To order an "Add-on", please call laboratory section performing the testing.
Reference Range: Pos, Neg, Borderline
Critical Value:
Clinical Significance: Used to determinee pregnancy

HCG QN
Synonyms: BHCG Quantitative Serum; Beta HCG Quant Serum
CHCS IEN: 2445
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions: Special Lab handling***:*** Specify weeks of gestation
Transport/Storage Temperature: Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **HCG QN** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Females- Negative: 0.5-5.0 mIU/mL; Indetermineate: 5-25 mIU/mL; Positive: >25 mIU/mL

	Pregnacy (Weeks After LMP)				
Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
0-1 Week	5	50			mIU/mL
1-2 Weeks	50	500			
2-3 Weeks	100	5,000			
3-4 Weeks	500	10,000			
4-5 Weeks	1,000	50,000			
5-6 Weeks	10,000	100,000			
6-8 Weeks	15,000	200,000			
8-12 Weeks	10,000	100,000			

Critical Value:
Clinical Significance: hCG may reach detectable limits within 7-10 days of conception. hCG is produced by the placenta and reaches a peak between the 7th and 10th week of gestation. hCG is a glycoprotein hormone produced by the syncytiotrophoblast of the placenta and secreted during normal pregnancy and with pathologic conditions such as hydatidiform mole. Choriocarcinoma and testicular neoplasm. Order hCG Quantitative if hCG Qualitative serum result is inconsistent with clinical presentation.

HCG, TUMOR MARKER *See:* **BHCG TUMOR MARKER** in this Laboratory Information Guide.

HCG, URINE
Synonyms: Urine HCG
CHCS IEN: 2215
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Urine, Random
Volume: 10 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of specimen.
Collection: First morning voided urine is required for urine HCG due to diurnal variation. Descrepant results may be seen with random urine samples. Serum samples provide more realiable results.
Specimen Processing: Refrigerate specimen 2-8 °C. if delivery to laboratory is to be delayed more than 1 hour.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature***.*** Store Refrigerated at 2-8 °C if testing to be delayed more than 1 hour.
Rejection Criteria: Urine specimen grossly contaminated with blood or bacteria; improperly labeled specimen.

Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter Icon 25 Kit
Order Method*:* CHCS order entry under: **URINE HCG** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Very dilute urine samples ar indicated by a low specific gravity may not contain representative levels of HCG. If pregnancy is still suspected, a first morning urine sample or preferred serum sample should be collected and retested.
Interpretive
Reference Range: Pos, Neg, Borderline
Critical Value:
Clinical Significance: Diagnosis of pregnancy, screen for women at risk of being pregnant prior to x-ray, sterilization, menstrual regulation and curettage procedures.

HCO3 *Not orderable as Single test, See*: **BLOOD GAS (MAMC)** Panel in this laboratory test information guide.

HCV RNA BY PCR (QUANT) *See:* **HEPATITIS C RNA BY PCR (QUANT)** in this laboratory test information guide.

HCT
Synonyms: Hematocrit
CHCS IEN: 4
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3.5 mL; EDTA Microtainer for pediatric draw
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL for pediatric Microtainer
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Whole blood collected in 3.5 mL Lavendar-Top tube. Allow tube to fill by vacuum. At least 3/4 of stated volume on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive ensuring anticoagulant is effective.
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria*:* Clotted, Hemolyzed, Quantity Not Sufficient, Blood greater than 24 hours old.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /
Order Method: CHCS order entry under: **HCT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) (Hematology) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Usual method for determineing anemia. Used to calculate indices. Evaluation of anemia, blood loss hemolytic anemia, polycythemia and other conditions.

HDL CHOLESTEROL
Synonyms: HDLC; HDL Direct
CHCS IEN: 244
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), 1- Amber-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store refrigerated at 2-8 °C

Rejection Criteria: Moderate to Gross Hemolysis, Anticoagulants other than heparin.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **HDL CHOLESTEROL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: This HDL test is a direct measurement when performed at MAMC.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: HDL cholesterol is inversely related to the risk for cardiovascular disease. It increases following regular exercise, moderate alcohol consumption and with oral estrogen therapy. Decreased levels are associated with obesity; stress, cigarette smoking and diabetes mellitus.

HDL DIRECT *See*: **LIPID PANEL (MAMC ONLY)** in this laboratory test information guide.

HDL/CHOLESTEROL RATIO *Calcuated result from panel. See*: **LIPID PANEL (MAMC ONLY)** in this laboratory test information guide

HDL/CHOLESTEROL TOTAL *Calcuated result from panel. See*: **LIPID PANEL (MAMC ONLY)** in this laboratory test information guide.

HE4 OVARIAN CANCER MONITORING Q
Synonyms:
CHCS IEN: 5075
Test Code: 16500
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 5 days at room temperature, 7 days refrigerated at 2-8C, 28 days Frozen.
Rejection Criteria Hemolysis, Lipemia, Specimens with heavy particulate matter, Icteric specimens
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **HE4**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range: <151 pM
Critical Value:
Clinical Significance: The HE4 EIA assay is an enzyme immunoassay for the quantitative determination of human HE4 antigen in serum. HE4 is a biomarker for ovarian cancer.

HEAVY METALS PANEL, RANDOM URINE Q
Synonyms:
CHCS IEN: 2139
Test Code: 7507
Components:
Container (Preferred/Alternate): Acid Washed Urine Container
Specimen and Volume Required
Type(s): Urine/Random

Volume: 7 mL aliquot from Random urine specimen
Minimum volume: 5 mL

Instructions

Patient Preparation: Patient should refrain from eating seafood, especially shelfish, shrimp, crab, lobster and bottom-feeder such as flounder for at least 3 days prior to specimen collection.
Collection: Prefered specimen type is the second morning void.
Specimen Processing: Laboratory: Aliquote to plastic screw cap container.
Special Instructions
Transport/Storage Temperature Store refrigerated or frozen. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 2 weeks frozen. Ships to Quest at refrigerated 2-8C on ice packs.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Inductively-Coupled Plasma/Mass Spectrometry (ICP/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range: Established 24 hour urine ranges do not apply.
Critical Value:
Clinical Significance: Excessive exposure to heavy metals can cause acute and chronic toxicity. Heavy Metals Panel is intended to evaluate and monitor exposure to heavy metals and evaluate the process of detoxification.

HEAVY METALS PANEL WITH CADMIUM, 24 HOUR URINE Q P

Synonyms:
CHCS IEN: 3501
Test Code: 35386
Components:
Arsenic
Lead 24 hr
Mercury 24 hr
Total Volume
Cadmium UA

Container (Preferred/Alternate): Acid Washed 24 hour urine container

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 7 mL aliquot from 24 hour urine specimen
Minimum volume: 3 mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Patient should refrain from eating seafood for at least 3 days prior to specimen collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Do Not measure the total volume of urine to avoid contamination. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 2 weeks frozen. Ships to Quest at refrigerated 2-8C on ice packs.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Inductively-Coupled Plasma/Mass Spectrometry (ICP/MS)
Order Method: CHCS order entry under: **Q HEAVY METALS, URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics for established information.
Critical Value:
Clinical Significance: Excessive exposure to heavy metals can cause acute and chronic toxicity. Heavy Metals Panel is

intended to evaluate and monitor exposure to heavy metals and evaluate the process of detoxification.

HELICOBACTER PYLORI, ANTIBODY (IGG), QUALITATIVE Q

Synonyms:
CHCS IEN: 3564
Test Code: 29407
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated at 2-8C, 30 days Frozen.
Rejection Criteria Gross Hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **H PYLORI AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range: Negative
Critical Value:
Clinical Significance: *Helicobacter pylori* has been implicated as the causative agent in non-ulcer dyspepsia, duodenal ulcers, gastritis and gastric ulcers. Moreover, *H. pylori* alterations of the mucosa have been implicated in the development of gastric cancer. Persons infected with *H. pylori* develop antibodies against this organism. Among healthy persons, IgG antibodies are usually not present in children and teenagers, but rise progressively with age, reaching approximately 50% in the population of persons 60 years old and older. Positive antibody results against *H. pylori* may indicate a past infection, an ongoing infection, or it may confirm acute gastritis and peptic ulcer. Negative antibody tests indicate absence of current and potentially past infection. Antibody tests are not recommended after treatment of H. pylori. Stool antigen and urea breath tests are effective in identifying present infection.

HELICOBACTER PYLORI, ANTIBODY (IGG), QUANTITATIVE Q

Synonyms:
CHCS IEN: 3635
Test Code: 29408
Container (Preferred/Alternate): 5 mL Gold-Top /SST Tube (clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 4 days at room temperature, 7 days refrigerated at 2-8C, 30 days Frozen.
Rejection Criteria Gross Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Chemiluminescence
Order Method: CHCS order entry under: **H PYLORI IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range: <0.9 U/mL Negative; 0.9 – 1.0 Equivocal; >1.0 Positive

Critical Value:
Clinical Significance: A positive serological response to *H. pylori* antigens has been determined in individuals with duodenitis, chronic gastritis, and gastric or duodenal ulcers. Further, many people without clinical symptoms are seropositive for *H. pylori* Antibodies, with the prevalence increasing with age. Therefore, while *H. pylori* serology is a sensitive method to determine colonization, differentiation between colonization and active disease is not possible.

H. pylori serology testing measures antibodies to *H. pylori* and is not recommended for the diagnosis of active infection. The American College of Gastroenterology and the American Gastroenterological Association recommend either the Urea Breath Test (test code 14839) or *Helicobacter pylori* Antigen, EIA, Stool (test code 34838) for diagnosis and confirmation of eradication in cases of suspected or proven *H. pylori* infection.

HELICOBACTOR PYLORI, ANTIGEN STOOL
Synonyms:
CHCS IEN: 2139
Test Code: 34838
Components:
Container (Preferred/Alternate): Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Stool
Volume: 0.5 mL of semi-solid stool **or** 20 mm diameter solid stool
Minimum Volume:
Instructions
Patient Preparation: For initial diagnostic purposes no special patient preparation is required. Patients are not required to be off of medications or to fast before this test. While positive test results from patients taking agents such as proton pump inhibitors and antimicrobials should be considered accurate, false negative results may be obtained. For this reason, physicians may suggest the patient go off medications for two weeks and repeat test if negative results are obtained. To confirm eradication, testing should be done at least 4 weeks following the completion of treatment. However, a positive test result 7 days post therapy is indicative of treatment failure. This test is cleared for use with specimens from pediatric patients.
Collection: Collect 0.5 mL of semi-solid stool or 20 mm diameter solid stool and transfer to properly labeled sterile, leak-proof container. **Do not place stool in preservative, transport media or swab.** Watery, diarrheal stool is not acceptable.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Refrigerated (cold packs) up to 72 hours, Frozen if delay exceeds 72 hours. Specimen stability: unacceptable at room temperature, 72 hours refrigerated at 2-8 ºC, 30 days Frozen.
Rejection Criteria: Watery, diarrheal stool, Stool in preservative, transport media or swab, Received room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: Colonization with *H. pylori* is associated with increased risk of patients developing gastritis, peptic ulcer disease, and gastric adenocarcinoma. Stool antigen testing provides a sensitive measure of infection including during and after treatment. This test is intended to aid in the diagnosis of *H.pylori* infection and to aid in monitoring the efficacy of antimicrobial therapy. A result of "Detected" indicates *H. pylori* antigen is present. "Not Detected" indicates the absence of *H. pylori* antigens or the level of antigen is below the sensitivity of the assay. Antimicrobials, proton pump inhibitors, and bismuth preparations are known to suppress *H. pylori*, and ingestion of these prior to *H. pylori* diagnostic testing may give a false negative result. If clinically indicated, the test may be repeated on a new specimen obtained two weeks after discontinuing treatment. There may be possible false-negative results associated with recent PPI use.

HEMATOCRIT
Synonyms: Hematocrit; HCT
CHCS IEN: 4
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum. At least 2/3 of stated volume on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /
Order Method: CHCS order entry under: **HCT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Usual method for determineing anemia. Used to calculate indices. Evaluation of anemia, blood loss hemolytic anemia, polycythemia and other conditions.

HEMOCCULT *See*: **OCCULT BLOOD PANEL,1-3 SAMPLES**

HEMOCHROMATOSIS DNA **O**
Synonyms: Hemochrom DNA, Hemochro, Keesler
CHCS IEN: 6283
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.
Specimen and Volume Required
Type(s):
Blood/Whole
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.
Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.
Admin Notes
Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entryunder: **HEMOCHROMATOSIS DNA .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other: Requisition required. Do not ship unless Pathologist Approval is requested and obtained.
Interpretive:
Reference Range:
Critical Value:
Clinical Significance: Result: The negative mutation result indicates that the patient is not a carrier of the mutations most frequently associated with the heritable form of hemochromatosis. This finding does not rule out a diagnosis of iron storage disease since this genotype (Negative/Negative) is found in about 5% of cases. If the patient has a family history of iron storage diease, genetic counseling may be useful. Laboratory results and submitted clinical information reviewed by Arlen Buller, Ph.D., ABMG, CGMB, HCLD. Hereditary hemochromatosis (HH) is an autosomal-recessive disorder of iron metabolism that results in rion overload and organ failure in some cases. It is one of the most common genetic disorders in individuals of European-Caucasian ancestry, with an incidence of about 1/200 to 1/500, and an estimated carrier frequency of 10%. Approximately 60-90% of HH cases are homozygous for one mutation in the HFE gene, C282Y, which results in a cysteine to tyrosine substitution at amino acid position 282 (due to a G to A transition at nucleaotide position 845). A second mutation, H63D, results in a histidine to apsaratate substitution a amino acid position 63 (due to a C to G transversion at nucleotide position 187. H63D is

viewed by some as a polymorphism rather than a mutation due to its prevalence in the population since about 15% of the population since 15% of the population carry the variant. However, approximately 3-5% of individuals affected with HH are compound heterozygotes for C282Y and H63D and about 1% of patients are H63D homozygotes, which suggests that H63D may be causative in the development of the disorder at a reduced penetrance. Detection of the C282Y and H63D mutations is accomplished by amplification of the HFE gene regions by polymerase chain reaction (PCR) followed by restriction digestion and detection of restriction fragments on an automated DNA sequencer. This assay may not detect all mutations that cause HH. Since genetic variation and other problems can effect the accuracy of direct mutation testing, the results should always be interpreted in light of clinical and familial data.

Result: Heterozygous for the C282Y Mutation and heterozygous for the H63D mutation. Compound heterozygosity for the C282Y and H63D mutations is associated with an increased risk of being affected with hemochromatosis. The genotype is observed in 3-5% of patients affected by Hereditary Hemochromatosis (HH), which is approximately twice as frequent as observed in the general population. However, less than 2% of individuals with this genotype develop HH, due to reduced penetrance associated with the mutations. Due to the complexities involving variable expressivity and variable penetrance associated with this disorder, genetic counseling is advised. Family members may benefit from carrier testing and genetic counseling to assess their risk of being affected with HH. Laboratory results and submitted clinical information reviewed by Mei Peng, Ph.D., ABMG, CGMB Hereditary hemochromatosis (HH) is an autosomal-recessive disorder of iron metabolism that results in iron overload and organ failure in some cases. It is one of the most common genetic disorders in individuals of European-Caucasian ancestry, with an incidence of about 1/200 to 1/500, and an estimated carrier frequency of 10%. Approximately 60-90% of HH cases are homozygous for one mutation in the HFE gene, C282Y, which results in a cysteine to tyrosine substitution at amino acid position 282 (due to a G to A transition at nucleotide position 845). A second mutation, H63D, results in a histidine to aspartate substitution at amino acid position 63 (due to a C to G transversion at nucleotide position 187. H63D is viewed by some as a polymorphism rather than a mutation due to its prevalence in the population since about 15% of the population carry the variant. However, approximately 30-5% of individuals affected with HH are compound heterozygotes for C282Y and H63D and about 1% of patients are H63D homozygotes, which suggests that H63D may be causative in the development of the disorder at a reduced penetrance. Detection of the C282Y and H63D mutations is accomplished by amplification of the HFE gene regions by polymerase chain reaction (PCR) followed by restriction digestion and detection of restriction fragments on an automated DNA sequencer. This assay may not detect all mutations that cause HH. Since genetic variation and other problems can affect the accuracy of direct mutation testing, the results should always be interpreted in light of clinical and familial data.

Result: Positive for the heterozygous presence of the C282Y mutation in the HFE gene. Negative for the H63D mutation. Individuals with the genotype are not expected to be affected with Hereditary hemochromatosis (HH), although some carriers may experience elevated levels of transferring saturation. An asymptomatic individual with this finding is at least a carrier of HH. Due to the complexities involving variable expressivity and variable penetrance associated with this disorder, genetic counseling is advised. Family members may benefit from carrier testing and gentic counseling to assess their risk of being affected with HH. Laboratory results and submitted clinical information reviewed by Mei Peng, Ph.D., ABMG, CGMB Hereditary hemochromatosis (HH) is an autosomal-recessive disorder of iron metabolism that results in iron overload and organ failure in some cases. It is one of the most common genetic disorders in individuals of European-Caucasion ancestry, with an incidence of about 1/200 to 1/500, and an estimated carrier frequency of 10%. Approximately 60-90% of HH cases are homozygous for one mutation in the HFE gene, C282Y, which results in a cysteine to tyrosine substitution at amino acid position 282 (due to a G to A transition at nucleotide position 845). A second mutation, H63D, results in a histidine to aspartate substitution at amino acid position 63 (due to a C to G transversion at nucleotide position 187. H63D is viewed by some as a polymorphism rather than a mutation due to its prevalence in the population since about 15% of the population cary the variant. However, approximately 3-5% of individuals affected with HH are compound heterozygotes for C282Y and H63D and about 1 % of patients are H63D homzygotes, which suggests that H63D may be causative in the development of the disorder at a reduced penetrance. Detection of the C282Y and H63D mutations is accomplished by amplification of the HFE gene regions by polymerase chain reaction (PCR) followed by restriction digestion and detection of restriction fragments on an automated DNA sequencer. This assay may not detect all mutations that cause HH. Since gentic variation and other problems can affect the accuracy of direct mutation testing, the results should always be interpreted in light of clinical and familial data.

Result: Positive for the heterozygous presence of the H63D mutation in the HFE gene. Negative for the C282Y mutation. Heterozygosity for the H63D mutation has not been associated with an increased risk of being affected with Hereditary Hemochromatosis (HH) compared to the general population. This patient is a carrier of a mutation that has been associated with HH when present in combination with another HH mutation. Due to the complexities involving variable expressivity and variable penetrance associated with this disorder, genetic counseling is advised. Family members may benefit from carrier testing and genetic counseling to assess their risk of being affected with HH. Laboratory results and submitted clinical information reviewed by Franklin Quan, Ph.D., ABMG, CGMB. Hereditary hemochromatosis (HH) is an autosomal-recessive disorder of iron metabolism that results in iron overload and organ failure in some cases. It is one of the most common genetic disorders in individuals of European-Caucasian ancestry, with an incidence of about 1/200 to 1/500, and an estimated carrier frequency of 10% Approximately 60-90% of HH cases are homozygous for one mutation in the HFE gene, C282Y, which results in a cysteine to tyrosine substitution at amino acid position 282). A second mutation, H63D, results in a histidine to aspartate substitution at amino acid position 63 (due to a C to G transversion at nucleotide position 187. H63D is viewed by some as a polymorphism rather than a mutation due to its prevalence in the population since about 15% of the population carry the variant. However, approximately 3-5% of individuals affected with HH are compound heterozygotes for C282Y and H63D and about 1% of patients are H63D homozygotes, which suggests that H63D may be causative in the development of the disorder at a reduced penetrance. Detection of the C282Y and H63D mutations is accomplished by amplification of the HFE gene regions by polymerase chain reaction (PCR) followed by restriction digestion and detection of restriction fragments on an automated DNA sequencer. This assay may not detect all mutations that cause HH. Since genetic variation and other problems can affect the accuracy of direct mutation testing, the results should always be interpreted in light of clinical and familial data.

HEMOGLOBIN *See*: **HGB** in CHCS
Order Comment: For MAMC, Please order **CBC**.
Synonyms: Hemoglobin; Hemoglobin Cord Blood
CHCS IEN: 3
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/Whole
Cord Blood
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **HGB** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) (Hematology) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					g/dL
Birth–3 days	13.5	22.5	7.0		
3 Days–1 week	13.5	21.5	7.0		
1–2 weeks	12.5	20.5	7.0		
2 weeks–1 month	10.0	18.0	7.0		
1-6 months	9.5	13.5	7.0	20.0	
0.5-2 years	10.5	13.5	7.0	20.0	
2-6 years	11.5	13.5	7.0	20.0	
6-12 years	11.5	15.5	7.0	20.0	
12-18 years	13.0	16.0	7.0	20.0	
Adult	14.0	17.0	7.0	20.0	
Female					
Birth–3 days	13.5	22.5	7.0		
3 Days–1 week	13.5	21.5	7.0		
1–2 weeks	12.5	20.5	7.0		
2 weeks–1 month	10.0	10.0	7.0		
1-6 months	9.5	13.5	7.0	20.0	
0.5-2 years	10.5	13.5	7.0	20.0	
2-6 years	11.5	13.5	7.0	20.0	
6-12 years	11.5	15.5	7.0	20.0	
Adult	11.5	15.5	7.0	20.0	

Critical Value:
Clinical Significance: Used in evaluation of anemia, blood loss, hemolysis, polycythemia and other conditions. Increased in severe burns, dehydration, prolonged vomiting, and intestinal obstruction.

HEMOGLOBIN A1C
Synonyms: HGB A1C; Glycosylated Hemoglobin
CHCS IEN: 4629
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: None

Collection: Routine Venipuncture. Allow tube to fill by vacuum. At least 2/3 of stated volume on tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / HPLC
Order Method: CHCS order entry under: **HEMOGLOBIN A1C**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: Hemoglobin A1C (%) Degree of Glucose Control:

Action Suggested:	>8 %
Good Control:	7-8%
Goal:	<7%
Near Normal Glycemia	4.3-5.9%

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/All	4.3	5.9			%

Critical Value:
Clinical Significance: Assesses long term diabetic control in diabetes mellitus.

HEMOGLOBIN A2 QUANTITATION *See*: **HEMOGLOBIN ELECTROPHORESIS** in this laboratory test information guide.

HEMOGLOBIN AND HEMATOCRIT P

Synonyms: H & H
CHCS IEN: 2022
Components:
HGB
HCT

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3.5 mL; EDTA Microtainer for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL for Microtainer tube.

Instructions

Patient Preparation: None
Collection: Whole blood collected in EDTA 3.5 mL Lavendar-Top tube. Allow tube to fill by vacuum at least 3/4 of stated volume of tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive to ensure anticoagulant is effective. Ensure to mix Microtainer 6-8 times when drawing pediatric draw.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria*:* Clotted, Hemolyzed, Quantity Not Sufficient, Blood greater than 24 hours old.

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **HEMOGLOBIN AND HEMATOCRIT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Usual Method for determineing anemia. Used to calculate indices.

HEMOGLOBIN ELECTROPHORESIS *P*

Synonyms: Hb Electrophoresis
CHCS IEN: 3168
Components:
RBC
HGB
HCT
MCV
RDW
Smear
Hemoglobin A2 Quantitation
HGB.Elec. Interpretation
Sickle Screen
Citrate Agar
Interpreted by
Supervised by
Container (Preferred/Alternate): Two Lavendar-Top Tubes (K_2EDTA) 3.5 mL; Two EDTA Microtainer Tubes for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL x 2
Minimum Volume: 500 L for Microtainer draw (2 Microtainers)
Instructions
Patient Preparation: None
Collection: Whole blood collected in EDTA Lavendar-Top tube. Draw two tubes. Allow tube to fill by vacuum at least 3/4 of stated volume of tube. Exception can be pre-arranged for pediatric patients and "difficult draws" by contacting Special Hematology/Coagulation, MAMC prior: 968-2716.
Specimen Processing: Gently invert tube 10 times to mix blood with additive to ensure effectiveness of anticoagulant.
Special Instructions: CBC results and two peripheral blood smears must accompany blood samples. Blood must be less than 24 hours old.
Transport/Storage Temperature: Room Temperature
Rejection Criteria*:* Hemolyzed, Clotted, Quantity Not Sufficient, blood greater than 24 hours old.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entryunder: **HEMOGLOBIN ELECTROPHORESIS**; Include brief patient history with request form. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: (Batch tested) 10 days
Other: Include brief patient history with request form
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HEMOGLOBIN S QUANTITATION

Synonyms: Hb-S
CHCS IEN: 1944
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3.5 mL
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 500 L for Microtainer draw (2 Microtainers)
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 3/4 of stated volume of tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entryunder: **HEMOGLOBIN S QUANTITATION**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Include brief patient history with request form.

Availability: 24 hours / 7 days a week
TAT: Routine: 7 days (Batch Tested)
Other: Include brief patient history with request form

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Quantitation of Hemoglobin S

HEMOSIDERIN
Synonyms:
CHCS IEN: 2164
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required
Type(s):
Urine
Bronchoalveolar Lavage
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria: Specimen more than 48 hours old
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entryunder: **HEMOSIDERIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday – Friday only.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

Urine	***Container:*** Sterile Urine Container with Screw-Top Cap ***Volume:*** ***Minimum Volume:*** 10 mL ***Patient Preparation:*** ***Collection:*** See appropriate clinical procedures for clean catch urine collection. ***Specimen Processing***: Specimen arriving in the afternoon will be processed the following workday. ***Transport/Storage Temperature:*** Room Temperature ***Other:*** Testing performed Monday – Friday.
Bronchoalveolar Lavage (BAL)	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** ***Minimum Volume:*** 10 mL ***Patient Preparation:*** Patient preparation and sample collection is performed by Pulmonary Clinic. See appropriate clinical procedures for procedure being performed. ***Collection:*** Patient sample collection is performed by Pulmonary Clinic. See appropriate clinical procedures for procedure being performed ***Specimen Processing***: Deliver to laboratory ASAP. After normal duty hours deliver specimen directly to the Lead Technologist on duty. ***Transport/Storage Temperature:*** Room Temperature

HEPARIN LOW MOLECULAR WEIGHT
Synonyms: Anti-XA, Anti XA, Factor XA Inhibition, Factor 10A Inhibition, LMWH, XA Inhibition, Lovenox, Enoxaparin
CHCS IEN: 4867
Components:
Container (Preferred/Alternate): Ligth Blue-Top (3.2% Sodium Citrate)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL

Minimum volume: 1 mL Plasma

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine venipuncture. Allow vacutainer tube to fill by vacuum taking care not to over or under fill tube. Collect specimen 4-6 hours after heparin is given to patient. Drawing 2-8 hours after giving heparin is also acceptable.

Specimen Processing: Gently invert tube 8 times to mix additive to blood. Tranport to lab immediately. Centrifuge within 1 hours of draw at 1500G for 10 mins to separate plasma from cells. If testing is to be delayed 2 hours or longer, the separated plasma must be frozen.

Special Instructions:

Transport/Storage Temperature: Transport at room temperature within 1 hour of draw. Store plasma frozen -20° C.

Rejection Criteria: Hemolysis, Lipemia, specimen stored at incorrect temperature.

Admin Notes

Testing Location/Methodology: Special Coagulation, MAMC /

Testing Location/Methodology:

Order Method: CHCS order entry under: **HEPARIN LOW MOLECULAR WEIGHT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Test can be ordered 24 hours / 7 days a week but testing is only performed week days during normal duty hours.

TAT: Notify and Routine: 4 to 24 hours; longer if drawn on weekend or holiday.

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All/No Sex All		<0.10			mL

Critical Value:

Clinical Significance: The therapeutic range for low melcular weight heparins (LMWH) is between 0.7 to 1.3 anti-Xa units/mL measured 4-6 hours after a subcutaneous does, based on recommendations by the American College of Chest Physicians Consensus Conference 2002. The prophylactic range for LMWH is 0.3 to 0.7 anti-Xa units/mL measured 4-6 hours after a subcutaneous dose based on the above. Note: these guidelines are different than for unfractionated heparin given either by continuous infusion or by subcutaneous route in which anti-Xa therapeutic values are 0.3 to 0.7 anti-Xa units/mL by chromogenic method or 0.2 to 0.44 mL by protamine titration are recommended. The LMWH assay validation was performed on Lovenox (Enoxaparin). Therefore this assay may not be appropriate for optimal evaluation of samples from patients receiving other low molecular weight heparins.

References: 1) Hirsh, J and Hook, J. Management of Deep Vein Thrombosis and Pulmonary Embolism. AHA Medical Scientific Statement Circulation 1996:93;2212-2245. 2) Simonneau g, et.al. Subcutaneous Low Molecular Weight Heparin Compared with Continuous Intravenous Unfractionated heparin in the Initial Treatment of proximal Deep Venous Thrombosis: A Multicenter Randomized Trial. DVTENOX study. Arch internal med. 1993;153:1542.

HEPARIN-INDUCED PLATELET ANTIBODY Q

Synonyms:

CHCS IEN: 6438

Test Code: 414

Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL

Minimum Volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine venipuncture.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.

Special Instructions:

Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C. Specimen Stablility: 48 hours at room temperature, 48 hour refrigerated at 2-8C, 30 days Frozen.

Rejection Criteria: Gross hemolysis, Gross Lipemia, room temperature

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Enzyme Linked Immunosorbent Assay (ELISA)

Order Method: CHCS order entry under: **HEPARIN-INDUCED PLT AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week.

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Heparin can induce thrombocytopenia, a decreased platelet count, due to antibody stimulation. False positive results may be due to immune complexes. False negative results may be due to low titer, low avidity antibodies.

HEPATIC FUNCTION PANEL (MAMC) P

Synonyms: LFT; Liver Panel

CHCS IEN: 6411

Components:

Albumin
Protein Total
Alkaline Phosphatase
Aspartate Aminotransferase
Alanine Aminotransferase
Bilirubin, Total
Bilirubin, Conjugated (Direct)

Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), 1- Red or Amber-Top Microtainer Tube for pediatric draw

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **HEPATIC FUNCTION PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: See separate tests
Critical Value:
Clinical Significance: Used to Access the effects of hepatotoxic drugs, and liver status.

HEPATITIS A AB, TOTAL
Synonyms: HAVAB; Hepatitis A Virus Antibody, Total
CHCS IEN: 1346
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS A AB, TOTAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP, Routine
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine. PM will then contact the patient to begin contract tracing.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: HAV antibody indicates prior or acute infection with, or immunization to, Hepatitis A virus.

HEPATITIS A,B,C PANEL (MAMC) P
Order Note:. Please do not order duplicate single tests on test components already found within this panel.
Synonyms: HEP ABC
CHCS IEN: 4826
Components:
Hepatitis A AB, Total
Hepatitis B Surface AG
Hepatitis B Surface AB
Hepatitis B Core AB
Hepatitis C AB
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS A,B,C PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP, Routine
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine. PM will then contact the patient to begin contract tracing.
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

HEPATITIS A IGM
Synonyms: HAV IgM; Hepatitis A Virus IgM
CHCS IEN: 2895
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS A IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine. PM will then contact the patient to begin contract tracing.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: IgM antibodies to Hepatitis A suggest a current, acute or recent Hepatitis A infection.

HEPATITIS B CORE AB
Synonyms: HBCAB; Hepatitis B Virus Core Ab; Hepatitis B Core Antibody, Total
CHCS IEN: 512
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS B CORE AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine. PM will then contact the patient to begin contract
Interpretive
Reference Range:
Critical Value:
Clinical Significance: This assay does not distinguish between Total B core antibody igG and IgM detected before or at the onset of symptoms; however, such reactivity can persist for years after illness, and may even outlast anti-HBs. Occasionally hepatitis B core antibody may be the only marker of either current or past Hepatitis B infection.

HEPATITIS B CORE IGM
Synonyms: HBCAB IGM; Hepatitis B Virus Core IgM
CHCS IEN: 512
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS B CORE IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine. PM will then contact the patient to begin contract.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Hepatitis B core-specific IgM class antibody has been detected in most acute infections and is a reliable marker for acute disease. In some cases, hepatitis B core IgM antibody may be the only specific marker for the diagnosis of acute infection with hepatitis B virus. If results are positive for Total Hepatitis B Core Antibodies, then this test differentiates acute from past infection (chronic).

HEPATITIS B SURFACE AB
Synonyms: HBSAB; Hepatitis B Surface Antibody
CHCS IEN: 513
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS B SURFACE AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Present in acute and chronic carrier states. If results are positive patient is infectious. Used to assess efficacy of hepatitis B vaccine but remains an adjunct test along with anti-HBc for determineing whether subjects have immunity due to a naturally acquired infectionor whether chronic hepatitis B might exist in an HbsAg-negative patient.

HEPATITIS B SURFACE ANTIBODY QUANTITATIVE
Synonyms: HBSAB
CHCS IEN: 513
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS B SURFACE AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Present in acute and chronic carrier states. If results are positive patient is infectious. Diagnosis of acute, chronic or carrier states of hepatitis

HEPATITIS B SURFACE ANTIBODY QUANTITATIVE Q
Order Note:. This assay is used to determinee immune status for Hepatitis B as greater than or equal to 10 mIU/mL as per CDC guidelines.
Synonyms: HBSAB QN, 8475
CHCS IEN: 6491
Test Code: 8475
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL serum
Minimum Volume: 0.5 mL serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **HEPATITIS B SURFACE AB QN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week. Set up: Tues-Sat.
TAT: ASAP: Routine: Report available: 4 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Results obtained from immunosuppressed patients should be interpreted with caution. Patients receiving mouse antibody therapy may produce false-negative results. False-positives may be detected shortly after immunization to influenza and with patients with hypergammaglobulinemia, positive rheumatoid factor, and connective tissue

disorders.

HEPATITIS B SURFACE AG
Synonyms: HBSAG; Hepatitis B Surface Antigen
CHCS IEN: 131
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HEPATITIS B SURFACE AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Present in acute and chronic carrier states. If results are positive patient is infectious. Diagnosis of acute, chronic or carrier states of hepatitis.

HEPATITIS B SURFACE ANTIGEN CONFIRMATION
Order Note: Screening test must be positive to order. This test ordered only by Immunology Section.
Synonyms:
CHCS IEN: 2596
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **HBSAG CONFIRMATION**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week.
TAT: ASAP: Routine: 7 days for negative results. 14 days for positive results
Note to MAMC Physicians: Acute Hepatitis A,B or C is a reportable illness. If test results indicate acute hepatitis, please notify and forward the results to Preventive Medicine.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Present in acute and chronic carrier states. If results are positive patient is infectious. Diagnosis of acute, chronic or carrier states of hepatitis.

HEPATITIS B VIRAL DNA, QUANTITATIVE REAL-TIME PCR Q

Synonyms:
CHCS IEN: 4443
Test Code: 8369
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 3 mL Plasma
Minimum Volume: 2.5 mL
Instructions
Patient Preparation: None
Collection
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship Plasma to Quest Frozen. Specimen stability: 72 hours at room temperature; 7 days refrigerated 2-8 ºC, 30 day Frozen -20 ºC.
Rejection Criteria: SST ® (red-top/glass), Unspun PPT tube
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **Q HEPATITIS B VIRUS DNA**
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Chronic carriers will persist in producing detectable HBV. Patients with chronic liver disease of unknown origin most commonly have HBV that is detected by viral DNA testing. Quantitative measurement of HBV viral DNA may be used to monitor progression of disease.

HEPATITIS Be ANTIBODY Q

Synonyms:
CHCS IEN: 3631
Test Code: 556
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C. Specimen Stability: 7 days at room temperature, 14 days refrigerated at 2-8 ºC, Indefinitely Frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia, Plasma
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **HEPATITIS BE AB**
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: HBeAb appears in the early convalescence of HBV infection. With carrier state and chronic hepatitis, HBeAb may not develop. Results obtained from immunosuppressed patients should be interpreted with caution. Patients receiving mouse antibody therapy may produce false-negative results. False-positives may be detected shortly after immunization to influenza and with patients with hypergammaglobulinemia, positive rheumatoid factor, and connective tissue disorders.

HEPATITIS Be ANTIGEN Q

Synonyms:
CHCS IEN: 3631
Test Code: 555
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C. Specimen Stability: 7 days at room temperature, 14 days refrigerated at 2-8 ºC, Indefinitely Frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia, Plasma
Admin Notes
Testing Location: Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Non-reactive
Critical Value:
Clinical Significance: HBeAg indicates active HBV replication. Infectivity is evaluated based on HBeAg and HBsAg. When HBeAg persists much longer than 10 weeks, the patient is likely to develop chronic hepatitis and be a carrier. Results obtained from immunosuppressed patients should be interpreted with caution. Patients receiving mouse antibody therapy may produce false-negative results. False-positives may be detected shortly after immunization to influenza and with patients with hypergammaglobulinemia, positive rheumatoid factor, and connective tissue disorders.

HEPATITIS C PCR QN *O*

Order Note: Do not order this test. Due to an increase in testing volume at HDRL, their laboratory is unable to keep up with test requests and therefore specimens are now ordered under and sent to Quest Diagnostics for testing. This test is no longer used by any of the sites for HCV RNA PCR QN testing. To avoid testing delays, See: **HEPATITIS C RNA BY PCR (QUANT)** below and order under: **Q HCV RNA BY PCR (QUANT)** in CHCS.
Synonyms: HCV PCR QN, HCV Quant
CHCS IEN: 4258
Test Code:
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation) or 5 mL Lavendar-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Blood/Serum
Blood/Plasma
Volume: 3 mL Plasma or Serum
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine venipuncture. Use Gold-Top tube for serum or Lavendar-Top tube for plasma.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum or plasma from cells within 6 hours of collection. Transfer Serum or Plasma to polypropelene tube for shipping.
Special Instructions:
Transport/Storage Temperature: Ship and store Frozen at -70 C on dry ice. Freeze if testing is to be delayed longer than 72 hours. Preferred storage is Frozen. Specimen Stability: unacceptable at room temperature, only 72 hours refrigerated at 2-8 ºC.
Rejection Criteria: Plasma
Admin Notes
***Testing Location/*Methodology:** HIV Diagnostics & Reference Laboratory, Rockville, MD / Real Time PCR
Order Method: CHCS order entry under: **HEPATITIS C PCR QN**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when

prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
Other: Acute hepatitis A, B, or C is a reportable illness. If these results indicate acute hepatitis, please forward the results to "PM DOC". Preventive Medicine will contact the patient to begin contact tracing.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HEPATITIS C RNA BY PCR (QUANT) P Q
Synonyms: HCV RNA BY PCR QUANT
CHCS IEN: 4425
Test Code: 35645
Components:
Hepatitis C PCR QN
Hepatitis C RNA PCR QN
Container (Preferred/Alternate): Two 3 mL Lavendar-Top Tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 3 mL Plasma (Requires Two 3 ml tubes to obtain)
Minimum Volume: 1.5 mL Plasma
Instructions
Patient Preparation:
Collection: Routine venipuncture. Two 3mL Lavendar-Top tube for plasma.
Specimen Processing: Gently invert tube 5 times to additive with blood. Tranport to lab immediately. Centrifuge to separate plasma from cells and freeze within 2 hours of collection. Transfer Plasma to polypropelene tube for shipping.
Special Instructions:
Transport/Storage Temperature: Ship and store Frozen at -20 C on dry ice. Preferred storage is Frozen. Specimen Stability: unacceptable at room temperature.
Rejection Criteria: Plasma
Admin Notes
Testing Location/**Methodology:** Quest Diagnostics / PCR
Order Method: CHCS order entry under: **Q HVC RNA BY PCR (QUANT)**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
Other: Acute hepatitis A, B, or C is a reportable illness. If these results indicate acute hepatitis, please forward the results to "PM DOC". Preventive Medicine will contact the patient to begin contact tracing.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HEPATITIS C VIRUS RNA, QUALITATIVE PCR Q
Synonyms:
CHCS IEN: 4050
Test Code: 34024
Container (Preferred/Alternate): Two - 3 mL Lavender-Top Tube (EDTA); Plastic Screw-Cap Vial.
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 2 mL Frozen Plasma
Minimum Volume: 0.6 mL Plasma
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture. Collect two lavender-top tubes
Specimen Processing: Gently invert tube 5 times to mix with blood. Tranport to lab immediately. 30 minutes. Centrifuge to separate Plasma from cells within 6 hours of collection by centrifugation at 800-1600 xG for 20 minutes at room temperature. Transfer plasma to plastic screw-cap vial. Freeze immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest frozen. Specimen Stability: Unacceptable at room temperature, 72 hours refrigerated at 2-8 ºC, 90 days Frozen.
Rejection Criteria: Gross hemolysis, Gross Lipemia

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / RIBA 3.0 Strip Immunoblot Assay (SIA)
Order Method: CHCS order entry under: **HEPATITIS C PCR QUAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest established ranges.
Critical Value:
Clinical Significance: HCV Antibody Supplemental testing is used as a follow-up to rule out false positive HCV Antibody test results.

HEPATITIS C VIRUS RNA, QUANTITATIVE bDNA

Synonyms:
CHCS IEN: 3948
Test Code: 29271
Container (Preferred/Alternate): Two - 3 mL Lavender-Top Tube (EDTA); Plastic Screw-Cap Vial or PPT Vacutainer.

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 3 mL Frozen Plasma
Minimum Volume: 0.2 mL Plasma

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture. Collect two lavender-top tubes
Specimen Processing: Gently invert tube 5 times to mix with blood. Tranport to lab immediately. 30 minutes. Centrifuge to separate Plasma from cells within 2 hours of collection by centrifugation at 800-1600 xG for 20 minutes at room temperature. Transfer plasma to plastic screw-cap vial if not using PPT vacutainer. Freeze immediately. If using PPT freeze and ship in tube.
Special Instructions:
Transport/Storage Temperature: Ship to Quest frozen. Specimen Stability: 4 hours at room temperature, 48 hours refrigerated at 2-8 ºC, 90 days Frozen.

Rejection Criteria: Lipemia , Moderate to gross hemolysis, Heparin (green-top) tube, ACD (yellow-top) tube, Received thawed , Received room temperature, Received refrigerated

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Nucleic Acid Amplification by Branched DNA (bDNA)
Order Method: CHCS order entry under: **HEPATITIS C RNA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest established ranges.
Critical Value:
Clinical Significance:

HEPATITS D VIRUS (HDV) IGM ANTIBODY, EIA

Synonyms:
CHCS IEN: 2139
Test Code: 35664
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum refrigerated at 2-8 °C. Specimen Stability: 5 days at room temperature, 14 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria:
Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive:
Reference Range: Negative. Interpretive criteria: Negative – Antibody not detected; Positive – Antibody detected.
Critical Value:
Clinical Significance: Hepatitis D Virus (HDV) infection occurs in association with HBV infection. A positive result for HDV IgM indicates recent HDV infection. HDV infection occurs only in association with HBV infection. Acute HDV infection reflects either HDV acquisition at the time of acute HBV infection (coinfection), or recent exposure to HDV in a patient with chronic HBV infection (superinfection). HDV antigen is detected transiently during the early phase of acute HDV infection, but typically disappears as HDV-specific antibodies arise.

HEPATITS DELTA ANTIGEN Q

Synonyms:
CHCS IEN: 2139
Test Code: 23880
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum refrigerated at 2-8 °C. Specimen Stability: 5 days at room temperature, 14 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria: Plasma

Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range: Negative. Interpretive criteria: Negative – Antibody not detected; Positive – Antibody detected.
Critical Value:
Clinical Significance: Hepatitis D agent occurs only in patients infected with HBV. The presence of Hepatitis D Antibody and HBsAg indicate co-infection. Patients with Hepatitis D are more likely to develop fulminant hepatitis and chronic hepatitis than patients infected only with HBV. Hepatitis Delta Antigen detection is transient and occurs before development of antibody. HDV infection occurs only in association with HBV infection. Acute HDV infection reflects either HDV acquisition at the time of acute HBV infection (coinfection), or recent exposure to HDV in a patient with chronic HBV infection (superinfection). HDV antigen is detected transiently during the early phase of acute HDV infection, but typically disappears as HDV-specific antibodies arise.

HEPATITS E VIRUS (HEV) ANTIBODIES (IGG, IGM) Q

Synonyms:
CHCS IEN: 2139
Test Code: 15085
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum refrigerated at 2-8 °C. Specimen Stability: 7 days at room temperature, 14 days refrigerated at 2-8 ºC, Indefinitely Frozen.

Rejection Criteria: Plasma

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics /ELISA
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Not detected
Critical Value:
Clinical Significance: Hepatitis E virus (HEV) is the major etiologic agent of enterically transmiited non-A, non-B hepatitis worldwide and has a high case-fatality rate in pregnant women. Both IgM and IgG antibody to HEV (anti-HEV) are produced following infection. The titer of IgM anti-HEV declines rapidly during early convalescence; IgG anti-HEV persists and appears to provide at least short-term protection against disease. Both HEV IgM and IgG are typically detected within one month after infection; IgM levels decline rapidly during convalescence, whereas IgG levels persist for months to years after recovery. Approximately 20% of the U.S. population is positive for HEV IgG, indicating that HEV exposure is more common than previously thought. These tests were performed using kits that have not been cleared or approved by the FDA. The analytical performance characteristics of these tests have been determined by Quest Diagnostics. These tests should not be used for diagnosis without confirmation by other medically established means.

HEREDITARY HEMOCHROMATOSIS, DNA, MUTATION ANALYSIS

Synonyms:
CHCS IEN: 6283
Test Code: 35079
Container (Preferred/Alternate): Two- 3 mL Lavender-Top Tubes (EDTA); Plastic Screw-Cap Vial or PPT Vacutainer.

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 5 mL Whole blood
Minimum Volume: 3 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture. Collect two lavender-top tubes
Specimen Processing: Gently invert tube 5 times to mix with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability: 8 days at room temperature, 14 days refrigerated at 2-8 ºC, Indefinitely Frozen.

Rejection Criteria:

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Polymerase Chain Reaction (PCR), Fluorescent Restriction Fragment Length Polymorphism
Order Method: CHCS order entry under: **HEMOCHROMATOSIS DNA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest established ranges.
Critical Value:
Clinical Significance: Hereditary Hemochromatosis (HH) is an inherited disorder wherein the body accumulates excess iron. This test establishes HH diagnosis in individuals with abnormal iron study results and identifies at-risk family members. Expression of C282Y/C282Y homozygosity is variable. Some individuals who fail to meet the diagnostic criteria for hemochromatosis are homozygous for the gene. If these mutations are not found by the testing procedure, it does not mean that the risk of carrying or developing HH is not present. It simply means that these specific mutations have not been found, although other mutations may be present. It is also possible that such a patient may have secondary hemochromatosis, due to nongenetic causes, that would not be detected by this test.

HERPES SIMPLEX 1+2 PCR

Order Note: Approval by Infectious Disease required to order this test. This test is primarily for neonate or severely immunocompormized patients with suspected disseminated HSV infection. This test is NOT for antibody detection and will NOT be useful for the determineation of past infection history.
Synonyms: HSV PCR
CHCS IEN: 4625
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required: See Chart Below
Type(s):
Cerebrospinal Fluid
Blood/Whole
Swab
Volume:
Minimum Volume:
Instructions: See Chart Below
Rejection Criteria
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / Real-Time PCR
Order Method: CHCS order entry: **HERPES SIMPLEX 1+2 PCR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Contact Molecular Diagnostics Section
TAT: Notify and Routine, Routine
Other: For questions, please call Molecular Diagnostics Section, MAMC at (253) 968-1743 or 1724.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The HSV PCR assay was performed utilizing the real-time PCR technology. The HSV DNA Polymerase gene is targeted to detect both types of HSV using sequence specific primers and a probe. The differentiation of the HSV types is achieved by targeting the HSV type 1 specific glycoprotein D and HSV type 2 specific glycoprotein G. The HSV PCR result obtained with this assay should not be used as the sole determineant of HSV CNS diagnosis. This PCR result is only part of the overall clinical aspect of the disases and should be carefully integrated into the clinical diagnosis. This assay and the test's performance characteristics, was developed by the Molecular Diagnostics section at MAMC. This test has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determineed that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

Blood/Plasma	***Order Note For Blood specimen only:*** Approval by Infectious Disease required to order this test. This test is primarily for neonate or severely immunocompormized patients with suspected disseminated HSV infection. ***Container:*** Lavendar-Top Tube (K2EDTA); Heparinized blood (Green-Top tube) is NOT acceptable. ***Volume:*** 6 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Routine Venipuncture. ***Specimen Processing***: Deliver original vacutainer tube immediately to the laboratory after collection. If transport is to be delayed more than one hour, separate the plasma within 1 hour of collection by centrifuging it at 1500 x G for 10 minutes and transferring the plasma to a new labeled tube. Refrigerate plasma if DNA isolation is within 3 days of collection. Freeze the plasma at ≤ -18 °C if DNA isolation is to be delayed for more than three days. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. Refrigerate plasma if DNA isolation is within 3 days of collection. Freeze the plasma at ≤ -18 °C if DNA isolation is to be delayed for more than three days.
CSF	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Deliver specimen immediately to the laboratory after collection. If transport is to be delayed more than one hour, refrigerate the specimen. Freeze at ≤ -18 °C if DNA isolation is to be delayed for more than three days. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. Refrigerate plasma if DNA isolation is within 3 days of collection. Freeze the plasma at ≤ -18 °C if DNA isolation is to be delayed for more than three days.
Swab	***Container:*** Viral Transport Media

	Volume: ***Minimum Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Submit swab sample in regular viral transport medium. Deliver specimen immediately to the laboratory after collection. If transport is to be delayed more than one hour, refrigerate the specimen. Freeze at ≤ -18 °C if DNA isolation is to be delayed for more than three days. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. Refrigerate plasma if DNA isolation is within 3 days of collection. Freeze the plasma at ≤ -18 °C if DNA isolation is to be delayed for more than three days.

HERPES SIMPLEX IGM TITER Q

Synonyms:
CHCS IEN: 4643
Test Code: 38750(?)
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 4 days at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.
Rejection Criteria:
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics /Immunoassay
Order Method: CHCS order entry under: **HERPES SIMPLEX IGM TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HERPES SIMPLEX VIRUS 1 AND 2 (IGG), TYPE SPECIFIC ANTIBODIES (HERPESELECT) Q B

Synonyms:
CHCS IEN: 3673
Test Code: 6447
Components:
Herpes Simplex 1 IgG
Herpes Simplex 2 IgG
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 4 days at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.
Rejection Criteria:
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics /Immunoassay
Order Method: CHCS order entry under: **Q HSV 1+2, IGG**, MAMC Form 1787-L (Clinical Lab Test Procedure Request) for

CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: <.90 Negative; 0.90-1.10 Equivocal; >1.10 Positive
Individuals infected with HSV may not exhibit detectable IgG antibody in the early stages of infection.
This assay is type specific and will differentiate between HSV-1 and HSV-2 infections. A single positive result only indicates previous immunologic exposure and the level of antibody response may not be used to determine active infection or disease stage. The test should be repeated in 4-6 weeks when negative or equivocal results are obtained in suspected early herpes simplex disease. The performance of this assay has not been established for pediatric populations, for neonatal screening, or for the testing of immunocompromised patients.
Critical Value:
Clinical Significance: Herpes Simplex Virus (HSV) is responsible for several clinically significant human viral diseases, with severity ranging from inapparent to fatal. Clinical manifestations include genital tract infections, neonatal herpes, meningoencephalitis, keratoconjunctivitis, and gingivostomatitis. There are two HSV serotypes that are closely related antigenically. HSV type 2 is more commonly associated with genital tract and neonatal infections, while HSV type 1 is more commonly associated with infections of non-genital sites. Specific typing is not usually required for diagnosis or treatment. The mean time to seroconversion using the type specific assay is 25 days. The performance of this assay has not been established for use in a pediatric population, for neonatal screening, or for testing of immunocompromised patients

HERPES SIMPLEX VIRUS 2 IGG, HERPESELECT TYPE SPECIFIC ANTIBODY WITH REFLEX TO HSV-2 INHIBITION Q P

Synonyms:
CHCS IEN: 2139
Test Code: 17170
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 4 days at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria: Gross hemolysis, Gross lipemia, Heat inactivated serum

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics /Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: <0.90 Negative; 0.90-1.10 Equivocal; >1.10 Positive
This assay is type specific and will differentiate between HSV-1 and HSV-2 infections. A single positive result only indicates previous immunologic exposure and the level of antibody response may not be used to determine active infection or disease stage. The test should be repeated in 4-6 weeks when negative or equivocal results are obtained in suspected early herpes simplex disease. The performance of this assay has not been established for pediatric populations, for neonatal screening, or for the testing of immunocompromised patients.
Critical Value:
Clinical Significance: This assay is intended only for samples giving a positive result in the HerpeSelect® HSV-2 type-specific IgG screening assay. The test is useful for further characterization of samples giving low positive or other unexpected results in the HSV-2 type specific IgG assays. A positive inhibition result indicates true HSV-2 specific reactivity, whereas a negative inhibition result suggests that the positive screening result was a false positive.

HERPES SIMPLEX VIRUS CULTURE Q

Order Note: MAMC please order **HERPES SIMPLEX 1+2 PCR** instead of this test.
Synonyms:
CHCS IEN: 1765
Test Code: 2692

Container (Preferred/Alternate): **Swabs**: V-C-M medium (green-cap) tube or equivalent (Use only plastic shaft rayon or Dacron ® swabs) or **CSF, respiratory fluids**: Sterile, leak-proof container or V-C-M medium (green-cap) tube or equivalent

Specimen and Volume Required

Type(s):

Vesicle, lesion fluid, scrapings or swab from the base of the lesion in Quest Diagnostics supplied V-C-M medium (green-cap) tube or equivalent.

CSF in sterile tube or V-C-M medium (green-cap) tube or equivalent.

Urogenital and respiratory specimens such as swabs, secretions or washings, should be inoculated into V-C-M medium (green-cap) tube or equivalent or submitted in a sterile leak-proof container.

Conjunctival or corneal scrapings in V-C-M medium (green-cap) tube or equivalent

Tissues in sterile leak-proof containers with enough V-C-M medium (green-cap) tube or equivalent added to prevent drying of the specimen

Volume: 2 mL of CSF or fluid and one swab in V-C-M medium (green-cap) tube or equivalent

Minimum Volume: 1 mL

Instructions

Patient Preparation:

Collection: See applicable clinical procedures for collection.

Specimen Processing:

Special Instructions: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: unaccepted at room temperature, 4 days refrigerated at 2-8 ºC, Unacceptable Frozen at -20 ºC, 30 days Froze at -70 ºC.

Transport/Storage Temperature:

Rejection Criteria: Raw stool, Dry swabs, Gel-based transport systems, Tissues or biopsies in formalin or other fixatives, DNA probe transport systems, Calcium alginate swabs, Wooden shaft swabs, Non gel-based bacterial transports, Specimens received at room temperature, Specimens received frozen at -20° C

Admin Notes

Testing Location/**Methodology:** Quest Diagnostics / Spin amplified culture with Elvis ® detection, Typing not performed; if desired, please see "Herpes Simplex Virus Culture with Reflex Typing".

Order Method: ***Order Method:*** CHCS order entry under: **HERPES SIMPLEX CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Herpes Simplex Virus (HSV) is responsible for several clinically significant human genital tract infections, neonatal herpes, meningoencephalitis, keratoconjunctivitis and gingivostomatitis.

HERPES SIMPLEX VIRUS CULTURE WITH REFLEX TYPING Q

Synonyms:

CHCS IEN: 2139

Test Code: 2649

Components:

Container (Preferred/Alternate): **Swabs**: V-C-M medium (green-cap) tube or equivalent (Use only plastic shaft rayon or Dacron ® swabs) or **CSF, respiratory fluids**: Sterile, leak-proof container or V-C-M medium (green-cap) tube or equivalent

Specimen and Volume Required

Type(s):

Vesicle, lesion fluid, scrapings or swab from the base of the lesion in Quest Diagnostics supplied V-C-M medium (green-cap) tube or equivalent.

CSF in sterile tube or V-C-M medium (green-cap) tube or equivalent.

Urogenital and respiratory specimens such as swabs, secretions or washings, should be inoculated into V-C-M medium (green-cap) tube or equivalent or submitted in a sterile leak-proof container.

Conjunctival or corneal scrapings in V-C-M medium (green-cap) tube or equivalent

Tissues in sterile leak-proof containers with enough V-C-M medium (green-cap) tube or equivalent added to prevent drying of the specimen

Volume: 2 mL of CSF or fluid and one swab in V-C-M medium (green-cap) tube or equivalent

Minimum Volume: 1 mL

Instructions

Patient Preparation:

Collection: See applicable clinical procedures for collection.

Specimen Processing:

Special Instructions: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: unaccepted at room temperature, 4 days refrigerated at 2-8 ºC, Unacceptable Frozen at -20 ºC, 30 days Froze at -70 ºC.

Transport/Storage Temperature:

Rejection Criteria: Raw stool, Dry swabs, Gel-based transport systems, Tissues or biopsies in formalin or other fixatives, DNA probe transport systems, Calcium alginate swabs, Wooden shaft swabs, Non gel-based bacterial transports, Specimens

received at room temperature, Specimens received frozen at -20° C

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Spin Amplification Culture with Elvis ® Detection • Monoclonal Fluorescent Antibody Typing

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Herpes simplex virus (HSV) is responsible for several clinically significant human genital tract infections, neonatal herpes, meningoencephalitis, keratoconjunctivitis and gingivostomatitis. There are two HSV serotypes that are closely related antigenically. HSV type 2 is more commonly associated with genital tract and neonatal infections, while HSV type 1 is more commonly associated with infections of non-genital sites. Typing of genital HSV isolates may assist in the prognosis for lesion recurrence and may be of interest in epidemiological studies.

HERPES SIMPLEX VIRUS IGM ANTIBODY WITH REFLEX TO TITER Q

Synonyms:

CHCS IEN: 4441

Test Code: 7438

Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL

Minimum Volume: 0.2 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine venipuncture.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.

Special Instructions:

Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 4 days at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria:

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics /Immunoassay

Order Method: CHCS order entry under: **HSV IGM SCR REFLEX TO TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

HERPES SIMPLEX VIRUS, TYPE 1 AND 2 DNA, REAL-TIME PCR Q

Synonyms:

CHCS IEN: 2139

Test Code: 34257

Components:

Container (Preferred/Alternate): Sterile Screw-Cap Vial

Specimen and Volume Required

Type(s): CSF

Volume: 1 mL CSF

Minimum Volume: 0.3 mL

Instructions

Patient Preparation: See applicable clinical procedures for CSF collection.

Collection: See applicable clinical procedures for CSF collection.

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Ship /store refrigerated at 2-8 °C. Specimen stability: 48 hours at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **HERPES SIMPLEX 1+2 PCR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: DNA testing is analytically more sensitive than culture, especially in patients with encephalitis or meningitis. DNA testing may be useful in diagnosis of infection in neonates. Neonates who have been exposed to HSV can develop disseminated infection and encephalitis. Encephalitis is usually due to HSV 1 whereas meningitis is usually due to HSV 2. DNA testing provides reliable means to define the type.

HERPES SIMPLEX VIRUS / VARICELLA-ZOSTER VIRUS, RAPID CULTURE

Order Note: For genital, rectal and peri-rectal specimens, refer to Herpes Simplex Virus Culture (with or without reflex typing)
Synonyms:
CHCS IEN: 2139
Test Code: 17495
Components:
Container (Preferred/Alternate): V-C-M medium (green-cap) tube or equivalent
Specimen and Volume Required
Type(s): Lesion aspirate or swab from sources such as oral, skin, or conjunctiva
Volume: 0.3 mL
Minimum Volume: 0.3 mL
Instructions
Patient Preparation: See applicable clinical procedures for collection.
Collection: See applicable clinical procedures for CSF collection.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship Frozen at -70 ºC on dry ice. Specimen stability: Unaccepted room temperature, 72 hours refrigerated at 2-8 ºC, Unaccepted at -20 ºC, 30 days Frozen at -70 ºC.
Rejection Criteria: Dry swabs, Formalin or other fixatives any specimen, Gel-based transport systems, Nucleic acid transport systems, Slides, Stool, Urine, Wooden-shaft swabs, Calcium alginate swabs, Received room temperature, Received frozen at -20° C.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Rapid Culture using a patented, H & V Fresh Cells™ Cell Line
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability..
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: Both HSV and VZV cause a multitude of human diseases and are particularly severe in patients whose immune systems are immature (neonates), suppressed (drug therapy) or compromised (elderly, Aids). HSV infections include genital lesions, cold sores, pharyngitis, ocular keratitis and encephalitis. VZV causes both chickenpox and shingles representing different clinical manifestations of the same infection with VZV. The different clinical manifestations of VZV can be indistinguishable from those of HSV.

HERPES VIRUS 6 DNA, QUALITATIVE, REAL-TIME PCR

Synonyms:
CHCS IEN: 2139
Test Code: 16001
Components:
Container (Preferred/Alternate): 3 mL Lavendar-Top Tube (EDTA); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 1mL *Whole Blood*
Minimum Volume: 0.3 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum refrigerated at 2-8C on cold packs. Specimen Stability: 48 hours at room temperature, 7 days refrigerated at 2-8 ºC, Unacceptable Frozen.

Rejection Criteria: Hemolysis

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Not Detected
Critical Value:
Clinical Significance:

HGB *See*: **HEMOGLOBIN** or **HEMOGLOBIN AND HEMATOCRIT** in this laboratory test information guide.

HISTOPLASMA ANTIBODY, COMPLEMENT FIXATION Q

Synonyms:
CHCS IEN: 2139
Test Code: 938
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 14 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria:

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Complement Fixation (CF)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Used for the diagnosis and prognosis of histoplasma infections. Titers ≥1:32 are highly suggestive of *H.capsulatum* infection. The CF test is more frequently positive with sera from chronic active pulmonary histoplasmosis than sera from primary active pulmonary disease.

HISTOPLASMA ANTIBODY, IMMUNODIFFUSION Q

Synonyms:
CHCS IEN: 2139
Test Code: 526
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 14 days refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria:

Admin Notes

***Testing Location/*Methodology:** Quest Diagnostics / Immunodiffusion (ID)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Two immunoprecipitin bands H and M may be present. M precedes H. The presence of both H and M bands indicates active infection.

HIV-1/0/2

Synonyms: HIV
CHCS IEN: 6313
Components:
Container (Preferred/Alternate): MAMC use: Z Serum Separator Clot Activator tube (Red/Yellow-Top tube) 7 mL
For McChord Clinic only use: Gold-Top SST or Red-Top tube 6 mL

Specimen and Volume Required

Type(s): Blood/Serum
Volume: *7* mL
Minimum Volume: 1 mL serum

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture. For MAMC the Z Serum Separator Clot Activator Tube may be requested from the HIV section at 968-2531.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions: Negative and Positive results are handled IAW local and DoD policies. Results for patients that are positive for HIV antibody are given first to the MAMC preventive medicine service for patient counseling and follow-up testing.
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C

Rejection Criteria: Gross hemolysis, Gross Lipemia.

Admin Notes

Testing Location/Methodology: For MAMC, Testing is done at: Center for Disease Detection (CCD), San Antonio, TX. For the McChord Clinic, testing is done at: Epidemiology Laboratory Services USAFSAM/PHE, WPAFB, OH
Order Method: CHCS order entry under: **HIV-1/0/2**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Please refer to MAMC Regulation 40-5 for consent procedures.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

HIV-1 DNA, QUALITATIVE PCR Q

Synonyms:
CHCS IEN: 3361
Test Code: 8401
Container (Preferred/Alternate): 3 mL Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 1 mL Whole Blood
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 6 days at room temperature, 6 days refrigerated at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria: Frozen
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Polymerase Chain Reaction (PCR)
Order Method: CHCS order entry under: **ZXZHIV-1 DNA BY PCR, QL(MAMC)**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other: This test is performed using a kit that has not been cleared or approved by the FDA. The analytical performance characteristics of this test have been determined by Quest Diagnostics. This test should not be used for diagnosis without confirmation by other medically established means.
Interpretive
Reference Range: Not Detected
Critical Value:
Clinical Significance: HIV-1 DNA PCR is a sensitive method for detection of pro-viral DNA. It has been used in the management of perinatal HIV infection. HIV-1 RNA has recently been confirmed equally as sensitive and specific for this purpose.

HIV POST-EXPOSURE PROPHYLAXIS *See*: **xHIV POST-EXPOSURE PROPHYLAXIS** in CHCS.
Order Note: This test is to be used Only for high risk occupational exposures and for the occasional woman presenting in labor who has unknown HIV status. This test is Not to be used as a substitute for missed force testing, a requirement to PCS, or in the event of routine HIC clinical screening (e.g. STD). Negative results will be called to the ordering provider. Positive results will be called to the Preventive Medicine Officer of the Day and they will arrange counseling for the source and recipient, as well as coordinating with the ordering provider and ID physician on call.
Synonyms:
CHCS IEN: 4277
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot activator and gel for serum separation) or Red-Top Tube (Clot activator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 2 mL
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions: Deliver directly to Microbiology Section during duty hours or to Lead Technologist in lab after duty hours to avoid confusion with Force Testing specimens. For further information, see the MAMC Infection Control Manual.
Transport/Storage Temperature: Transport at room temperature, store serum refrigerated at 2-8 °C
Rejection Criteria: Gross hemolysis, Gross Lipemia.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Uni-gold Recombigen HIV-1 test
Order Method: CHCS order entry under: **xHIV POST-EXPOSURE PROPHYLAXIS** Indicate reason/circumstance for requesting test in CHCS order entry comment.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Other: Testing performed using the Uni-gold Recombigen HIV-1 test, an ezyme-linked immunosorbent assay for the

detection of antibody to the Human Immunodeficiency Virus Type 1.

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

HIV RNA o

Order Note: Limited Access test. **Do Not Order this test.** Utilized by Infectious Disease staff.

Synonyms:

CHCS IEN:

Components:

Container (Preferred/Alternate): Requires: 2 Lavendar-Top Tubes(K_2EDTA) 3 mL

Specimen and Volume Required

Type(s):

Volume: 2 x 3 mL

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Routine venipuncture.

Specimen Processing: Gently invert each tube 10 times to mix clot activator with blood immediately after drawing each tube. Tranport to lab immediately. Centrifuge to separate. Transfer separated plasma to one serile tube with cap. Freeze. Ships FEDEX on dry ice.

Special Instructions:

Transport/Storage Temperature: Ships Frozen on dry ice.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing done at HIV Diagnostic laboratory

Order Method: This test is not searchable in CHCS. Test is limited access.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

HLA-B27 ANTIGEN Q
Synonyms:
CHCS IEN: 3651
Test Code: 528
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL Whole Blood
Minimum Volume: 1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 5 days at room temperature, Unacceptable refrigerated, Unacceptable Frozen.
Rejection Criteria: Frozen
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Flow Cytometry
Order Method: CHCS order entry under: **HLA-B27**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other:
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: HLA-B27 is found in 90% of patients with ankylosing spondylitis and 80% in Reiter's disease. Ankylosing spondylitis affects 1 in 1000 caucasians. Ankylosing spondylitis is 10 times more common among individuals with HLA-B27 compared to individuals without this antigen.

HLA-DQB1 HI RES Q
Synonyms:
CHCS IEN: 2139
Test Code: 17394
Components:
Container (Preferred/Alternate): Yellow-Top Tube (ACD-A or ACD-B)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10mL Whole Blood
Minimum Volume: 5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture. A separate ACD (yellow-top) or EDTA (lavender-top) tube must be submitted for all HLA testing. If submitted with any other test requiring an ACD or EDTA tube, please submit a separate tube for this test. Do not open tube.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 7 days refrigerated at 2-8 C, Unacceptable Frozen.
Rejection Criteria: Received frozen, Sodium heparin (green-top) tube, Lithium heparin (green-top) tube
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Sequence Based Typing (SBT) Specific Oligonucleotide Probes (PCR-SSO)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other:
Interpretive
Reference Range: See medical report.
Critical Value:
Clinical Significance: HLA high resolution typing is necessary for finding compatible donors for unrelated bone marrow

transplantation, for tumor vaccines, and for clinical trials involving vaccines and immunotherapy.

HLA-DRB1 HI RES Q
Synonyms:
CHCS IEN: 2139
Test Code: 17393
Components:
Container (Preferred/Alternate): Yellow-Top Tube (ACD-A or ACD-B)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10mL Whole Blood
Minimum Volume: 5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture. A separate ACD (yellow-top) or EDTA (lavender-top) tube must be submitted for all HLA testing. If submitted with any other test requiring an ACD or EDTA tube, please submit a separate tube for this test. Do not open tube.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 7 days refrigerated at 2-8 C, Unacceptable Frozen.
Rejection Criteria: Frozen
Admin Notes
Testing Location/**Methodology:** Quest Diagnostics / Sequence Based Typing (SBT) Specific Oligonucleotide Probes (PCR-SSO)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other:
Interpretive
Reference Range: See medical report.
Critical Value:
Clinical Significance: HLA high resolution typing is necessary for finding compatible donors for unrelated bone marrow transplantation, for tumor vaccines, and for clinical trials involving vaccines and immunotherapy

HLA TYPING FOR CELIA DISEASE Q
Synonyms:
CHCS IEN: 2139
Test Code: 17135
Components:
Container (Preferred/Alternate): Yellow-Top Tube (ACD-A or ACD-B)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10mL Whole Blood
Minimum Volume: 5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture. A separate ACD (yellow-top) or EDTA (lavender-top) tube must be submitted for all HLA testing. If submitted with any other test requiring an ACD or EDTA tube, please submit a separate tube for this test. Do not open tube.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 7 days refrigerated at 2-8 C, Unacceptable Frozen.
Rejection Criteria: Frozen
Admin Notes
Testing Location/**Methodology:** Quest Diagnostics / Polymerase Chain Reaction Amplification followed by Sequence Specific Oligonucleotide Probes (PCR-SSO)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine
Other:

Interpretive

Reference Range: See medical report.
Critical Value:
Clinical Significance: Celiac disease is a multigenic immune-mediated enteropathy triggered by dietary proteins, commonly known as glutens, present in wheat, barley, and rye. Varied clinical manifestations begin either in childhood or adult life. Its prevalence in the united states ranges from 0.5 to 1%. Celiac disease is strongly associated with the HLA genetic region. Approximately 90% of celiac patients express the HLA-DQ2 molecule. Most of the DQ2 negative patients express the HLA-DQ8 molecule. Gluten peptides presented by these HLA molecules induce an abnormal mucosal immune response and tissue damage. The HLA-DQ molecules are heterodimers of an alpha and a beta chain. The beta chain of HLA-DQ2 is coded by HLA-DQB1 * 02 and of DQ8 by HLA-DQB1 * 0302. HLA-DQB1 genotyping allows clinicians to evaluate the genetic predisposition for celiac disease in a patient.

HOMOCYSTEINE

Synonyms: Homocysteine Congenital; Homocysteine Cardiovascular
CHCS IEN: 3789
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **HOMOCYSTEINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex All	6.6	14.8			µmol/L
Female/All	4.7	12.6			

Critical Value:
Clinical Significance: Elevated levels of homosysteine are observed in patients at risk for coronary heart diease and stroke. Diagnose and monitor treatment of homocystinuria, folate deficiency, or vitamin B_{12} deficiency.

HOMOVANILLIC ACID (HVA), RANDOM URINE Q

Synonyms:
CHCS IEN: 2139
Test Code: 6346
Components:
Container (Preferred/Alternate): Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Urine/Random
Volume: 10 mL urine
Minimum Volume: 5 mL

Instructions

Patient Preparation: It is preferable for the patient to be off medications for 3 days prior to collection. However, common antihypertensives (Diuretics, Ace inhibitors, Calcium Channel blockers, Alpha and Beta blockers) cause minimal or no interference. Patient should avoid alcohol, coffee, tea, tobacco and strenuous exercise prior to collection.
Collection: See appropriate clinical procedure for urine collection.
Specimen Processing: Adjust a well mixed random urine sample with 6N HCl to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and the sample is shipped frozen.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Specimen Stability: 10 days at room temperature, 1 2 weeks

refrigerated at 2-8 ºC, 90 days Frozen.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography (HPLC), Electrochemical Detection

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Homovanillic acid (HVA) has been identified as the principal urinary metabolite of dopa and dopamine. HVA supports the diagnosis of neuroblastoma and malignant pheochromocytoma.

HORSE DANDER (E3) IGE

Synonyms:

CHCS IEN: 6036

Test Code: 2603

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.2 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/

Order Method: CHCS order entry under: **HORSE DANDER IGE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

HPV TYPING INT/HIGH

Synonyms:

CHCS IEN: 4589

Components:

Container (Preferred/Alternate): Thin Prep Vial

Specimen and Volume Required

Type(s):

Vaginal-cervical Cytologic Material
Vulvar Cytologic Material
Vaginal Cytologic Material
Cervical Cytologic Material
Endocervical Cytologic Material
Endometrial Cytologic Material
Vaginal Cytology, Liquid Based
Cervical Cytology, Liquid Based
Vaginal-Cervical Cytologic Material
Vulvar Cytologic Material
Vaginal Cytolgic Material
Blood

Urine, Random
Serum
Plasma
Cerebrospinal Fluid
Urine, 24 Hour
Urine, 12 Hour
Urine, Timed
Digene Brush
Volume:
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Vaginal Cytology Liquid Based or Cervical Cytology Liquid Based specimens must be submitted in Thin Prep media. These collection sample are used for those requests that are reflexed based on the PAP result. Cervical collection using the Digene Brush should NOT be used for collection of specimens from pregnant women. Specimens only for HPV testing must be submitted using the Digene system. If a PAP is also required, a thin prep sample must also be submitted.
Specimen Processing: The preservative contained is to retard bacterial growth and to retain the integrity of DNA. It is NOT intended to preserve viability of organisms or cells. Specimens collected and transported using the hc2 DNA collection device or HC Cervical Sampler (cervical brush and STM) locally, may be held for up to two weeks at room temperature, after which specimens can be stored an additional week at 2-8 degrees Celsius.
Special Instructions:
Transport Temperature: Specimens collected and transported using the hc2 DNA collection device or HC Cervical Sampler (cervical brush and STM) locally, may be held for up to two weeks at room temperature, after which specimens can be stored an additional week at 2-8 degrees Celsius.
Samples collected at remote MTFs shipping to MAMC, please ship refrigerated.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology/Virology Section, MAMC
Order Method: CHCS order entry under: **HPV TYPING INT/HIGH**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Contact Section
TAT: Routine: 7 days

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Intermediate/High risk HPV for one or more of the following subtypes are detected: 16,18,31,33,35,39,45,51,52,56,58,59,68. Based on the current medical literature, the risk of progression to HSIL or Cervical cancer is present. Consider follow-up with colposcopy and/or biopsy or as clinically indicated. HPV DNA subtypes are not detected: 16,18,31,33,35,39,45,51,52,56,58,59,68. Based on the current medical literature, the risk of progression to cervical cancer is low. Consider routine follow-up in 6-12 months or as clinically indicated.

HPV, LOW / HIGH DNA, ISH

Synonyms:
CHCS IEN: 2139
Test Code: 19688
Components:
Container (Preferred/Alternate): IHC Specimen Transport Kit

Specimen and Volume Required

Type(s):
Preferred: Tissue – Formalin Fixed Paraffin Embedded Tissue in IHC Specimen Transport Kit. 11 unstained charged (+) slides are now the acceptable specimens.
Alternate: 4 micron unstained sections and 50 micron shavings; submitted in an IHC specimen transport ki
Volume:
Minimum volume:

Instructions

Patient Preparation:
Collection: See appropriate clinical procedure for specimen colletion. Do not place labels with adhesive backing on slides. Use pencil or xylene-resistant pen to write on frosted end of slide only.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Indefinite at room temperature; Indefinite at 2-8 ºC; Unacceptable Frozen.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: HPV is the causative agent of cervical dysplasia and carcinoma. Selected low-risk and high-risk subtypes are assessed in tissue block. Viral integration is not always discovered in invasive carcinomas of the cervix. A minority of women infected with oncogenic types actually go on to develop neoplasia.

HUMAN GROWTH HORMONE Q

Synonyms: Quest Name: Growth Hormone
CHCS IEN: 2071
Test Code: 521
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL

Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature. Specimen Stability: 7 days at room temperature, 7 days refrigerated at 2-8 C, 28 days Frozen.

Rejection Criteria: Gross hemolysis, Plasma

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **HUMAN GROWTH HORMONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive:
Reference Range: Adults (≥20 years old): ≤10.0 ng/mL; Children (<20 years old): ≤13.0 ng/mL
Critical Value:
Clinical Significance: Because of a pulsatile secretion pattern, random (unstimulated) Growth Hormone (GH) levels are frequently undetectable in normal children and adults and are not reliable for diagnosing GH deficiency. Regarding suppression tests, failure to suppress GH is diagnostic of acromegaly. Typical GH response in healthy subjects: Using the glucose tolerance (GH suppression) test, acromegaly is ruled out if the patient's GH level is <1.0 ng/mL at any point in the timed sequence. Using GH stimulation testing, the following results at any point in the timed sequence rules out GH deficiency: **Adults (≥20 years old):** Insulin Hypoglycemia ≥5.1 ng/mL, Arginine/GHRH ≥4.1 ng/mL; **Children (<20 years old):** all stimulation tests ≥10.0 ng/mL.

HUMAN PLATELET ANTIGEN 1 GENOTYPE Q

Synonyms:
CHCS IEN: 2139
Test Code: 10707
Components:
Container (Preferred/Alternate): 3 mL Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL Whole Blood
Minimum Volume: 1 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship serum at room temperature. Specimen Stability: 7 days at room temperature, 2 weeks refrigerated at 2-8 ºC, Unacceptable Frozen.

Rejection Criteria: Frozen
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / DNA-Based Capture Binding Assay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Human Platelet Antigen (HPA) polymorphism can lead to alloimmunization that clinically can manifest as neonatal alloimmune thrombocytopenia or post-transfusion thrombocytopenia purpura. HPA-1 genotyping allows screening for potential neonatal immunization in pregnancy.

HYDROCODONE Q
Synonyms:
CHCS IEN: 4765
Test Code: 3789
Container (Preferred/Alternate): 5 mL Red-Top Tube (No gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 4 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship serum to Quest refrigerated 2-8 ºC on cold packs. Specimen Stability: 5 days at room temperature, 14 days refrigerated at 2-8 ºC, 1 year Frozen.
Rejection Criteria: SST
Admin Notes
***Testing Location/*Methodology:** Quest Diagnostics / Gas Chromatography/Mass Spectrometry (GC/MS)
Order Method: CHCS order entry under: **HYDROCODONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

HYDROXYLASE ANTIBODY Q
Synonyms:
CHCS IEN: 2139
Test Code: 37916
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Ship at Room Temperature. Specimen Stability: 24 hours at room temperature, 7 days refrigerated at 2-8 C, 6 months Frozen.
Rejection Criteria: Gross hemolysis, Plasma
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Radiobinding

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive:
Reference Range: Children and adults: <1.0 U/mL
Critical Value:
Clinical Significance: Diagnose Autoimmune Polyglandular Syndrome (APS), Type 1 or 2. Diagnose Addison's disease

HYPERSENSITIVITY, PNEUMONITIS SCREEN Q P

Synonyms:
CHCS IEN: 6210
Test Code: 14978
Components:
Aspergillus fumigates
Micropolyspora faeni
Pigeon Serum
T. candidus
T. vulgaris
S. viridis

Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (clot activator and gel for serum separation); Plastic Screw-Cap vial.

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL
Minimum Volume: 0.5 mL

Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Ship refrigerated at 2-8 ºC on cold packs. Specimen stablility:2 days at room temperature, 14 days refrigerated at 2-8C, 6 months Frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunodiffusion (ID)
Order Method: CHCS order entry under: **HYPERSENSITIVITY PNEUMONITIS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

IBD SEROLOGY 7 O P

Synonyms:
CHCS IEN: 5046
Components:

Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature.

Rejection Criteria: Gross hemolysis, hyperlipemia

Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics

Order Method: CHCS order entry under: **IBD SEROLOGY 7.**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive: Predictive Algorithm Description: Utilizes Smart Diagnostic algorithm (SDA) technology to characterize complex relationships between multiple markers to produce a diagnostic prediction with greater accuracy than simple comparison of assay results to a reference range. Developed (n=1813, 36% CD, 24% UC, 20% IBS, 20% normal) and validated (n=500, 38% CD, 21% UC, 41% normal) using serology results for samples with a known diagnosis.
General Crohn's Disease prognostic information ASCA IgG and/or IgA: Assay values above reference values were associated with aggressive disease phenotype, small bowel location and need for surgery (Amott I, Am J Gastroenterol. 2004;99: 2376; Mow W, Gastroenterology. 2004; 126: 414; Walker L, Clin Exp Immuol 2004;135: 490) and with early serugery (Forciona D, Gut. 2004; 53; 1117)

Pediatrics Assay values above reference values were associated with shorter time to and more frequent occurrence of disease complications such as fistula and abscess formation (Amre D, Am J Gastroenterol. 2006; 101; 645) and with small bowel disease location (Dubinsky M, Am J Gastroenterol. 2006; 101: 360; Xholudev A, Am J Gastroenterol. 2004 Nov; 99: 2235) Anti-OmpC: Assay values above reference values and higher assay values were associated with disease progressin (Amott 2004) and with fibrostenosing and internal perforating disease and small bowel surgery (Mow 2004). Pediatrics: Assay values above reference values and higher assay values were associated with internal penetrating and/or strictuing disease (Dubinsky 2006).

Anti-CBirl: Assay values above reference values were associated with small bowel, fibrostenosing and internal penetrating disease (Targan S, Gastroenterology. 2005;128:2020). Assay values above reference values occurred more frequently in pANCA positive CD patients than in pANCA positive UC patients (Targan 2005)
NSNA: pANCA (NSNA) positivity in CD was associated with the occurrence of features geneally seen with UC< including increased incidence of rectal symptoms (Vasiliauskas E, Gastroenterology. 1996;110:1810) and a lower incidence of fistulizing and fibrosing disease (Vasiliauskas E, Gut. 200;47:487).

Multiple Antibodies: An increasing number of assay values above reference values and increasing assay values above reference values was associated with more severe disease and more rapid progression to complications (Bubinsky 2006). Test performed at: Prometheus 9410 Carroll Park Drive San Diego, CA 92121 Toll Free: 888-423-5227.

General Test Information Prometheus IBD Serology 7

	IBD	CD	UC
Sensitivity	93%	88%	93%
Specificity	95%	98%	97%
PPV	96%	96%	89%
NPV	90%	93%	98%

Reference Range:
Critical Value: None
Clinical Significance:

ICTOTEST* Do not order this test. This test ordered by laboratory personnel only to confirm Bilirubin results.
CHCS IEN: 2493
Clinical Significance: This is the confirmatory test for urine bilirubin. It is performed when the reagent strip test for bilirubin is positive. Only ordered by laboratory personnel.

IG A, G, M P
Order Note: If patient is less than 9 years of age and IgA deficiency is suspected, also order: **IMMUNOGLOBULIN A, QN** Q
Synonyms: Immunoglobin Panel
CHCS IEN: 3263
Components:
Immunoglobulin G
Immunoglobulin A
Immunoglobulin M
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion

Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross hemolysis, hyperlipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **IG A, G, M**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: IgA: 70 – 400 mg/dL, IgM: 40 – 230 mg/dL, IgG: 700 – 1600 mg/dL
Critical Value: None
Clinical Significance:

IGA *See*: **IMMUNOGLOBULINS WITH LIGHT CHN** in this laboratory test information guide.

IGE
Synonyms: Immunoglobulin E
CHCS IEN: 2850
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross hemolysis, hyperlipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / ImmunoCap 250
Order Method: CHCS order entry under: **IGE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: ASAP, Routine: 24 to 48 hours, longer if specimen submitted on weekend/holiday.
Interpretive: Non-atopic <25 kU/L; Atopic > 100 kU/L
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	0	24			kU/L

Critical Value:
Clinical Significance: For diagnosis of allergic disease. A normal IgE level does not exclude the possible presence of an allergic disorder.

IGF-I, LC/MS Q
Synonyms: Somatomedin C
CHCS IEN: 2139
Test Code: 16293
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting

time required: 30 minutes. Centrifuge and separate serum from cells immediately. Freeze serum.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 7 days frozen at -20 ºC, 21 days frozen at -70 ºC.

Rejection Criteria: Glass tubes, Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **INSULIN-LIKE GF-I**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Insulin-like growth factor I (IGF-I, or somatomedin C), a protein involved in stimulating somatic growth, is regulated principally by growth hormone (GH) and nutritional intake. IGF-I is transported in serum by several proteins; this helps maintain relatively high IGF-I plasma levels and minimizes fluctuations in serum IGF-I concentrations. Measuring IGF-I is useful in several growth-related disorders. Dwarfism caused by deficiency of growth hormone (hypopituitarism) results in decreased serum levels of IGF-I, while acromegaly (growth hormone excess) results in elevated levels of IGF-I. IGF-I measurements are also helpful in assessing nutritional status; levels are reduced in undernutrition and restored with a proper diet.

IGF BINDING PROTEIN-3 (IGFBP-3) Q

Synonyms:
CHCS IEN: 2139
Test Code: 34458
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 28 days frozen.

Rejection Criteria: Gross hemolysis, Lipemia, Plasma, Specimens out of stability

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Immunoassay
Order Method: CHCS order entry under: **INSULIN-LIKE GF BIND PROT 3**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Insulin-like growth factor binding proteins bind IGF-1 and IGF-2 with high affinity but do not bind insulin. Of the six distinct IGF binding proteins structurally characterized at this time, IGFBP-3 has been shown to be the major carrier of the IGFs, transporting approximately 95% of circulating IGF-1 and IGF-2. IGFBP-3 is growth hormone (GH) responsive. Thus, levels are high in acromegaly and low in hypopituitarism, and levels increase in GH-deficient children after GH administration. Thus, both assays and the ratios of IGF-1/IGFBP-2 and IGFBP-2/IGFBP-3 are useful as markers of GH action and for discriminating between growth hormone deficiency and short stature due to other etiologies in children. Other causes of short stature that result in reduced IGFBP-3 levels include poorly controlled diabetes. The IGFBP-3 assay is useful in assessing nutritional status, since IGFBP-3 decreases during both caloric and protein restriction.

IGG

See: **IMMUNOGLOBULINS WITH LIGHT CHN** in this laboratory test information guide.

IGG SUBCLASS 1 Q

Synonyms:

CHCS IEN: 2077
Test Code: 5425
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 72 hours at room temperature; 21 days at 2-8 ºC; 6 months frozen.
Rejection Criteria: Gross hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Nephelometry
Order Method: CHCS order entry under: **IGG SUBCLASS 1**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance:

IGG SUBCLASS 2 Q
Synonyms:
CHCS IEN: 2078
Test Code: 5426
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 72 hours at room temperature; 21 days at 2-8 ºC; 6 months frozen.
Rejection Criteria: Gross hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Nephelometry
Order Method: CHCS order entry under: **IGG SUBCLASS 2**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance:

IGG SUBCLASS 4 Q
Synonyms:
CHCS IEN: 2080
Test Code: 5428
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 72 hours at room temperature; 21 days at 2-8 ºC; 6 months frozen.

Rejection Criteria: Gross hemolysis, Lipemia

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Nephelometry
Order Method: CHCS order entry under: **IGG SUBCLASS 4**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance:

IGG SUBCLASSES PANEL Q P

Synonyms:
CHCS IEN: 2081
Test Code: 7903
Components:
Subclasses 1,2,3,4
Total IgG

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 72 hours at room temperature; 21 days at 2-8 ºC; 6 months frozen.

Rejection Criteria: Gross hemolysis, Lipemia

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Nephelometry
Order Method: CHCS order entry under: **Q IGG SUBCLASSES 1-4 PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance:

IGG SYNTHESIS RATE/INDEX CSF Q

Synonyms:
CHCS IEN: 6019
Test Code: 7558
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST) and Sterile Plastic Screw-Cap Vial for CSF

Specimen and Volume Required

Type(s): Blood/Serum and CSF
Volume: Requires both 2 mL CSF in Sterile Plastic Screw-cap vial and 1 mL Serum
Minimum volume: 1 mL CSF and 0.5 mL Serum

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures. See applicable clinical procedures for specimen collection. Collection time and date must be the same for both specimen. Maximum of 12-hours duration between CSF and Serum draw times.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: Both CSF and Serum must be sent for calculation of synthesis rate by nephelometry. CSF must be crystalline clear.
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 72 hours at room temperature; 21 days at 2-8 ºC; 6 months frozen.

Rejection Criteria: Received room temperature, Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Fixed Rate Time Nephelometry
Order Method: CHCS order entry under: **Q IGG SYNTHESIS RATE/INDEX CS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance: The IgG Synthesis Rate/Index is useful in diagnosing and monitoring patients with multiple sclerosis and other inflammatory diseases involving the brain and meninges.

IMIPRAMINE Q

Synonyms:
CHCS IEN: 3763
Test Code: 887
Container (Preferred/Alternate): 5 mL Red-Top Tube (No additives); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 1.5 mL Serum

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures. Collect sample just prior to next dose or at least 12 hours after last dose.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC

Rejection Criteria: Gross hemolysis, Hyperlipemia, Lipemia, Serum Separator Tube (SST ®) or any other tube with additives

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Mass Spectroscopy (LC/MS)
Order Method: CHCS order entry under: **Q IMIPRAMINE/DESIPRAMINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance:

IMMUNOFLIXATION (IFE) SERUM Q

Synonyms:
CHCS IEN: 3754
Test Code: 549
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 6 months frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Immunofixation
Order Method: CHCS order entry under: **IMMUNOFIXATION TEST**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: No monoclonal proteins detected
Critical Value:
Clinical Significance: Monoclonal increases in IgG or IgA are often associated with diseases such as multiple myeloma, lymphomas or leukemia. A monoclonal increase in IgM is commonly associated with Waldenström's macroglobulinemia.

IMMUNOFLIXATION (IFE) URINE

Synonyms:
CHCS IEN: 3751
Test Code: 213
Container (Preferred/Alternate): Plastic Screw-Cap Vial no Preservatives

Specimen and Volume Required

Type(s): Urine/Random or aliquot from 24 hour urine
Volume: 50 mL Urine
Minimum volume: 10 mL

Instructions

Patient Preparation:
Collection: See appropriate clinical procedures for specimen collection.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC; 1 month frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Immunofixation
Order Method: CHCS order entry under: **IMMUNOFIXATION UA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: No monoclonal proteins detected
Critical Value:
Clinical Significance: Immunofixation of urine is useful in evaluation of monoclonal free light chains and other monoclonal gammopathies seen in light chain disease, multiple myeloma, Waldenstrom's macroglobulinemia, amyloidosis, and other lymphoproliferative disorders. Increased polyclonal free light chains in urine may be seen in glomerular leak syndromes and in infection or inflammation.

IMMUNOGLOBULIN A

Order Note: If patient is less than 9 years of age and IgA deficiency is suspected, also order: **IMMUNOGLOBULIN A, ON**
Synonyms: IGA
CHCS IEN: 3251
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross hemolysis, hyperlipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **IMMUNOGLOBULIN A**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive:
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	70	400			mG/dL

Critical Value:
Clinical Significance: Increased IgA associated with monoclonal IgA myeloma, respiratory and gastrointestinal infections, and malabsorption; decreased IgA is found in selective IgA deficiency and in ataxia telangiectasia.

IMMUNOGLOBULIN A, QUANTITATIVE Q
Synonyms:
CHCS IEN: 6372
Test Code: 539
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 3 days at room temperature; 7 days at 2-8 ºC; 3 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoturbidimetric
Order Method: CHCS order entry under: **IMMUNOGLOBULIN A, QN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics for established ranges.
Critical Value:
Clinical Significance: Increased IgA is associated with monoclonal IgA myeloma, respiratory and gastrointestinal infections, and malabsorption; decreased IgA is found in selective IgA deficiency and in ataxia telangiectasia. IgA-deficient individuals may have circulating IgA antibodies that can mediate fatal anaphylactoid reactions if IgA is infused or transfused. The absence IgA antibodies does not necessarily indicate the patient may not suffer anaphalaxis because pre-existing antibodies to other serum proteins may exist and cause anaphalaxis.

IMMUNOGLOBULIN D (IgD) Q
Synonyms:
CHCS IEN: 2139
Test Code: 541
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8C on ice packes. Specimen stability: 8 hours at room

temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Room Temperature

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Nephelometry

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: IgD (molecular weight 185 kD) is one of the 5 classes of human immunoglobulins. IgD accounts for less than 1% of the total plasma immunoglobulins. Very high serum IgD concentrations can be found in multiple myeloma patients. Raised levels are also found in hyperimmunoglobulinemia IgD syndrome (HIDS).

IMMUNOGLOBULIN G

Synonyms: IGG

CHCS IEN: 3250

Components:

Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion

Collection: Routine Venipuncture

Specimen Processing: Gently invert tube 5 times to mix blood with additive.

Special Instructions:

Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross hemolysis, hyperlipemia

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600

Order Method: CHCS order entry under: **IMMUNOGLOBULIN G;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive:

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	700	1600			mG/dL

Critical Value:

Clinical Significance: Increased IgG is associated with acute and chronic inflammations, monoclonal IgG myeloma, autoimmune diseases; decreased IgG is found in selective IgG deficiency, Bruton's Disease, and acquired immune deficiency.

IMMUNOGLOBULIN M

Synonyms: IGM

CHCS IEN: 3252

Components:

Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion

Collection: Routine Venipuncture

Specimen Processing: Gently invert tube 5 times to mix blood with additive.

Special Instructions:

Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross hemolysis, hyperlipemia

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry: **IMMUNOGLOBULIN M**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: ASAP, Routine

Interpretive:

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	40	230			mG/dL

Critical Value:
Clinical Significance: Increased IgM is associated with Waldenstrom's macroglobulinemia, infectious mononucleosis, viral infections, nephritic syndrome, and estrogen therapy; decreased IgM is found in selective IgM deficiency, Bruton's Disease, and acquired immune deficiency.

IMMUNOGLOBULINS W/LIGHT CHN P

Order Note: If patient is less than 9 years of age and IgA deficiency is suspected, also order: **IMMUNOGLOBULIN A, QN** Q and collect/draw a total of 2 tubes.
Synonyms: Immuno Panel, SQIG Panel
CHCS IEN: 2476
Components:
Kappa Light Chains
Lambda Light Chains
IgA
IgG
IgM
Kappa/lambda Ratio
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **IMMUNOGLOBULINS W/LIGHT CHN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive:

Reference Range: See individual tests in this laboratory test information guide.
Critical Value:
Clinical Significance:

INDIRECT ANTIGLOBULIN TEST *See:* **ANTIBODY SCREEN - CHCS** in this laboratory test information guide.

INDIRECT COOMBS TEST *See:* **ANTIBODY SCREEN - CHCS** in this laboratory test information guide.

INFLUENZA A & B ANTIBODIES Q

Synonyms:
CHCS IEN: 4444
Test Code: 7250
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Complement Fixation (CF)
Order Method: CHCS order entry under: **Q INFLUENZA AB TYPE A&B**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance: Influenza Type A and B viruses cause seasonal outbreaks of the flu. Each winter, approximately 10-20% of the population are infected. Both Type A and B are included in the flu vaccine.

INFLUENZA A/H1 PCR *See*: **INFLUENZA A RT-PCR SUBTYPING PANEL** in this laboratory test information guide.

INFLUENZA A/H3 PCR *See*: **INFLUENZA A RT-PCR SUBTYPING PANEL** in this laboratory test information guide.

INFLUENZA A/SW H1 PCR *See*: **INFLUENZA A RT-PCR SUBTYPING PANEL** in this laboratory test information guide.

INFLUENZA A PCR *See*: **INFLUENZA A RT-PCR SUBTYPING PANEL** in this laboratory test information guide.

INFLUENZA B ANTIBODY, SERUM Q

Synonyms:
CHCS IEN: 4650
Test Code: 4440
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Body fluids
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Complement Fixation (CF)
Order Method: CHCS order entry under: **INFLUENZA VIRUS B AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostic established ranges
Critical Value:
Clinical Significance: Influenza A and B viruses cause seasonal outbreaks of "the flu." Each winter, approximately 10-20% of the population are infected. Both Type A and B are included in the flu vaccine.

INFLUENZA RT-PCR SUBTYPING P

Order Note: This test ordered by MAMC Laboratory staff only. To order Flu Subtyping, the respiratory culture must be positive for Influenza A. If testing directly (either prior to or concurrently with the culture) prior authorization is required from the Medical Director of Microbiology (968-1925) or the Chief of Infectious Disease (pager: 253 552-0474)
Synonyms:
CHCS IEN: 6414
Components:
Influenza A PCR
Influenza A/SW H1 PCR
Influenza A/H1 PCR
Influenza A/H3 PCR
Influenza B PCR
Container (Preferred/Alternate): Viral Transport Media (VTM)
Specimen and Volume Required: See Chart Below
Type(s):
Bronchoalveolar lavage
Nasal Swab
Nasopharyngeal Swab
Nasal Washing
Throat
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / PCR
Order Method: CHCS order entry by laboratory staff. Prior authorization is required from the Medical Director of Microbiology (968-1925) or the Chief of Infectious Disease (pager: 253 552-0474)
Availability: Call Molecular Diagnostics at 253 968-1742/1743

TAT: Notify and Routine, Routine: 4 to 24 hours

Interpretive

Reference Range:

Critical Value:

Clinical Significance: This test is used to determinee the presence of Influenza A or B in a patient's specimen. Organisms may be detected by PCR prior to diagnosis by immunological methods. PCR provides more rapid results than other methods, including culture.

Throat Swab; Nasopharyngeal Swab	***Container:*** Viral Transport Media and Swab ***Volume:*** ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Swabs should be placed in Viral Transport Medium (VTM) immediately after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. Refrigerate sample immediately upon collection if transport to lab is to be delayed. Store Refrigerated. Freeze at -70 C if testing is to be delayed more than 3 days. Transport Frozen samples on dry ice to prevent thawing.
Bronchoalveolar Lavage; Nasal Washing	***Container:*** Viral Transport Media ***Volume:*** 2 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Place 1-2 mLs of fluid into Viral Transport Medium (VTM) immediately after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. Refrigerate sample immediately upon collection if transport to lab is to be delayed. Store Refrigerated. Freeze at -70 C if testing is to be delayed more than 3 days. Transport Frozen samples on dry ice to prevent thawing.

INFLUENZA VIRUS A/B AG

Synonyms: Influenza Virus A+B AG

CHCS IEN: 4863

Components:

Container (Preferred/Alternate): Sterile Container; Viral Transport Media.

Specimen and Volume Required

Type(s):

Nasopharynx

Nasopharyngeal Cavity

Volume:

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.

Collection: For nasopharyngeal wash: Collect sample and submit in sterile container. Nasopharyngeal swab: Collect samples using flexible wire or plastic staffed Dacron nasopharyngeal swab and submit in Viral Transport Media. If available the use of flocked swabs is recommended (not available thru Microbiology Section, MAMC). See appropriate clinical procedures for procedure being performed. Calcium alginate or swabs with wooden shafts are NOT acceptable.

Specimen Processing: Transport at Room Temperature immediately after collection.

Special Instructions:

Transport/Storage Temperature: Transport at Room Temperature immediately after collection. Samples that are to take longer than 1 hour to transport to MAMC lab should be Refrigerated.

Rejection Criteria: Calcium alginate or swabs with wooden shafts are NOT acceptable.

Admin Notes

Testing Location/Methodology: Virology Section, MAMC.

Order Method: CHCS order entry under: **INFLUENZA VIRUS A/B AG**; Order Required Data Set: H1N1 Testing Criteria (5NOV09). MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Notify and Routine, Routine: 4 to 24 hours

Other: A culture will automatically be performed on all negative tests. Order Required Data Set: H1N1 Testing Criteria (5NOV09)

Interpretive: A negative test result does not exclude infection with Influenza A or B. therefore the results obtained shoud be used in conjuction with clinical findings to make an accurate diagnosis.

Reference Range:

Critical Value:

Clinical Significance: This test employs bound antibody immobilized on matrix. When specimen is added, the virus binds to the antibody. A colorimetric reaction indicates the presence of the antigen. Due to previous sensitivity and specificity studies, it is recommended by CDC guidelines that all specimens testing negative are submitted for viral culture. Viral culture is accepted as the gold standard for testing for respiratory virus. This test has been cleared and approved by the U.S.Food and Drug Administration (FDA). This test is intended to be used for clinical diagnostic purposes and only according to the manufacturers specified guidelines. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

INHIBIN A Q

Synonyms:

CHCS IEN: 4880

Test Code: 34472

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 2 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold pakcs. Specimen stability: 72 hours at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Enzyme Immunoassay (EIA)

Order Method: CHCS order entry under: **INHIBIN A**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: See Quest Diagnostic established ranges

Critical Value:

Clinical Significance This test was performed using the Beckman-Coulter Chemiluminescent Inhibin-A method that has been cleared by the FDA strictly for in vitro use as an aid in the diagnosis and monitoring of various hormonal reproductive disorders. The Inhibin-A test should not be used as a diagnostic procedure for granulosa cell tumors or hydatidiform moles without confirmation of the diagnosis by another established product or procedure. Values obtained with different assay methods or kits cannot be used interchangeably.

INHIBIN B Q
Synonyms: Inhibin-B ELISA
CHCS IEN: 6490
Test Code: 34445
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Centrifuge after clotting. Separate serum from cells as soon as possible.
Special Instructions:
Transport/Storage Temperature: Ship Serum to Quest Diagnostics Frozen.
Specimen Stability: Room Temp- 48 hours, Refrigerated-7 days, Frozen-6weeks
Rejection Criteria: Gross Hemolysis, Lipemia, specimen received at room temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay (IA)
Order Method: CHCS order entry under: **INHIBIN B**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Testing done at Quest on Monday and Thursday
TAT: Routine
Interpretive
Reference Range: ≥18 years: 47-308 pg/mL
Critical Value:
Clinical Significance: Inhibin-B is the major circulating inhibin in males and can be used as endocrine marker of spermatogenesis in subfertile men. In the female, since Inhibin-B decreases to undetectable levels after normal menopause, certain ovarian cancers (mucinous carcinomas, granulose cell tumors) continue to produce inhibin after menopause, Inhibin-b can serve as a regular screening test in the female, especially in post-menopausal women.

INR (INTERNATIONAL NORMALIZED RATIO) *See*: **PROTIME** in this laboratory test information guide.

INSIGHT INTERPHASE FISH G
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Brown Sterile Container with Screw-Top Cap.
Specimen and Volume Required
Type(s): Amniotic Fluid
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Requires 5 mL of non-bloody amniotic fluid. See appropriate clinical procedures for procedure being performed
Specimen Processing: Do Not Centrifuge! Transport at Room Temperature immediately after collection.
Special Instructions: Protect Amniotic Fluid from light
Transport/Storage Temperature: Ship/Transport at Room Temperatureor Refrigerated Temperature.
Rejection Criteria: Blood fluid.
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Specimens received on Friday will not be reported out until the following Monday.
TAT: Routine: 1 to 2 days from specimen receipt at Genzyme.
Other: Clinical indication required
Interpretive:
Reference Range:
Critical Value:
Clinical Significance: InSight® (Interphase FISH for Rapid Detection of Numerical Abnormalities of Chromosomes 13, 18, 21, X & Y)InSight provides rapid preliminary detection of the most common chromosome aneuploidies in prenatal specimens. It is most useful in cases of unusual urgency (e.g., a pregnancy in which ultrasound abnormalities have been observed, or in cases of high-risk late gestational age). It is standard of care that patients having InSight also have chromosome analysis

performed to confirm InSight findings and to identify other abnormalities undetectable by InSight.

INSULIN
Synonyms:
CHCS IEN: 4603
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: Preferred fasting. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature. Store Serum Refrigerated.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **INSULIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	1.9	23			µIU/mL

Critical Value:
Clinical Significance: For diagnosis and monitoring of diabetes and insulin-secreting tumors.

INSULIN AUTOANTIBODY Q

Synonyms:
CHCS IEN: 4001
Test Code: 36178
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Freeze serum.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 28 days at room temperature; 28 days at 2-8 ºC; 28 days frozen.
Rejection Criteria: Glass tubes, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Radiobinding Assay
Order Method: CHCS order entry under: **INSULIN AUTOANTIBODY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <0.4 U/mL
Critical Value:
Clinical Significance: Patients with insulin dependent diabetes mellitus (IDDM) usually develop autoantibodies to insulin when treated by chronic insulin injection. Antibody titers and affinities vary, but the similarity of porcine and human insulin structures are such that most antibodies crossreact with these species. This assay is designed to assess lower titers of autoantibody in diabetic patients as well as detecting insulin autoantibody in prediabetic patients and other patients with autoimmune disorders. In diabetic children <14 years of age (identified by urine screening), the frequency of insulin antibodies (IAA) and islet cell antibodies (ICA) are 43-56% and 84%, respectively; the frequency of both is 40%, and the frequency of one or both is 88%.4 In the same study, cohorts using ICA, GAD-65 antibodies and IAA, sensitivities and specificities are 93% and 93% for any positive, respectively, and 39% and >99%, respectively, for all positives. IAA are found at onset of diabetes in only 4% of adults, but are universally present in diabetic children <4 years old at onset. The predictive value of both tests (ICA and IAA) is 60-77% in first-degree relatives of patients with IDDM for the development of IDDM in 5-10 years.

INSULIN-LIKE GROWTH FACTOR-I Q

Synonyms: Somatomedin C, *Quest Name:* IGF-I, LC/MS
CHCS IEN: 2139
Test Code: 16293
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Freeze serum.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 7 days frozen at -20 ºC, 21 days frozen at -70 ºC.
Rejection Criteria: Glass tubes, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Mass Spectrometry (LC/MS)
Order Method: CHCS order entry under: **INSULIN-LIKE GF-I**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Insulin-like growth factor I (IGF-I, or somatomedin C), a protein involved in stimulating somatic growth, is regulated principally by growth hormone (GH) and nutritional intake. IGF-I is transported in serum by several proteins; this helps maintain relatively high IGF-I plasma levels and minimizes fluctuations in serum IGF-I concentrations. Measuring IGF-I is useful in several growth-related disorders. Dwarfism caused by deficiency of growth hormone (hypopituitarism) results in decreased serum levels of IGF-I, while acromegaly (growth hormone excess) results in elevated levels of IGF-I. IGF-I measurements are also helpful in assessing nutritional status; levels are reduced in undernutrition and restored with a proper diet.

INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN-3 (IGFBP-3) Q

Synonyms: Insulin-like Growth Factor Binding, *Quest Name:* IGF Binding Protein-3 (IGFBP-3)

CHCS IEN: 2139

Test Code: 34458

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum***Volume:*** 1 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 28 days frozen.

Rejection Criteria: Gross hemolysis, Lipemia, Plasma, Specimens out of stability

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Immunoassay

Order Method: CHCS order entry under: **INSULIN-LIKE GF BIND PROT 3**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Insulin-like growth factor binding proteins bind IGF-1 and IGF-2 with high affinity but do not bind insulin. Of the six distinct IGF binding proteins structurally characterized at this time, IGFBP-3 has been shown to be the major carrier of the IGFs, transporting approximately 95% of circulating IGF-1 and IGF-2. IGFBP-3 is growth hormone (GH) responsive. Thus, levels are high in acromegaly and low in hypopituitarism, and levels increase in GH-deficient children after GH administration. Thus, both assays and the ratios of IGF-1/IGFBP-2 and IGFBP-2/IGFBP-3 are useful as markers of GH action and for discriminating between growth hormone deficiency and short stature due to other etiologies in children. Other causes of short stature that result in reduced IGFBP-3 levels include poorly controlled diabetes. The IGFBP-3 assay is useful in assessing nutritional status, since IGFBP-3 decreases during both caloric and protein restriction.

INTERFERON BETA 1A (IFNB-1A) ANTIBODY Q

Synonyms:

CHCS IEN: 2139

Test Code: 16201

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 14

days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Tissue Culture/Neutralization

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: <1:20

Critical Value:

Clinical Significance: Highly elevated levels of neutralizing antibodies (NAbs >1:100) to interferon-beta used as therapy in patients with Multiple Sclerosis have been reported to correlate with predictable loss of interferon-beta bioactivity. In patients with elevated NAb levels from >1:20 to <1:100, interferon-beta bioactivity may still be present, but does not necessarily correlate to the exact NAb titer, and continued patient monitoring may be warranted. There is no apparent loss of interferon-beta bioactivity in patients who test positive in the binding antibody assay, but negative for NAbs; however, continued patient monitoring may also be warranted in this instance as well.

INTERFERON BETA 1B (IFNB-1B) ANTIBODY

Synonyms:

CHCS IEN: 2139

Test Code: 16202

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.5 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Tissue Culture/Neutralization

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: <1:20

Critical Value:

Clinical Significance: Highly elevated levels of neutralizing antibodies (NAbs >1:100) to interferon-beta used as therapy in patients with Multiple Sclerosis have been reported to correlate with predictable loss of interferon-beta bioactivity. In patients with elevated NAb levels from >1:20 to <1:100, interferon-beta bioactivity may still be present, but does not necessarily correlate to the exact NAb titer, and continued patient monitoring may be warranted. There is no apparent loss of interferon-beta bioactivity in patients who test positive in the binding antibody assay, but negative for NAbs; however, continued patient monitoring may also be warranted in this instance as well.

INTRINSIC FACTOR BLOCKING ANTIBODY

Synonyms:

CHCS IEN: 4763

Test Code: 568

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.3 mL

Instructions

Patient Preparation: Samples should not be collected from a patient who has received Vitamin B12 injection therapy within one week of specimen collection.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability: 7 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Immunoassay
Order Method: CHCS order entry under: **INTRINSIC FACTOR BLOCKING AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Negative
Critical Value:
Clinical Significance:

IODINE, 24 HOUR URINE

Synonyms:
CHCS IEN: 2139
Test Code: 16602
Components:
Container (Preferred/Alternate): 24 hour urine (acid-washed, metal-free) container(s) with No Preservative

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 10 mL aliquot from weel mixed 24 hour urine specimen
Minimum volume: 2 mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label..
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample. Do not Freeze.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated. Specimen Stability: 10 days at room temperature; 10 days refrigerated 2-8 C; Not acceptable Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Inductively Coupled Plasma-Mass Spectrometry (ICP/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range: 70-500 µg/24 hr
Critical Value:
Clinical Significance: Iodine is as essential element that is required for thyroid hormone production. The measurement of urinary iodine serves as an index of adequate intake.

IRON

Synonyms: Fe
CHCS IEN: 104
Components:

Container (Preferred/Alternate):
Preferred: Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Alternate: Red-Top Tube (Clot Activator)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Moderate to Gross Hemolysis

Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **IRON**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours

Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	49	181			µg/dL
Female					
All	37	170			µg/dL

Critical Value:
Clinical Significance: Serum measurements are useful in the diagnosis of iron deficiency and hemochromatosis.

IRON BINDING CAPACITY TOTAL *See*: **IRON PANEL** in this laboratory test information guide.

IRON, LIVER Q
Synonyms:
CHCS IEN: 2139
Test Code: 8828
Components:
Container (Preferred/Alternate): Royal Blue-Top Tube; Fixed Tissue in Paraffin embedded Tissue Block
Specimen and Volume Required
Type(s):
Preferred: 5 mG Liver Biopsy Tissue in a Trace Metal-Free Royal Blue-Top Tube
Alternate: Fixed Tissue in Paraffin embedded Tissue Block
Volume:
Minimum Volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 28 days at room temperature; 28 days refrigerated 2-8 C. 60 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Iron index results between 1.0-1.9 suggest mild iron accumulation (alcoholic disease or heterozygous hemochromatosis). Results greater than 1.9 indicate hemochromatosis (transfusion-related iron overload or homozygous hemochromatosis).

IRON PANEL P
Synonyms: Fe Panel; Fe/TIBC (Fe++ & TIBC)
CHCS IEN: 2311
Components:
Iron
Iron Binding Capacity Total
Transferrrin Saturation (Calculated)
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation: Specimen should be drawn fasting in the morning. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw. Serum iron levels are 30% higher in the morning and blood levels should be determineed on fasting A.M. samples. Draw sample before patient is given therapeutic iron or blood transfusion therapy. Iron determineations on patients who have had blood transfusions should be delayed several days.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Separate serum from cells as soon as possible. Avoid hemolysis.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Moderate to Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order method: CHCS order entry under: **IRON PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours

Interpretive
Reference Range: See individual tests.
Critical Value:
Clinical Significance: Except for iron poisoning, a serum iron without TIBC or transferrin is of limited value. Ferritin levels are also useful for iron deficiency. Differential diagnosis of anemia, especially with hypochromia and/or low MCV. The percent saturation sometimes is more helpful than the iron result for iron deficiency anemia.

ISLET CELL AB 512 Q
Synonyms:
CHCS IEN: 1979
Test Code: 36177
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8C. Specimen Stability: 48 hours at room temperature; 7 days at 2-8 ºC; 3 years frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/ Radiobinding Assay
Order Method: CHCS order entry under: **ISLET CELL ANTIBODY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <0.8 U/mL
Critical Value:
Clinical Significance: 1. Diagnose insulin dependant diabetes mellitus (IDDM), type I diabetes 2. Assess risk for development of IDDM 3. Predict onset of IDDM.

ISLET CELL AB TITER Q
Synonyms:
CHCS IEN: 4744
Test Code: 37534(?)
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8C. Specimen Stability:
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **ISLET CELL AB TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

ISLET CELL REFLEX TO TITER Q
Synonyms:
CHCS IEN: 4458
Test Code: 36741
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8C. Specimen Stability: 2 days at room temperature; 14 days refrigerated at 2-8 C; 6 months Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunofluorescence Assay
Order Method: CHCS order entry under: **ISLET CELL AB SCR REFLEX TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Type 1 diabetes is characterized by lymphocytic cell infiltrate of the pancreatic islets. Measurement of GAD-65, ICA-512, and Insulin Antibody is a highly sensitive means to assess risk and predict onset of Type 1 diabetes. There is a correlation between the number of positive antibodies and the antibody titers versus the severity of the autoimmune process.

ISOHEMAGGLUTININ TTR Q
Synonyms:
CHCS IEN: 2139
Test Code: 29837
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/SST); Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8C on cold packs. Specimen Stability: Unacceptable at room temperature; 7 days refrigerated at 2-8 C; 2 months Frozen.
Rejection Criteria: Received room temperature, SST ®
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Hemagglutination (HA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Determine the isoagglutinin status of the patient. Maternal isohemagglutinins are associated with ABO-hemolytic disease of the newborn.

JAK2 V617F MUTATION, QUANTITATIVE, PLASMA-BASED LEUMETA® Q

Synonyms:
CHCS IEN: 2139
Test Code: 16175
Container (Preferred/Alternate): 5 mL Lavender-Top Tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/ Whole
Volume: 5 mL Whole Blood
Minimum Volume: 4 mL whole blood
Instructions
Patient Preparation: None
Collection
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport and ship at Room Temperature or refrigerated. Specimen stability: 72 hours at room temperature and refrigerated; Unacceptable frozen.
Rejection Criteria: Frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Polymerase Chain Reaction (PCR), Sequencing
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: The JAK2 tyrosine kinase (V617F) was detected in most patients (>80%) with polycythemia vera (PV), 30-50% of patients with either essential thrombocythemia (ET) or myelofibrosis. The Quantitative measurement of V617F may be useful for assessing the correlation of tumor load/phenotype; monitoring/predicting the progression or responses of the disease when MPD patients are under therapy.

JO-1 ANTIBODY Q

Synonyms:
CHCS IEN: 4917
Test Code: 5810
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel/SST); Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability: 4 days at room temperature; 7 days refrigerated at 2-8 ºC; 30 days Frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Grossly icteric
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **JO-1 EXTRACTABLE NUCLEAR AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <1.0 AI Negative
Critical Value:
Clinical Significance: Jo-1 Antibody occurs most frequently (31%) in patients with polymyositis, but has also been found in patients with dermatomyositis, and the polymyositis/scleroderma "overlap syndrome" (PM/SCL) or polymyositis/systemic lupus erythematosis "overlap syndrome" (PM/SLE).

JUNE GRASS (G8) IGE Q

Synonyms:
CHCS IEN: 6048
Test Code: 2308
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **GRASS JUNE IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

K+ *See:* **POTASSIUM.** in this laboratory test information guide.

KAPPA/LAMBDA LIGHT CHAIN PANEL P

Synonyms:
CHCS IEN: 3265
Components:
Kappa Light Chains
Lambda Light Chains
Kappa/Lambda Ratio (Calculated)
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store Refrigerated.
Rejection Criteria: Gross Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter Immage Beckman
Order method: CHCS order entry under: **KAPPA/LAMBDA LIGHT CHAIN PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Kappa: 629 – 1350 mg/dL; Lambda: 313 – 723 mg/dL
Critical Value:
Clinical Significance: Measurement of the various amounts of the different types of light chain aids in the diagnosis and monitoring of multiple myeloma, lymphocytic neoplasms, Waldenstrom's macrogobulinemia and connective tissue diseases such as systemic lupus erythematosus.

KARYOTYPE SG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparain)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10 mL Green-Top Tube
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions: Requires completeion of Requisition form before shipment.
Transport/Storage Temperature: Store and Ship at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Signature Genomics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

KETONES, SERUM
Synonyms:
CHCS IEN: 510
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store Refrigerated.
Rejection Criteria: Gross Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Acetest
Order method: CHCS order entry under: **KETONES, SERUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: This test is a nitroprusside measurement of acetoacetate and acetone in serum and does not measure the contribution of beta-hydroxybutyrate.
Interpretive
Reference Range: Neg; Small: 10 mg/d; Moderate: 30 – 40 mg/dL; Large: 80 – 100 mg/dL
Critical Value:
Clinical Significance: Evaluate Ketoacidosis of diabetic patients.

KETONES-URINE
Synonyms:
CHCS IEN: 2185
Components:

Container (Preferred/Alternate): Sterile Container with Screw-Top Lid/Cap
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. See: Instructions for Collecting a Clean Catch Urine Sample in the appendices of this guide.
Specimen Processing: Refrigerate if testing is to be delayed more than 1 hour.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature but Store Refrigerated if testing is to be delayed more than 1 hour.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC
Order Method: CHCS order entry under: **KETONES-URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

KIDNEY STONE Q P
Synonyms:
CHCS IEN: 6193
Test Code: 30260
Components:
Stone composistion
Stone Nidus
Specimen Weight
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Stone(s) or filtered material or dry kidney stone
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Air-dried stone in sterile screw-cap container. Stones originating from sources not related to the kidney should be air-dried, then placed in a plastic tube or a urine collection cup. Do not use tape, Formalin or histolgical techniques on specimen. Minute specimens may be placed in a gelatin capsule.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature. Specimen Stability: 1 year
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Nidus, Component 1, Component 2: Infrared Spectrum Analysis (IR) (FTIR), Stone Weight: Gravimetric (GRAVMET)
Order Method: CHCS order entry under: **Q KIDNEY STONE ANALYSIS;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Stone analysis is used in determining the etiology of stones. The results are often useful in determining the cause and treatment.

KINYOUN AFB STAIN
Synonyms: Kinyoun Smear
CHCS IEN: 1895

Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Sputum/Expectorated
Volume: 10 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Sputum is the only appropriate specimen for this test.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Stain and Examination
Order Method: CHCS order entry under: **KINYOUN AFB STAIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: 4 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance: This stain is intended for rapid, non-culture screening of patients with suspected active tuberculosis and is the same as the AFB SMEAR (No Culture).

KLEIHAUER TEST
Synonyms: Kleihauer Betke
CHCS IEN: 1999
Components:
Container (Preferred/Alternate): Blood: Lavendar-Top Tube (K_2EDTA) 3.5 mL; Amniotic Fluid: Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s):
Amniotic Fluid
Blood/Whole
Volume: 3 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Gently invert tube 10 time to mix blood with additive***.*** Test must be performed within 2 hours of collection. Refrigerate if testing is delayed more than 2 hours***.***
Special Instructions:
Transport/Storage Temperature: Room Temperature. Refrigerate if testing is delayed more than 2 hours***.***
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /
Order Method: CHCS order entry under: **KLEIHAUER TEST**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week; LOD approval required for testing after normal duty hours. LOD pager: 596-9936.
TAT: Routine
Other: Hematology: 968-1935/1409
Interpretive

Reference Range: **Blood**

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex	0	0.01			%

Critical Value:
Clinical Significance:

KOH FUNGAL PREP *See:* **FUNGAL SMEAR** in this laboratory test information guide.

KOH/WET PREP (MCCHORD ONLY) P

Order Note: This test is for the McChord Clinic only. See: **VAG WET PREP (MAMC +NHOH)** for MAMC orders.
Synonyms: Wet Prep (McChord Only), Wet Prep/KOH (McChord Only)
CHCS IEN: 2823
Components:
Trichomonas
Yeast
Clue Cells
Bacteria
WBC
RBC
KOH
Container (Preferred/Alternate): Swab in Sterile Container (NaCl Vial)
Specimen and Volume Required
Type(s): Vaginal Secretions
Volume: Swab
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Maintain at Room Temperatrue
Rejection Criteria:
Admin Notes
Testing Location/Methodology:
Order method: CHCS order entry under: **KOH/WET PREP (MCCHORD ONLY)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: No Clue Cells. No Trichomonas Species Seen
Critical Value:
Clinical Significance: Used to establish the presence of fungal elements, Trichomonas and/or clue cells of Garderella vaginalis & WBCs. One negative result does not rule out the possibility of Trichomonas vaginalis infection. The wet prep is negative in 30-50 % of women with Trichomoniasis.

KRAS MUTATION ANALYSIS Q

Synonyms:
CHCS IEN:
Test Code: 16510
Container (Preferred/Alternate): Formalin fixed, paraffin embedded tissue block. Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Preferred: Formalin fixed, paraffin embedded tissue block
Alternate: Blood/Whole or Bone Marrow in Lavender-Top Tube (EDTA)
Volume:
Minimum Volume: 4 mL Whole Blood, 1 mL Bone Marrow
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Record sample type, collect date/time on tube.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen Stability-**Tissue:** Indefinite at room temperature or Refrigerated, Unacceptable Frozen; **Whole blood and bone marrow:** 72 hours at Room temperature, 72 hours Refrigerated at 2-8 ºC, Unacceptable Frozen
Rejection Criteria: Gross hemolysis, Clotted whole blood or bone marrow, Frozen whole blood or bone marrow
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR), Sequencing
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Activating Ras mutations can be found in human malignancies with overall frequency of 15-20%. A high incidence of Ras gene mutations has been reported in 80-90% malignant tumors of the pancreas, 30-60% in colon rectal carcinomas, and in 18-30% of hematopoietic neoplasia of myeloid origin. Ras proteins were shown to influence proliferation, differentiation, transformation, and apoptosis by relaying mitogenic and growth signals into the cytoplasma and the nucleolus. Mutations leading to an amino acid substitution at positions 12,13 and 61 are the most common in naturally occurring neoplasms and are frequent in adenocarcinomas of the pancreas, colon, and certain types of hematological malignancies.

LACTATE DEHYDROGENASE

Synonyms: LDH
CHCS IEN: 189
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws. Sterile Container with Screw-Top Cap for Body Fluid samples.

Specimen and Volume Required

Type(s):
Blood/Serum
Body Fluid
Volume: 5 mL
Minimum Volume: 0.5 mL for Body Fluid

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Gently invert Gold-Top Tube 5 times to mix blood with additive. Separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperatrue

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order method: CHCS order entry under: **LACTATE DEHYDROGENASE**; Specific specimen site and type on the request form and in CHCS Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Elevated levels are commonly seen in megaloblastic anemias, viral hepatitis, shock, hypoxia, hyperthermia, and extensive carcinomatosis, myocardial and pulmonary infarcts; hemolysis also elevates LDH results. Evaluate neoplastic states, diseases of the liver, renal infarct.

LACTATE DEHYDROGENASE (LD) ISOENZYMES PANEL

Synonyms: LDH ISOS,
CHCS IEN: 6420
Test Code: 4411
Components:
LD Total Isoenzymes
LD Fraction 1
LD Fraction 2
LD Fraction 3
LD Fraction 4
LD Fraction 5

Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine venipuncture.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting

time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport at room temperature. Stable at Room Temperature: 7 days. Unacceptable refrigerated or frozen.

Rejection Criteria: Moderate to Gross Hemolysis. Frozen or Refrigerated specimen is unacceptable.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Ultraviolet Kinetic-agarose Electrophoresis
Order Method: CHCS order entry under: **Q LDH ISOENZYMES** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Lactate Dehydrogenase (LD) is an enzyme that is present in many different organs and tissues. LD Isoenzymes (LDI) are useful in distinguishing the different isoenzymes expressed differentially in tissues and organs, e.g., cardiac muscle, skeletal muscle, and liver.

LACTIC ACID

Synonyms: Lactate
CHCS IEN: 199
Components:
Container (Preferred/Alternate): Grey-Top Tube (Potassium Oxalate/Sodium Fluoride); 1 Green-Top Microtainer Tube (Heparin) for pediatric draws.

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion. Avoid use of a tourniquet and handclenching if possible, as these actions can lead to build up of high potassium and lactic acid from the handmuscles resulting in a subsequent decrease in pH.
Collection: Routine Venipuncture. Fill one Grey-Top tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive. Place on ice and deliver to laboratory immediately. Centrifuge to separate plasma from cells within 3 hours of draw. Pediatric tubes must be centrifuged within 15 minutes of collection.
Special Instructions:
Transport/Storage Temperature: Transport on ice.

Rejection Criteria; Gross hemolysis, visible icterus

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **LACTIC ACID**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: 0.7 – 2.1 mmol/L
Critical Value: > 3.4 mmol/L
Clinical Significance: Lactic Acid is the endproduct of the anaerobic metabolism of glucose. The blood lactic acid concentration is affected by its production in muscle cells and erythrocytes and its rate of metabolism in the liver. During exercise, blood lactate can increase up to ten times of normal levels.

LACTIC ACID (CSF) Q

Synonyms:
CHCS IEN: 2139
Test Code: 1659
Components:
Container (Preferred/Alternate): Sterile Screw-Cap Vial
Specimen and Volume Required
Type(s): CSF
Volume: 1mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection:. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Freeze CSF immediately after collection. If specimen is not clear or contains blood, centrifuge and separate supernatant before freezing
Special Instructions:
Transport/Storage Temperature: Ships to Quest Frozen. Specimen Stablility: 3 hour at room temperature, 4 hours refrigerated, 90 days Frozen.
Rejection Criteria: Gross hemolysis, Received not frozen
Admin Notes
Testing Location/Methodology Quest Diagnostics***:*** / Spectrophotometry (SP)
Order method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges
Critical Value:
Clinical Significance: Lactic acid levels in CSF normally parallel blood levels. Increased CSF lactic acid levels occur in trauma, seizure, brain abscess, multiple sclerosis and bacterial meningitis.

LACTOTYPE, PROMETHEUS O

Synonyms:
CHCS IEN: 2139
Test Code: 6100 (Prometheus)
Container (Preferred/Alternate): Requires both a Lavendar-Top Tube (K_2EDTA) 6 mL and Gold-Top/SST Tube (clot activator and gel for serum separation) 5 mL
Specimen and Volume Required
Type(s): Blood/whole and Blood/Serum
Volume:
Minimum Volume:
Instructions
Patient Preparation: Do not draw above intravenous infusion
Collection: Routine Venipuncture
Specimen Processing: Gently invert Gold-Top tube 5 times and Lavendar-Top Tube 10 times to mix blood with additive, immediately after drawing each tube.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature.
Rejection Criteria: Gross hemolysis, hyperlipemia
Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT:
Interpretive:

LAMB (F88) IGE Q
Synonyms:
CHCS IEN: 3616
Test Code: 2888
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **LAMBS QUARTER IGE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

LAMOTRIGINE Q
Synonyms:
CHCS IEN: 4102
Test Code: 22060
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Draw 30 minutes before next dose at steady state.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 14 days frozen.
Rejection Criteria: Gross hemolysis, Lipemia, Gel barrier tubes
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **LAMOTRIGINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 4.0-18.0 µg/mL
Critical Value:
Clinical Significance:

LATEX SPECIFIC IGE PANEL Q P
Synonyms:
CHCS IEN: 4484
Test Code: 11055
Components:

Ammoniated Latex Extract
Buffered Latex
Glove Latex Extract

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures. Draw 30 minutes before next dose at steady state.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 28 days at room temperature; 28 days at 2-8 ºC; 1 year Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Radioimmunoassay
Order Method: ***:*** CHCS order entry under: **LATEX SPECIFIC IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Ammoniated Latex Extract: < 5 U/mL; Buffered Latex: < 5 U/mL; Glove Latex Extract: < 5 U/mL
Critical Value:
Clinical Significance:

LDH *See:* **LACTATE DEHYDROGENASE** in this laboratory test information guide.

LDL DIRECT *See:* **LIPID PANEL (MAMC ONLY)** in this laboratory test information guide.

LEAD, (B) Q

Synonyms:
CHCS IEN: 262
Test Code: 599
Container (Preferred/Alternate): 6 mL Tan-Top Tube (EDTA), Capillary tubes for Pediatrics draws / Alternate: EDTA or heparin trace metal (royal blue-top) tube, EDTA (lavender-top) tube, Heparin (green-top or brown-top) tube

Specimen and Volume Required

Type(s): Blood/whole
Volume: 3 mL
Minimum Volume: 0.5 mL capillary whole blood in an EDTA capillary collection (lavender-top) tube or equivalent

Instructions

Patient Preparation: Do not draw above intravenous infusion. Patients should refrain from seafood, antacids, vitamins with mineral supplements, and herbal preparations at least three days prior to specimen collection.
Collection: Routine Venipuncture. For contamination control during collection, thoroughly cleanse the site with soap and water, drying with a low-lint towel. If water is not available, use alcohol prep towetts.
Specimen Processing: Gently invert Tube 10 times to mix blood with additive immediately after drawing.
Special Instructions: Not all EDTA collection tubes are certified as low-lead content. Submit separate collection tube if ordering another test, such as CBC
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability: 5 days at room temperature, 14 days refrigerated at 2-8º C,60 days Frozen.

Rejection Criteria: Serum, Plasma, Glass capillary, Yellow-top tube, Red-top tube, Oxalate (gray-top) tube, Citrate (light blue-top) tube, Clotted specimen, Viscous specimen

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Atomic Spectroscopy (AS)
Order Method: CHCS order entry: **LEAD** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Tests performed on a specimen submitted in a non-trace element tube/container (non-acid washed) may not accurately reflect the patient's level. If a non-trace element tube/container is received, it will be accepted for testing. However, elevated results shall be reported with a message that re-submission with a trace element tube/container is

recommended.

Interpretive:

Reference Range: See Quest Diagnostics established ranges.

Critical Value:

Clinical Significance Lead is distributed in the body into two pools, an active pool in the blood and soft tissues and a storage pool in bones and calcified tissues. In the blood, 95-98% of all the inorganic lead is bound in the erythrocytes. Chronic exposure will cause lead to accumulate in the bone, teeth, liver and brain. Since excretion of lead by the kidneys is very slow, it tends to accumulate in the body. Advanced lead intoxication will result in lead encephalopathy characterized by cerebral edema, coma and convulsions. Children are especially susceptible to neurologic damage from lead and acute neurologic toxicity may develop without previous symptoms. Blood lead concentrations are monitored to assess toxicity and the course of treatment. Blood lead levels in the range of 5-9 µg/dL have been associated with adverse health effects in children aged 6 years and younger. For this age group, case management varies by CDC Blood Level range. Refer to current guidelines for recommended interventions.

LEAD O

Synonyms: PB

CHCS IEN: 262

Components:

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 6 mL; Lavendar-Top tube 3mL or capillary tubes for Pediatrics draws

Specimen and Volume Required

Type(s): Blood/whole

Volume: 6 mL

Minimum Volume: 0.5 mL (500 µL)

Instructions

Patient Preparation: Do not draw above intravenous infusion. Patients should refrain from seafood, antacids, vitamins with mineral supplements, and herbal preparations at least three days prior to specimen collection. For contamination control during collection, thoroughly cleanse the site with soap and water, drying with a low-lint towel. If water is not available, use alcohol prep towetts.

Collection: Routine Venipuncture

Specimen Processing: Gently invert Lavendar-Top Tube 10 times to mix blood with additive immediately after drawing.

Special Instructions:

Transport/Storage Temperature: Do Not freeze. Store and ship on Ice at Refrigerated Temperature.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing done at BAMC laboratory

Order Method: CHCS order entry: **LEAD** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability:

TAT: Routine

Interpretive:

Reference Range:

Critical Value:

Clinical Significance

LEFLUNOMIDE METABOLITE Q

Synonyms:
CHCS IEN: 5014
Test Code: 18865
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days Frozen.
Rejection Criteria: SST
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **LEFLUNOMIDE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Leflunomide is an immunosuppressant medication used in the treatment of rheumatoid arthritis. Leflunomide is rapidly and extensively metabolized to teriflunomide, which is the active form of the medication. Therapeutic monitoring of the teriflunomide is important to ensure adequate dosage. It is also recommended that all women of childbearing potential who discontinue leflunomide and who wish to become pregnant document complete elimination of the drug.

LEGIONELLA ANTIGEN URINE EIA Q

Synonyms:
CHCS IEN: 3750
Test Code: 8856
Container (Preferred/Alternate): Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/Random
Volume: 2 mL Random Urine
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Urine collected with no preservatives, First void clean catch
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on ice packs. Specimen stability: 24 hours at room temperature; 14 days at 2-8 ºC; 30 days Frozen.
Rejection Criteria: Received at room temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **LEGIONELLA URINARY AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance:

LEGIONELLA CULTURE (MAMC)

Synonyms:

CHCS IEN: 4059
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required: See Chart Below
Type(s):
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Lab Processing: Requires special media; see set-up guide located in Microbiology Section. Specimens are plated onto buffered charcoal-yeast extract agar supplemented with ferric pyrophosphate and ketoglutarate (BCYE).
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC/
Order Method: CHCS order entry under: **LEGIONELLA CULTURE (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Please specific specimen site and source on request form and in CHCS order entry.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 4 to 24 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Bacteria in the genus Legionella primarily cause respiratory illness, either Legionaires disease or Pontiac fever. Legionellae can also cause a variety of other illnesses, including wound infections, prosthetic valve endocarditis, and sinusitis. These fastidious gram-negative bacteria do not grow on conventional laboratory media, even enriched Chocolate agar. Legionella spp. can be detected in clinical specimens by direct detection methods, including DFA, DNA probe and by culture. Culture, the most sensitive detection Method, should always have priority over direct detection methods. Specimens are plated onto buffered charcoal-yeast extract agar supplemented with ferric pyrophosphate and ketoglutarate (BCYE).

Bronchoalveolar Lavage	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect 2 mL of lower respiratory tract specimen***.*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Lab Processing:*** Verify that routine sputum culture is done concurrently with this culture. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
CSF	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** 2 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. **Lab Processing**: Requires special media; see set-up guide located in Microbiology Section ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Other/Misc	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** Any visible amount of tissue is satisfactory. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Please specific specimen site and source on request form and in CHCS order entry. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Peritoneal Fluid ;	***Container:*** Sterile Container with Screw-Top Cap

Peritoneal Lavage; Pericardial Fluid; Pleural Fluid	***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Sputum Induced; Sputum Expectorated; Tracheal Aspirate	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 2 mL ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect 2 mL of lower respiratory tract specimen. See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Tissue	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 1 gm ***Minimum Volume:*** Any visible amount of tissue is satisfactory. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Add a small amount of sterile, nonbacteriostatic, distilled water to prevent desiccation, if necessary. Do not add saline because it may be inhibitory. Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.
Wound	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 1 swab or 1 cc of Aspirate ***Minimum Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport (within 30 minutes) to laboratory at Room Temperature. Refrigerate specimens that cannot be processed within 30 minutes. If a processing delay of more than 24 hours is anticipated, freeze the specimen at -70 °C.

LEGIONELLA PNEUMOPHILA, TOTAL ANTIBODY Q P

Synonyms: L Pneumophila Serogroup
CHCS IEN: 6553
Test Code: 34178
Components:
L Pneumophila Sero 1
L Pneumophila Sero 2-6, 8
Container (Preferred/Alternate): 5 mL Red-Top Tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.1 mL Serum
Instructions
Patient Preparation:
Collection: Routine venipuncture.
Specimen Processing: Centrifuge to separate serum. Transfer serum to Plastic screw cap vial for shipping.
Special Instructions:
Transport/Storage Temperature: Ship serum to Quest refrigerated at 2-8 ºC on ice packs. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days Frozen.
Rejection Criteria: Received at room temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **LEGIONELLA PNEUMOPHILA, TOTL AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Monday thru Saturday
TAT: Routine
Interpretive

Reference Range: L Pneumophila Sero 1 <1:16; L Pneumophila Sero 2-6, 8 <1:16
Critical Value:
Clinical Significance: Legionella can cause a broad clinical spectrum of disease, ranging from asymptomatic infection to rapidly progressive pneumonia. Legionellosis is a CDC notifiable disease and is associated with two clinically and epidemiologically distinct illnesses: 1. Legionnaires disease, which is characterized by fever, myalgia, cough, pneumonia and 2. Pontiac fever, a milder illness without pneumonia.

LEPTIN Q
Synonyms:
CHCS IEN: 2139
Test Code: 90367
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 8 days at room temperature; 14 days at 2-8 ºC; 35 days frozen.
Rejection Criteria: Moderate hemolysis, Gross hemolysis, Hypericteric specimens
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Electrochemiluminescence (ECL)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Leptin is an adipocyte-derived hormone that is essential for normal body weight regulation. Leptin production is under neuroendocrine control so that serum concentrations vary directly with the amount of triglycerides stored in adipose tissue depots.

LEPTOSPIRA ANTIBODY SCREEN WITH REFLEX TO TITER Q
Synonyms:
CHCS IEN: 2139
Test Code: 16529
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: If *Leptospira* Antibody Screen is positive, *Leptospira* Antibody Titer, IHA will be performed at an additional charge.
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Moderate hemolysis, Gross hemolysis, Hypericteric specimens
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Indirect Hemagglutination Assay (IHA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:"

when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Not detected.
Critical Value:
Clinical Significance: Leptospirosis results from the direct or indirect exposure to urine from animals infected with *Leptospira*. Illness ranges from self-limiting disease, to meningitis, to hepatorenal failure. The IHA procedure uses a genus-specific antigen to identify antibodies recognizing *Leptospira* serotypes associated with disease in the United States.

LEUKOCYTE ESTERASE-AMNIOTIC FL

Synonyms:
CHCS IEN: 2875
Components:
Container (Preferred/Alternate): Sterile Container

Specimen and Volume Required

Type(s): Amniotic Fluid
Volume:
Minimum Volume: 1mL

Instructions

Patient Preparation: Patient preparation and sample collection is performed by Ward/clinic personnel. See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: Deliver to laboratory ASAP after collection.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Quantity Not Sufficient

Admin Notes

Testing Location/Methodology:
Order Method: CHCS order entry under: **LEUKOCYTE ESTERASE-AMNIOTIC FL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The value of Leukocyte Esterase testing on amniotic fluid has not been established by this institution. Results are considered for research use only.

LEVETIRACETAM Q

Synonyms:
CHCS IEN: 2139
Test Code: 15142
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: If *Leptospira* Antibody Screen is positive, *Leptospira* Antibody Titer, IHA will be performed at an additional charge.
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Received room temperature, Serum separator tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography, Tandem Mass Spectometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Not detected.
Critical Value:
Clinical Significance: Levetiracetam is an anticonvulsant used as adjunct therapy to treat adult partial seizures. As multiple anticonvulsants are administered, it is important to monitor its level to (1) optimize therapy, (2) assure compliance, and (3) to avoid toxicity.

LH/FSH PANEL P

Synonyms:
CHCS IEN: 1972
Components:
Follicle Stimulating Hormone
Luteinizing Hormone
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); Do not collect in Mcrotainer Tubes.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing:
Special Instructions:
Transport/Storeage Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **LH/FSH PANEL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other:

Interpretive

Reference Range:

	LH		
Sex/Age Group	Ref Low	Ref High	Units
Male/ All	1.24	8.62	mIU/mL
Female/Mid-Follicular	2.12	10.89	
Mid-Cycle	19.18	103.03	
Mid-Luteal	1.20	12.86	
Post-Menopausal	10.87	58.64	

	FSH		
Sex/Age Group	Ref Low	Ref High	Units
Male/ All	1.27	19.26	mIU/mL
Female/Mid-Follicular	3.85	8.78	
Mid-Cycle	4.54	22.51	
Mid-Luteal	1.79	5.12	
Post-Menopausal	16.74	113.59	

Critical Value:
Clinical Significance: FSH is appropriate in assessing gonadal dysfunction in children. Combined with luteninzin hormone (LH), FSH is useful in the diagnosis and management of infertility and in monitoring FHS suppressive therapy. LH is useful in the differential diagnosis of pituitary and gonandal insufficiency and in children with precocious puberty.

LIDOCAINE Q
Synonyms:
CHCS IEN: 2250
Test Code: 605
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5days at room temperature; 7 days at 2-8 ºC.
Rejection Criteria: SST
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **LIDOCAINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Lidocaine direct injection or infusion is used in the emergency treatment of ventricular arrhythmias caused by acute myocardial infarction, open-heart surgery. It is also used for topical anesthesia administered as a gel or by injection. Lidocaine levels are monitored to assure adequate therapeutic levels are achieved and to avoid toxicity.

LIMA BEAN IGE, IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 30760
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

LIPASE

Synonyms:
CHCS IEN: 2810
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing:
Special Instructions:
Transport Temperature: Room Temperature
Rejection Criteria: Grossly Icteric, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **LIPASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	23	300			U/L

Critical Value:
Clinical Significance: Increased in pancreatitis. Urine specimens are inappropriate for lipase. Confirmatory evidence for diagnosis of pancreatitis.

LIPID PANEL (MAMC) *P*
Synonyms:
CHCS IEN: 6370
Components:
Cholesterol Total
HDL Direct
Triglycerides-Direct
HDL/Cholesterol Ratio
LDL Direct
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation:
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **LIPID PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: *Notify and* Routine, Routine: 4 to 24 hours
Interpretive
Reference Range: See individual tests
Critical Value:
Clinical Significance:

LIPOPROTEIN FRACTIONATION PANEL 2, ION MOBILTIY Q P

Synonyms:
CHCS IEN: 2139
Test Code: 19979
Components:
LDL, Total; LDL, Medium and Small; LDL, Very Small; HDL, Large; LDL Peak Diameter; LDL Phenotype
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.25 mL
Instructions
Patient Preparation: Fasting specimen preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 1 day at room temperature; 7 days at 2-8 ºC, 30 days Frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Received room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Calculated, Ion Mobility
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: There is a correlation between increased risk of premature heart disease with decreasing size of LDL particles. Ion Mobility offers the only direct measurement of lipoprotein particle size and concentration for each lipoprotein from HDL3 to large VLDL.

LIPOPROTEIN NMR LIPOPROFILE (LIPOMED) Q P

Synonyms:
CHCS IEN: 2139
Test Code: 37905
Components:
Cholesterol
NMR Fractionation of Lipids
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: Unacceptable at room temperature; 10 days at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria: PPT (white-top) tube, Serum Separator Tube (SST ®), Received frozen, Gross hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Nuclear Magnetic Resonance (NMR) Spectroscopy
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance:

LIPOPROTEIN (A) Q
Synonyms:
CHCS IEN: 6195
Test Code: 34604
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability7 days at room temperature; 14 days at 2-8 ºC, 90 days Frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoturbidimetric
Order Method: CHCS order entry under: **LIPOPROTEIN (A)**
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <75 nmol/L
Critical Value:
Clinical Significance: Elevated concentrations of Lp(a) are associated with increased risk of coronary artery disease.

LIPOPROTEIN –ASSOCIATED PHOSPHOLIPASE A2 (LP-PLA2) Q
Synonyms:
CHCS IEN: 2931
Test Code: 14530
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Specimens should be centrifuged and separated within 4 hours of venipuncture, but no longer than 36 hours after blood draw
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 3 hours at room temperature; 7 days at 2-8 ºC, 21 days Frozen.
Rejection Criteria: Received room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay (IA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 81-259 ng/mL
Critical Value:
Clinical Significance: Lp-PLA $_2$ can be used in conjunction with clinical evaluation and patient risk assessment as an aid in predicting risk for coronary heart disease and ischemic stroke associated with atherosclerosis.

LIPOPROTEIN ELECTROPHORESIS Q P

Synonyms:
CHCS IEN: 2139
Test Code: 35436
Components:
Cholesterol
Triglycerides
Chylomicrons
Beta Lipoproteins
Pre-Beta Lipoproteins
Alpha Lipoproteins
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL
Instructions
Patient Preparation: Fasting for at least 12 hours is required
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 ºC, or Frozen. Specimen stability: 24 hours at room temperature; 7 days at 2-8 ºC, 14 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.
Rejection Criteria: Received room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Agarose Electrophoresis
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

LITHIUM

Synonyms: Li
CHCS IEN: 198
Components:
Container (Preferred/Alternate): 5 mL Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Collect 8-12 hours after last dose. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Plasma from lithium-based anticoagulants, EDTA plasma
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **LITHIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Therapeutic Range: 0.6 – 1.2 mmol/L; Potentially Toxic: > 1.5 mmol/L; Severe Toxic: > 25 mmol/L
Critical Value:
Clinical Significance: Lithium ions in the brain produce gradual control of acute episodes of mania in patients with manic-depressive affective disorders.

LIVER KIDNEY MICROSOMAL-1 (LKM-1) ANTIBODY (IGG) Q
Synonyms:
CHCS IEN: 6023
Test Code: 15038
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 ºC on cold packs. Specimen stability: 4 days at room temperature; 14 days at 2-8 ºC, 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Lipemic
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **LIVER KIDNEY MICROSOMAL AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: The presence of LKM-1 antibodies can be used in conjunction with clinical findings and other laboratory tests to aid in the diagnosis of autoimmune liver diseases such as autoimmune hepatitis (AIH-2).

LOBSTER IGE *Not orderable as a single test. See:* **SHELLFISH RAST PANEL (MAMC)** in this laboratory test information guide.

LOWER RESPIRATORY CULTURE
Order Note: Gram Stain is routinely performed as part of this culture. Do not order a separate Gram stain unless the Gram Stain is needed STAT or ASAP. If required See: **GRAM STAIN**
Synonyms:
CHCS IEN: 2357
Components:
Container (Preferred/Alternate): See Chart Below
Specimen and Volume Required: See Chart Below
Type(s):
Volume:
Minimum Volume:
Instructions: See Chart Below
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions: If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.
Transport/Storage Temperature: Deliver at Room Temperature. Maintain specimen at Room Temperature until delivered to lab.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **LOWER RESPIRATORY CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2-3 days
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

Bronchial Lavage; Tracheal Aspirate	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 5 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Collect and submit 1-5 mL of aspirate or lavage fluid***.*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.
Sputum/Expectorated; Sputum/Induced	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** Submit as much material as possible. ***Minimum Volume:*** ***Patient Preparation:*** Provide materials and instructions to patient on proper technique for collection of first morning sputum. See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing***: Immediately deliver the specimen fresh to the laboratory after collection. Sputa will be examined by Gram Stain to determinee if the specimen is adequate for culture. Submitting service will be notified if specimen is not acceptable. Induced sputa must be clearly labeled so not to be rejected as inadequate specimen. ***Transport/Storage Temperature:*** Immedately transport to laboratory at Room Temperature. If screening for agents of Bioterrorism, carry specimen to the laboratory. Do Not sent to lab via pneumatic tube or cart system.

LS/PG RATIO (FLM) O

Order Note: This test is only for Amniotic Fluid with interfering substances (i.e., hemolysis, moderate icterus, and/or meconium contamination), otherwise see similar FLM testing available "In-House" for ordering.

Synonyms:

CHCS IEN: 4610

Components:

Container (Preferred/Alternate): Brown Sterile Container with Screw-Top Cap, Protect from Light

Specimen and Volume Required

Type(s): Amniotic Fluid (with interfering substance(s) present)

Volume:

Minimum Volume:

Instructions

Patient Preparation:

Collection:

Specimen Processing:

Special Instructions: Specimen transported via BECS courier service.

Transport/Storage Temperature: Store and ship Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing done at St Josephs Hospital

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 10 a.m. to St Joseph's to be couriered to Spokane. Acceptable to send up to 2 p.m. Anytime after this risks missing courier run; specimen will then be sent the following day

TAT: Routine: 24-48 hours

Other: St. Josepshs (253) 426-6682

Interpretive:

Reference Range:

Critical Value:

Clinical Significance:

LUPUS ANTICOAGULANTS
Synonyms:
CHCS IEN: 1949
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Whole (fresh specimen is preferred but "Quick" Frozen Plasma is excepted)
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive. A fresh sample is preferred, but the test may be done on plasma that has been frozen.
Special Instructions (Instructions for submitting lab for other than fresh whole blood) This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 3000 rpm for 15 minutes, remove plasma (remaining at least 1/8 inch from the buffy coat) and then transfer the plasma to another tube and centrifuge again at 3000 rpm for 15 minutes. Transfer the plasma (again remaining 1/8 from the button) to an appropriately labeled tube. Test within 4 hours or Quick freeze the final product at -70 °C.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. If shipping from outside MAMC, ship Frozen.
Rejection Criteria: Hemolysis, Clotted, Specimen not frozen and over 4 hours old.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /
Order Method: CHCS order entry under: **LUPUS ANTICOAGULANTS** ; Order Required Data Set: GS Patient Hx/Dx. Please provide brief patient history on request form and in CHCS.MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability***.***
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 7 Days
Interpretive
Reference Range: Netative
Critical Value:
Clinical Significance: Lupus anticoagulants (LA) are members of a family of antibodies with phospholipid specificity. LA may be defined as an immunoglobulin, IgG or IgM or a mixture of both, that interferes with one or more of the in vitro phospholipid (PL) dependent test of coagulation. These antibodies are not associated with a hemorrhagic diathesis, but rather have been linked to thrombotic events***.*** In addition to thrombosis other clinical complications have been associated with the presence of LA. These include strokes, nonbacterial thrombotic endocarditis, livedo reticularis and a variety of obstetrical complications such as intrauterine fetal death, recurrent spontaneous abortion, fetal growth retardation, early onset preeclampsia and chorea gravidarum***.***

LUTEINIZING HORMONE See*:* **LH/FSH PANEL** in this laboratory test information guide.

LYME DISEASE ANTIBODY, TOTAL WITH REFLEX TO IGG AND IGM, WESTERN BLOT *Q*
Synonyms:
CHCS IEN: 4451
Test Code: 6646
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 weeks at 2-8 ºC, 1 month Frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics /Immunoassay (IA)
Order Method: CHCS order entry under: **LYME DIS AB (MAMC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Negative: ≤ 0.90; Equivocal 0.91-1.09; Positive: ≥1.10
Critical Value:
Clinical Significance: Lyme disease is caused by a bacterium *borrelia burgdorferi* and is transmitted by ticks. EIA is the screening test with high sensitivity for antibody detection. Western blot testing qualitatively examines with high specificity antibodies in a patient's specimen. Western blot testing is appropriate for confirming a detected EIA test result.
As recommended by the Food and Drug Administration (FDA), all samples with positive or equivocal results in the *Borrelia burgdorferi* antibody EIA (screening) will be tested by Western Blot. Positive or equivocal screening test results should not be interpreted as truly positive until verified as such using a confirmatory assay (e.g., *B. burgdorferi* Western Blot).The screening test and/or Western Blot for *B. burgdorferi* antibodies may be falsely negative in early stages of Lyme disease, including the period when erythema migrans is apparent.

LYME DISEASE (BORRELIA SPP) DNA, QUALITATIVE, REAL-TIME PCR, SYNOVIAL FLUID OR CSF Q

Synonyms:
CHCS IEN: 2092
Test Code: 15564
Container (Preferred/Alternate): Sterile Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s):
CSF
Synovial Fluid
Volume: 1 mL CSF or Synovial Fluid
Minimum volume: 0.5 mL

Instructions

Patient Preparation: See applicable clinical procedures for specimen collection.
Collection: See applicable clinical procedures for specimen collection.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs.. Specimen stability: 48 hours at room temperature; 7 days at 2-8 ºC, 1 month Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **B BURGDORFERI AB CSF**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The diagnosis of Lyme disease is most often made by clinical examination combined with evidence of tick bite or exposure in endemic areas. Amplification of *Borrelia* genomic DNA from blood, fluids or tissues can support the diagnosis. This test was developed and its performance characteristics have been determined by Quest Diagnostics. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. Performance characteristics refer to the analytical performance of the test.

LYME DISEASE IGG AND IGM Q P

See: **BORRELIA BURGDORFERI ANTIBODIES, IFA, CSF** in this L aboratory Test Information Guide

LYMPHOCYTE SUBSETS P

Order Note: When ordering this test, please also order a CBC.
Synonyms: T Cell Subsets, CD4, CD4/CD8, Lymph Subsests-Blood, Subsets-Blood
CHCS IEN: 4052
Components:
Lymphs/cmm
CD3%
CD4%
CD8%
CD19%
CD3/cmm
CD4/cmm

CD8/cmm
CD19/cmm
CD4/CD8 Ratio
CD56%
CD56/cmm
WBC Count
Lymph Percent

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do no draw above intravenous infusion. Allow tube to fill by vacuum at least 2/3 of stated volume on the tube.
Specimen Processing: Gently invert tube 6-8 times to mix blood with additive.
Special Instructions: Do not submit specimens for this testing between hours of 1300 on Friday thru 0800 Sunday.
Transport/Storage Temperature: Room Temperature or Refrigerated.

Rejection Criteria: Hemolysis, Lithium heparin (Green-Top Tube), Clotted specimen, Frozen, ACD (Yellow-Top Tube).

Admin Notes

Testing Location/Methodology: Hematology/Special Hematology, MAMC / Flow Cytometry
Order Method: CHCS order entry under: **LYMPHOCYTE SUBSETS** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Do not submit specimens for this testing between 1300 Friday and 0800 Sunday.
TAT: Notify and Routine, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Immunophenotypic analysis may assist in evaluating cellular immunocompetency in suspected cases of primary and secondary immunodeficiency states.

M DIOXYMETHAMPHETAMINE *See:* **DRUG SCREEN-UR (MAMC/BREM/MMC)** in this laboratory information guide.

MACADAMIA NUT (RF345) IGE

Synonyms:

CHCS IEN: 2931

Test Code: 38475

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation), Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine Venipuncture.
Specimen Processing: Gently invert Gold-Top Tube 5 times to mix blood and additive. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC, 1 month Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The determination of allergen-specific IgE Antibodies is a very sensitive first-order test for allergic disease. The presence of IgE Antibodies to macadamia nut is highly predictive of the likelihood that the individual will exhibit

immediate hypersensitivity upon exposure to the allergen.

MAGNESIUM, 24 HOUR URINE P

Synonyms: 24 HR Magnesium Urine, Magnesium 24HR Urine, 24HR Urine MG
CHCS IEN: 2437
Components:
Magnesium
Total Volume
Magnesium, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE MAGNESIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Normal Range: 73 – 122 mg/24 hr
Critical Value:
Clinical Significance:

MAGNESIUM

Synonyms: Mg
CHCS IEN: 201
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws. Sterile Container with Screw-top Lid/Cap for urine samples.
Specimen and Volume Required
Type(s):
Blood/Serum
Urine, Random
Urine, 24 Hour
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None. See appropriate clinical procedures for procedure being performed.
Collection: Do not draw above intravenous infusion. Routine Venipuncture. See appropriate clinical procedures for procedure being performed. For urine collection, see: Instructions for Collecting a Clean Catch Urine Sample and/or 24-Hour Urine Collection in the appendices of this guide.
Specimen Processing: Gently invert Gold-Top Tube 5 times to mix blood and additive. Spin to separate serum from cells.
Special Instructions:
Transport/Store Temperature: Keep urine specimen refrigerated. Do not freeze.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC
Order Method: CHCS order entry under: **MAGNESIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS

non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range: 1.6 – 2.3 mg/dL
Critical Value:
Clinical Significance: Magnesium deficiency produces neuromuscular disorders.

MALARIA PANEL (MAMC)

Synonyms:
CHCS IEN: 6509
Components:
Malaria, Rapid AG
Malarial Smear, Thin
Malarial Smear, Thick
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Lab Instructions: Make 2 thick and 3 thin smears for staining, within one hour of collection of blood. One thin smear must be Wright stained for Hematology.
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Parasitology Section, MAMC / Rapid Antigen Kit and Stain examination
Order Method: CHCS order entry under: **MALARIA PANEL (MAMC)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Best results are obtained if smear is made from sample collected prior to or at the onset of fever and chills.
Interpretive
Reference Range: No Parasites Seen (NPS)
Critical Value:
Clinical Significance: Diagnosis of malaria, parasitic infestation of blood; evaluation of a febrile disease of unknown origin.

MALARIA PCR

Order Note: For sites shipping to MAMC, please ship refrigerated. If malarial smears are required, also order: **MALARIA PANEL (MAMC)** and make smears prior to refrigeration of blood.
Synonyms: Plasmodium Species PCR
CHCS IEN: 5077
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions: Deliver specimen to Microbiology Section, MAMC. For sites shipping to MAMC, please ship refrigerated. If malarial smears are requested, also order: **MALARIA PANEL (MAMC)** and make smears prior to refrigeration/shipment to MAMC.
Transport/Storage Temperature: Room Temperature. For sites shipping to MAMC, please ship refrigerated
Rejection Criteria
Admin Notes
Testing Location/Methodology: Molecular Diagnostics, MAMC / PCR.
Order Method: CHCS order entry under: **MALARIA PCR** . Please indicate travel history of patient if available. MAMC Form

1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other: For questions please call the Molecular Diagnostics section, MAMC at (253) 968-1743.

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Diagnosis of malaria, parasitic infestation of blood; evaluation of a febrile disease of unknown origin. The Malaria PCR test is performed targeting 18S rRNA gene subunit. A highly conserved region of the 18s rRNA subunit is used to screen for all Plasmodium spp while the species specific pleomorphic internal sequences are used for the identification to species level. Sample quality control is accomplished by testing for the presence of human beta-actin within the sample. This assay, and the test's performance characteristics, was developed by the Molecular Diagnostics section at MAMC. This test has not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA has determineed that such clearance or approval is not necessary. This test is used for clinical purposes. It should not be regarded as investigational or for research. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

MANGANESE, SERUM, PLASMA

Synonyms:
CHCS IEN: 2139
Test Code: 951
Components:
Container (Preferred/Alternate): Royal Blue-Top in trace element package / Alternate: Tan-Top Tube (Sodium Heparin) lead free

Specimen and Volume Required
Type(s):
Blood/Serum
Blood/Plasma
Volume: 2 mL
Minimum Volume: 1 mL

Instructions
Patient Preparation: Patient should refrain from taking mineral supplements at least three days prior to sample collection.
Collection: Routine Venipuncture using a royal blue-top evacuated tube without additive. Do not use powdered gloves (the royal blue-top evacuated tubes should be free of the trace element desired). For plasma samples, follow the above instructions except that the sample does not go through the clotting process.
Specimen Processing: Gently invert Gold-Top Tube 5 times to mix blood and additive. Allow to clot at 18-28° C within 4 hours of collection. Separate serum and transfer to an acid-washed, plastic vial for transportation.
Special Instructions:
Transport/Store Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability: 48 hours at room temperature, 1 week refrigerated 2-8 C, 14 days Frozen.

Rejection Criteria: Received room temperature, Hemolysis, SST ® tubes, Moderate lipemia, Gel barrier tubes

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Graphite Furnace Atomic Absorption Spectrometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other: Tests performed on a specimen submitted in a non-trace element tube/container (non-acid washed) may not accurately reflect the patient's level. If a non-trace element tube/container is received, it will be accepted for testing. However, elevated results shall be reported with a message that re-submission with a trace element tube/container is recommended.

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MANGO FRUIT (F91), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 23860
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL
Minimum volume: 0.3 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

MANUAL DIFFERENTIAL P

Synonyms: Peripheral Smear, Manual Diff
CHCS IEN: 2800
Components:
WBC Differental
RBC Morphoogy
Platelet Assessment
Platelet Estimate

Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3.5mL; EDTA Microtainer Tube for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL for Microtainer Tube

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Allow vacutainer to fill to the level of its vacuum.
Specimen Processing: Gently invert tube 10 times to mix blood with additive. Ensure to mix Microtainer during sample collection.
Special Instructions: Specimen must be received in laboratory within 8 hours of draw.
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Clotted, hemolyzed, or quantity not sufficient, Age of specimen more than 8 hours.

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Stain and manual differential
Order Method: CHCS order entry under: **MANUAL DIFFERENTIAL** ***;*** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Pathologist review is performed on all peripheral blood smear differentials that meet established review criteria.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: An automated differential is routinely reported. Manual differentials are performed when specific laboratory criteria are met, or when requested by Provider. Determineation of qualitative and quantitative variations in white cell numbers and morphology; morphology of red cells; platelet evaluation; may be of use in evaluation of anemias, leukemias, infections, inflammatory states and inherited disorders.

MANUAL PLATELET COUNT ***Do Not Order This Test!*** This test is only ordered by laboratory personnel, based on established testing criteria.
Synonyms:
CHCS IEN: 2768

MATERNAL CELL CONTAMINATION G
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Yellow-Top Tube (ACD-A)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 10 times to mix blood with additive.
Special Instructions:
Lab Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other: Any positive results for CF require copies of results from parents to be sent with any further testing for infants-cf, r/o Maternal Cell Contamination.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:.

MAZE/CORN (F8), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2808
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive

Reference Range:
Critical Value:
Clinical Significance:

MEASLES ANTIBODIES (IGG) Q
Synonyms: Measles IGG, Rubeola AB, IGG,
CHCS IEN: 3402
Test Code: 964
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross Hemolysis, Icteric or grossly contaminated. Heat-inactivated samples.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under**:** **RUBEOLA VIRUS IGG,** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: **Measles Antibody (IgG)**: ≤ 0.90 Negative – No Rubeola IgG Antibody detected; 0.91-1.09 Equivocal; ≥ 1.10 Positive – Rubeola IgG Antibody detected. A positive result indicates that the patient has antibody to rubeola. It does not differentiate between an active or past infection. The clinical diagnosis must be interpreted in conjunction with the clinical signs and symptoms of the patient.
Critical Value:
Clinical Significance: Measles is an acute infection caused by Rubeola Virus. After an incubation period of 10-14 days, cough, coryza, fever and a maculopapular rash that begins several days after the initial symptoms characterize the illness. The characteristic oral exanthem, Koplik's spots, is specific for measles and precedes the onset of rash. Serologic testing can aid in the clinical diagnosis. In the absence of a current or recent infection, a demonstration of specific IgG on a serum sample by enzyme immunoassay is evidence of immunity to Rubeola. Acute infection is diagnosed by a demonstration of IgM antibody.

MEASLES ANTIBODIES (IGG, IGM) Q
Synonyms:
CHCS IEN: 4469
Test Code: 34166
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay, Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **RUBEOLA AB IGG +IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: **Measles Antibody (IgG)**: ≤ 0.90 Negative – No Rubeola IgG Antibody detected; 0.91-1.09 Equivocal; ≥ 1.10 Positive – Rubeola IgG Antibody detected. A positive result indicates that the patient has antibody to rubeola. It does not differentiate between an active or past infection. The clinical diagnosis must be interpreted in conjunction with the clinical signs and symptoms of the patient. **Measles Antibody (IgM)**: <10 titer. Positive results from any one IgM assay should not be used as a sole determinant of a current or recent infection. Because an IgM test can yield false positive results and low level of IgM antibody may persist for more than 12 months post infection, reliance on a single test result could be misleading. If an acute infection is suspected, consider obtaining a new specimen and submit for both IgG and IgM testing in two or more weeks.

Critical Value:

Clinical Significance: Measles, also known as Rubeola, causes fever, irritability, respiratory illness, and the characteristic skin rash. Immunization has greatly diminished the incidence of measles. The presence of IgG is consistent with immunity or prior exposure. IgM is consistent with current or recent infection. IgM tests can generate false positive results and low levels of IgM can persist for longer than 12 months.

MEASLES ANTIBODIES (IGM)

Synonyms: Rubeola AB IgM

CHCS IEN: 3742

Test Code: 34256

Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1mL

Minimum Volume: 0.2 mL Serum

Instructions

Patient Preparation: None.

Collection: Routine Venipuncture. Do not draw above intravenous infusion.

Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Spin to separate serum from cells.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability***:*** 4 days Room Temperature, 1 week Refrigerated at 2-8° C, 30 days Frozen.

Rejection Criteria: Gross Hemolysis, Icteric or grossly contaminated. Heat-inactivated samples.

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Immunofluorescence Assay (IFA)

Order Method: CHCS order entry under**:** **RUBEOLA VIRUS IGM***,* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: <10 titer. Positive results from any one IgM assay should not be used as a sole determinant of a current or recent infection. Because an IgM test can yield false positive results and low level of IgM antibody may persist for more than 12 months post infection, reliance on a single test result could be misleading. If an acute infection is suspected, consider obtaining a new specimen and submit for both IgG and IgM testing in two or more weeks.

Critical Value:

Clinical Significance: Measles, also popularly known as Rubeola, causes fever, irritability, respiratory illness, and the characteristic skin rash. Immunization has greatly diminished the incidence of measles. The presence of IgG or a four-fold increase in IgG titer is consistent with a recent infection. IgM tests can generate false-positive results. Low levels of IgM can persist for longer than 12 months.

MERCURY, RANDOM URINE

Synonyms:

CHCS IEN: 3528

Test Code: 637

Container (Preferred/Alternate): Two 7 mL specimen of random urine from the same second morning void in an acid-washed polypropylene or polyethylene collection container

Specimen and Volume Required

Type(s): Urine/Random- urine from same second morning void

Volume: Two 7 mL samples from same second morning void

Minimum Volume: 5 mL

Instructions

Patient Preparation: Patient should refrain from eating seafood, especially predatory fish such as swordfish, tuna and shark at least three days prior to specimen collection

Collection:. Wash hands before sample collection. Wipe hands dry with lint free paper towel. Do not use recycled paper. Collect two 7 mL aliquots of the same second morning urine. Use powderless gloves to pour samples into acid-washed shipping containers. Cap securely and ship refrigerated (2-10 ° C). For clinical monitoring, collect second voided A.M. urine. For industrial monitoring, collect urine preshift.
Specimen Processing:
Special Instructions: Tests performed on a specimen submitted in a non-trace element tube/container (non-acid washed) may not accurately reflect the patient's level. If a non-trace element tube/container is received, it will be accepted for testing. However, elevated results shall be reported with a message that re-submission with a trace element tube/container is recommended.
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability***:*** 48 hours Room Temperature, 5 days Refrigerated at 2-8° C, 14 days Frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)
Order Method: CHCS order entry under: **Q MERCURY, URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance:

METANEPHRINES 24 HOUR URINE Q

Synonyms:
CHCS IEN: 2838
Test Code: 14962
Container (Preferred/Alternate): 24 hour urine container(s) with 6N HCL preservative; Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: 5 mL aliquot from 24 hour urine specimen
Minimum volume: 5 mL aliquot from 24 hour urine specimen

Instructions

Patient Preparation: Preferable that the patient be off medications for a minimum of 3 days prior to collection. However common antihypertensives (Diuretics, ace inhibitors, calcium channel blockers, alpha and beta blockers may cause minimal or no interference. Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
***Specimen Processing-* Laboratory:** After urine collection, add 25 mL of 6N HCl to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and the sample is shipped frozen. Record patient's age on test requisition and urine vial. Note: Boric acid and concentrated glacial acetic acid as a preservative are no longer acceptable. Measure and record the total volume of urine. Aliquote to plastic s cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved Specimen stability: 1 week at room temperature; 8 days at 2-8 ºC; 30 days frozen. Preserved specimen ships to Quest at room temperature or refrigerated.

Rejection Criteria: Boric acid preservative, Concentrated glacial acetic acid preservative

Admin Notes

Testing Location/Methodology: Quest Diagnostics /Liquid Chromatomagraphy Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **Q METANEPHRINES 24 HR URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine

Interpretive

Reference Range:
Critical Value: None
Clinical Significance: Useful in the evaluation of Pheochromocytoma.

METANEPHRINES, FRACTIONATED, LC/MS/MS, PLASMA Q P

Synonyms:
CHCS IEN: 6230
Test Code: 19548
Components:
Metanephrine, Normetanephrine, and Total Metanephrine
Container (Preferred/Alternate): 5 mL Lavener-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 2.5 mL Plasma
Minimum volume: 1.5 mL
Instructions
Patient Preparation: Patient should be relaxed in either a supine or upright position before blood is drawn. Patient should avoid alcohol, coffee, tea, tobacco and strenuous exercise prior to collection. Overnight fasting is preferred.
Collection: Routine venipuncture procedures. Draw specimen in a pre-chilled EDTA lavender-top vacutainer. Keep sample on wet ice until centrifuged at 4 C. Separate plasma within 2 hours after collection.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 4 hours at room temperature; 14 days at 2-8 ºC; 14 days frozen.
Rejection Criteria: Heparinized plasma, Serum, CSF, Urine
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **Q METANEPHRINES, FRACT PLASMA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Normetanephrine (NM) and metanephrine (MN) are the extra-neuronal catechol-o-methyl transferase (COMT) metabolites of the catecholamines norepinephrine and epinephrine, respectively. Measurement of plasma metanephrines is more sensitive (but may be less specific) than measurement of catecholamines for the detection of pheochromocytoma. Proper interpretation of results requires awareness of recent medication/drug history (e.g., antyhypertensive agents, alcohol, cocaine) and other pre-analytical factors (e.g., stress, severe congestive heart failure, myocardial infarction) that influence release of catecholamines and metanephrines. False-positive results have been observed in patients with either chronic kidney disease or hypertension.

METANEPHRINES, FRACTIONATED, LC/MS/MS RANDOM URINE Q P

Synonyms:
CHCS IEN: 2139
Test Code: 14961
Components:
Metanephrines, Normetanephrines, Total Metanephrines, Creatinine
Container (Preferred/Alternate): Urine container with 6N HCL preservative; Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/Random
Volume: 5 mL aliquot from random urine specimen
Minimum volume: 1.5 mL
Instructions
Patient Preparation: Preferable that the patient be off medications for a minimum of 3 days prior to collection. However common antihypertensives (Diuretics, ace inhibitors, calcium channel blockers, alpha and beta blockers may cause minimal or no interference. Patient should avoid tobacco, tea, coffee, and strenuous exercise for 8-12 hours prio to collection. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: Follow procedures for Collecting a Clean Catch Urine Sample found in appendices of the Directory of Services, Testing and Specimen Submission.
***Specimen Processing-* Laboratory:** After urine collection, add 6N HCl to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and the sample is shipped frozen. Record patient's age on test requisition and urine vial. Record patient's age on test requisition and urine vial. Note: Boric acid and concentrated glacial acetic acid as a preservative are no longer acceptable. Measure and record the total volume of urine. Aliquote to plastic s cap container.
Special Instructions:.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved Specimen stability: 1 week at room temperature; 8 days at 2-8 ºC; 30 days frozen. Preserved specimen ships to Quest at room temperature or

refrigerated.
Rejection Criteria: Boric acid preservative, Concentrated glacial acetic acid preservative
Admin Notes
Testing Location/Methodology: Quest Diagnostics /Liquid Chromatomagraphy Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days
TAT: Routine
Interpretive
Reference Range:
Critical Value: None
Clinical Significance: Useful in the evaluation of Pheochromocytoma. Quest Diagnostics

METHADONE AND METABOLITE, URINE Q P
Synonyms: Methadone and Metabolite, Urine, Methadone+EDDP
CHCS IEN: 6477
Test Code: 15714
Components:
Methadone
Methadone Metabolite
Container (Preferred/Alternate): Plastic Urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/Random
Volume: 15 mL
Minimum volume: 5 mL
Instructions
Patient Preparation:
Collection: See clinical procedures for random urine collection.
Specimen Processing: **Laboratory:** Aliquote to plastic screw cap container for shipment.
Special Instructions:
Transport/Storage Temperature: Ship and Store refrigerated at 2-8 °C. Specimen Stablility: 14 days at Room Temperature, 14 days Refrigerated, 30 days Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Gas Chromatography/Mass Spectometry
Order Method: CHCS order entry under: **METHADONE + METABOLITE, QN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/Monday thru Friday setup
TAT: Routine: 3 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Methadone is used in the detoxification and maintenance programs for physical dependence on narcotics. The analysis for methadone is useful in the determineation of compliance with maintenance program prescriptions, and in the determineation of dose effectiveness.

METHEMOGLOBIN
Synonyms: MET Hb
CHCS IEN: 2374
Components:
Container (Preferred/Alternate): Syringe (Dry Lithium Heparin)
Specimen and Volume Required
Type(s):
Blood/Arteria
Blood/venous
Blood/Chord
Volume: 1 mL required for a 5 mL syringe
Minimum Volume: 0.5 mL for a 1 mL syringe
Instructions
Patient Preparation: Patient should be supine and relaxed
Collection: Do not draw above intravenous infusion. Collection performed by respiratory therapy or other qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples. Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen.

Specimen Processing: Remove needle and cap syring. Secure cap in place with small length of tape. Place specimen on ice and Transport to laboratory immediately
Special Instructions:
Transport/StorageTemperature: Place on ice immediately after drawing and capping. Transport on ice to Laboratory immediately.

Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.

Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Bayer Healthcare Rapid Lab 1265
Order method: CHCS order entry under: **METHEMOGLOBIN**. Please indicate source (Blood/Arterial, Blood/Venous, Blood/Chord) in Order Comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Adult	0	1.5			%

Critical Value:
Clinical Significance:

METHOTREXATE (MTX) TG

Synonyms: MTX; TG Methotrexate
CHCS IEN: 931
Components:
Container (Preferred/Alternate): Red-Top Tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume: 1 mL Serum

Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge to separate Serum from cells. Protect specimen from light
Special Instructions: Include time of last dosage on requisition. Ship 1 mL serum (protected from light) to TG Laboratory.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Testing done at Tacoma General Hospital
Order method: CHCS order entry under: **METHOTREXATE.**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0	1			µmol/L

Critical Values: After 24 hours: >5 µmol/L; After 48 hours: > 0.5 µmol/L; After 72 hours: >0.05 µmol/L
Clinical Significance:

METHYLLENETETRAHYDROFOLATE REDUCTASE (MTHFR) DNA MUTATION ANALYSIS Q

Synonyms:
CHCS IEN: 6196
Test Code: 17911
Container (Preferred/Alternate): 5 mL Lavener-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Preferred: Blood/Whole
Amniotic Fluid
Amniotic Culture- Sterile T25 flask, filled with culture medium.
Dissected chorionic villus (CVS) biopsy- 10-20 mg dissected chorionic villi collected in sterile tube filled with sterile culture media.
Volume: 5 mL whole blood

Minimum volume: 3 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures. Specimen stability is crucial. Do not freeze.

Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.

Special Instructions: For prenatal diagnosis with a fetal specimen: 1) parents must be documented carriers of one of the mutations tested; 2) maternal blood or DNA must be available; 3) contact the laboratory genetic counselor before submission.

Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 8 days at room temperature; 8 days at 2-8 ºC; Unacceptable frozen. Do not refrigerate or Frozen Amniotic Fluid, Amniotic Culture or Biopsy specimens.

Rejection Criteria: Frozen

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR), Oligonucleotide Ligation Assa, Fluorescent Microspheres

Order Method: CHCS order entry under: **MTHFR, DNA PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: The Methylenetetrahydrofolate Reductase (MTHFR) enzyme plays a major role in homocysteine metabolism and contains several known polymorphisms, of which the most common is C677T. This mutation is reported to reduce MTHFR activity, resulting in hyperhomocysteinemia. This condition is a risk factor for cardiovascular disease, increased risk for arterial and venous thrombosis, and an increased risk for obstetrical complications, e.g., preeclampsia, abruptio placentae, fetal growth retardation, and stillbirth.

METHYLMALONIC ACID Q

Synonyms:

CHCS IEN: 4632

Test Code: 34879

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 2 mL Serum

Minimum volume: 0.6 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 10 months frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Tandem Mass Spectrometry

Order Method: CHCS order entry under: **METHYL MALONIC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

METHYLMALONIC ACID, URINE Q

Synonyms:

CHCS IEN: 2139

Test Code: 16508

Components:

Container (Preferred/Alternate): Plastic Urine container(s) with lid, No preservative

Specimen and Volume Required

Type(s): Urine/Random

Volume: 1.7 mL
Minimum volume: 0.6 mL

Instructions

Patient Preparation:
Collection: See clinical procedures for random urine collection.
Specimen Processing: **Laboratory:** Aliquote to plastic screw cap container for shipment.
Special Instructions:
Transport/Storage Temperature: Ship and Store refrigerated at 2-8 °C on cold packs. Specimen Stability: Unaccepted at room temperature, 12 days refrigerated at 2-8 °C, 30 days Frozen at -20 °C, 90 days Frozen at -70 °C.

Rejection Criteria: Received room temperature, Acidified urine

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Methylmalonic Acid (MMA) is useful to diagnose and monitor Vitamin B12 (cobalamin) deficiency, and to diagnose and monitor patients with methylmalonic acidemia.

MICROALBUMIN, RANDOM/TIMED (MAMC) P

Synonyms:
CHCS IEN: 4229
Components:
Total Volume
Creatinine
Microalbumin Test
Microalbumin/Creatinine Ratio

Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative; Sterile Container with Screw-Top Cap

Specimen and Volume Required

Type(s):
Urine, 24 hour
Urine, Random
Volume: Submit total volume collected in 24 hours
Minimum volume: 5 mL Randum Urine

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. Provide collection material and instructions to patient.
Collection: 24 Hour Urine- 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. See: Urine collection procedures in the appendices of the guide.
Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE. Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria: Acid preserved urine

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **MICROALBUMIN, RANDOM/TIMED (MAMC)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 24 hours except on weekends

Interpretive

Reference Range:

Random Urine

Sex/Age Group	Ref Low	Ref High	Units
Normal All/All	<1.9		mcg/mg

24 Hour Urine

Sex/Age Group	Ref Low	Ref High	Units
All/All			mcg/mg

Normal	<30	
MicroAlbuminemia	30	300
Albuminemia		>300

Critical Value:
Clinical Significance: Microalbumin is albumin excreted in the urine and is a sensitive marker of nephropathy. It is used to screen for early renal diseases in diabetic patients.

MICROSATELLITE INSTABILIT, HNPCC Q

Synonyms:
CHCS IEN: 2139
Test Code: 14989
Components:
Container (Preferred/Alternate): Requires both: 5 mL Lavener-Top Tube (EDTA) and Paraffin Block Bag
Specimen and Volume Required
Type(s): Blood/Whole and formalin-fixed, paraffin embedded tissue block
Volume: 5 mL whole blood
Minimum volume: 2 mL
Instructions
Patient Preparation:
Collection: One formalin-fixed paraffin embedded tissue with representative tumor AND one EDTA whole blood from the same patient must be submitted for testing. Both sample types are required for testing. Avoid hemolysis.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 8 days at room temperature; 8 days at 2-8 ºC; Unacceptable frozen. Do not Freeze.
Rejection Criteria: Received frozen, Avoid hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR), Capillary Electrophoresis Fluorescent Microspheres
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Patients with early onset and family history of colon cancers are suggestive of Hereditary Nonpolyposis Colon Cancer (HNPCC) syndrome. Microsatellite instability analysis on tumor tissue is recommended as a screening test to identify individuals eligible for germline mutation analysis of mismatch repair genes.

MICROSPORIDIA SPORE DETECTION Q

Synonyms:
CHCS IEN: 2139
Test Code: 3562
Components:
Container (Preferred/Alternate): Sterile screw-cap container with 10% formalin
Specimen and Volume Required
Type(s): Stool
Volume: 5 gram (5 mL) Stool
Minimum volume: 2 mL
Instructions
Patient Preparation:
Collection: See applicable clinical procedures for specimen collection in the appendices of the Directory of Services, Testing and Specimen Sumbission guide.
Specimen Processing: Transfer stool within 30 minutes of collection into formalin vial. Fill to the line on transport vial.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 30 days at room temperature; 30 days at 2-8 ºC; Unacceptable frozen. Do not Freeze.
Rejection Criteria: Unpreserved stool, Stool in Cary-Blair or PVA, Received frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Light Microscopy, Modified Trichome Stain
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and

test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Microsporidia infection was first recognized as a cause of chronic diarrhea in patients infected with HIV. Microsporidia may also cause pneumonia, acute bilateral keratoconjunctivitis, and infection of the biliary and pancreatic ducts

MILK (F2) IGE

Synonyms:
CHCS IEN: 6077
Test Code: 2802
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MILK IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MILK IGE *Not orderable as a single test. See:* **PED FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

MINT, ALLERGEN SPECIFIC IGE Q

Synonyms:
CHCS IEN: 2139
Test Code: 15342
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MITOCHONDRIAL AUTO ANTIBODY SCREEN WITH REFLEX TO TITER Q P

Synonyms:
CHCS IEN: 4696
Test Code: 3608
Components: Mitochondrial Antibody Screen, Parietal Cell Antibody with Reflex to Titer, Smooth Muscle Antibody with Reflex to Titer
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.5 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics /
Order Method: CHCS order entry under: **MITOCHONDRIAL AB SCR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance:

MITOCHONDRIAL WITH REFLEX Q

Note: If Mitochondrial Antibody Screen is positive, this test is performed.
Synonyms:
CHCS IEN: 4450
Test Code: 259
Components: Mitochondrial Antibody Screen, Parietal Cell Antibody with Reflex to Titer, Smooth Muscle Antibody with Reflex to Titer
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.5 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics /
Order Method: CHCS order entry under: **MITOCHONDRIAL AB SCR + REF TIT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: A high anti-mitochondrial (AMA) titer supports the diagnosis of primary biliary cirrhosis; low titers of AMA may be detected in other liver disorders which include chronic active hepatitis and cryptogenic cirrhosis.

MIXING STUDIES P

Synonyms:
CHCS IEN: 4438
Components:
Baseline PT
Baseline PTT
1:1 PT
1:1 PTT
1:1 PTT Prolonged Incubation
4:1 PT
4:1 PTT
Patient Thrombin Time
Interpretation
Interpreted by
Container (Preferred/Alternate): 2 - Light Blue-Top Tube (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 4.5 mL x 2
Minimum Volume:
Instructions
Patient Preparation:
Collection: Collect 2 Lt. Blue-Top Tubes. Routine Venipuncture. Allow tube to fill by vacuum, do not over or under fill tube.
Specimen Processing: Gently invert tubes 8 times to mix blood with additive.
Special Instructions: This test requires true Platelet free plasma. If testing is to be delayed, or if sending the sample to MAMC from an outside location process specimen as follows: Centrifuge specimen at 2500 rpm for 15 minutes, remove plasma (remaining at least 1/8 inch from the buffy coat) and then transfer the plasma to another tube and centrifuge again at 2500 rpm for 15 minutes. Transfer the plasma (again remaining 1/8 from the button) to an appropriately labeled tube. Quick freeze the final product at -70 °C.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. If shipping from outside MAMC, ship platetlet free Plasma Frozen.
Rejection Criteria: Gross Hemolysis, Clotted, Serum, 3.8% sodium citrate.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /

Order Method: CHCS order entry under: **MIXING STUDIES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability**.** Order Required Data Set: GS Patient Hx/Dx. Please provide brief patient history on request form and in CHCS.
Availability: 24 hours / 7 days a week
TAT: *Notify and Routine:* 4 to 24 hours

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Coagulation studies. See Thrombophilia and von willebrand Diseases.

MONONUCLEOSIS SCREEN

Synonyms: Mono; Monospot
CHCS IEN: 134
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 3 full Red or Amber-Top Microtainer Tubes for pediatric draws.

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 3 full Red or Amber-Top Microtainer Tubes for pediatric draws.

Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not submit specimens in Lavendar-Top tube, capillary or small tubes intended for samples of less than 0.5 mL.
Specimen Processing: Gently invert Gold-Top tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross Hemolysis, Gross Lipemia

Admin Notes
Testing Location/Methodology: Immunology Section, MAMC
Order Method: CHCS order entry under: **MONONUCLEOSIS SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: This is a screening test based on a heterophile antibody (similar to the RPR non-treponemal). More specific test are available through send-out testing, but are usually not necessary or beneficial in typical mononucleosis.

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Heterophile antibodies, in patients with infectious mononucleosis, may be present as early as the fourth day of illness, and by the twenty-first day of illness, 90% of patients will exhibit a positive test. The Epstein-Barr virus causes infectious mononucleosis.

MOUNTAIN CEDAR (E6), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2506
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.3 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Gross lipemia

Admin Notes
Testing Location/Methodology: Quest Diagnostics /

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MRSA/ORSA SURVEILLANCE CULTURE

Order Note: Submit all specimens from the same patient at the same time. Clearly indicate MRSA/ORSA Surveillance on specimen label.
Synonyms:
CHCS IEN: 2482
Components:
Container (Preferred/Alternate): Sterile Container and Culturette Swab
Specimen and Volume Required
Type(s):
Wound
Thoat
Rectal Swab
Sputum/Expectorated
Nares
Axilla
Groin
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. For Sputum collection, provide patient with materials and instructions to collect proper sputum sample.
Collection: See appropriate clinical procedures for procedure being performed. Collect specimen using culturette and submit in Sterile container with Screw-Top Cap. Submit a deep cough sputum sample (not saliva). Clearly indicate MRSA/ORSA Surveillance on specimen label.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC /
Order Method: CHCS order entry under: **MRSA/ORSA SURVEILLANCE CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate specific body site on request form, specimen label and CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2-5 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Detect and monitor the presence of Methicillin-Resistant Staphylococcus Aureaus (MRSA) and Oxacillin Resistant Staphylococcus Aureaus (ORSA)***.***

MRSA PCR

Order Note: This test is only for carriage surveillance from nasal chamber. Please order **MRSA/ORSA SURVEILLANCE CULTURE** for sites other than the nasal chamber or **AEROBIC CULTURE** for infectious specimen workup.
Synonyms:
CHCS IEN: 6505
Components:
Container (Preferred/Alternate): Copan Collection Device (double swab system by Cepheid Inc.) obtained from Microbiology Section, MAMC.
Specimen and Volume Required
Type(s):
Volume:
Minimum Volume:
Instructions

Patient Preparation: Remove excessive amount of mucus from the nasal chamber by having patient blow nose. See appropriate clinical procedures for procedure being performed.
Collection: Open the Copan Collection Device by peeling back the outer packaging. Have patient tilt back their head and then simultaneously insert both dry swabs approximately 1-2 cm into the first nostril. Rotate the swabs against inside of the nostril for 3 seconds, while applying slight pressure with a finger to the outside of the nose to help assure good contact between the swab and the inside of the nose. For the second nostril, repeat these same steps again by re-using the same swabs used for the first nostril. Try not to touch anything but the inside of the nose when moving to the other nostril. Remove the plastic transport tube. Twist off the cap and discard it. Place swabs into the plastic transport tube. The swabs should go all the way into the tube until they rest on top of the sponge at the bottom of the tube, ensuring the red cap is on tightly. Note: the swabs should stay attached to the red cap at all times during this procedure. See appropriate clinical procedures for procedure being performed.
Specimen Processing and Stability: Specimens submitted for testing within 24 hours can be held at room temp, otherwise store specimen at 2-8° C. Swabs stored at room temperature (15-30 ° C must be tested within 24 hours. Swabs stored at 2-8 ° C are stable for up to 5 days for testing.
Special Instructions: Address any questions to the Bacteriology Section, MAMC (253) 968-1753
Transport/Storage Temperature: Specimens stored at 2-8° C are stable for up to 5 days.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Molecular Diagnostics, Microbiology Section, MAMC
Order Method: CHCS order entry under: **MRSA PCR**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate specific body site on request form, specimen label and CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2-5 days

Interpretive

Reference Range:
Critical Value:
Clinical Significance: This test is only for carriage surveillance from nasal chamber

MTHFR DNA ANALYSIS

Synonyms: MTHFR DNA, Keesler
CHCS IEN: 6485
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.

Specimen and Volume Required

Type(s):
Blood/Whole
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.

Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.

Admin Notes

Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **MTHFR DNA ANALYSIS .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

MUMPS VIRUS ANTIBODY (IGG) Q

Synonyms:
CHCS IEN: 2248
Test Code: 8624
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MUMPS VIRUS IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges. A positive result indicates that the patient has antibody to mumps virus. It does not differentiate between an active or past infection. The clinical diagnosis must be interpreted in conjunction with the clinical signs and symptoms of the patient.
Critical Value:
Clinical Significance: Mumps is an acute, usually self-limited systemic illness characterized by parotidites, high fever and fatigue. One third of infections are asymptomatic. A live attenuated vaccine is available. The mumps EIA IgG antibody test is sufficiently sensitive to establish immune status of the patient.

MUMPS VIRUS ANTIBODY (IGM) Q

Synonyms:
CHCS IEN: 4808
Test Code: 36565
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MUMPS VIRUS IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <1:10 Titer. Results from any one IgM assay should not be used as a sole determinant of a current or recent infection. Because an IgM test can yield false positive results and low level of IgM antibody may persist for more than 12 months post infection, reliance on a single test result could be misleading. If an acute infection is suspected, consider obtaining a new specimen and submit for both IgG and IgM testing in two or more weeks.
Critical Value:
Clinical Significance: This test is utilized for detection of IgM antibody to the mumps virus. The IgM response to mumps

infection in vaccinated persons is highly variable and may be absent. In unvaccinated cases, IgM is present by day 5 post onset of symptoms and peaks at about 1 week; IgM can be present for at least 6 weeks.

MUSSEL, BLUE (F37) IGE Q
Synonyms: Quest Name: Blue Mussel (F37) IgE
CHCS IEN: 6116
Test Code: 2837
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.3 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / FEIA
Order Method: CHCS order entry under: **MUSSEL BLUE IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MUSTARD (F89), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2889
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / FEIA
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MYCOBACTERIUM, BLOOD CULTURE See: **AFB CULTURE + SMEAR**

MYCOPHENOLIC ACID, SERUM Q

Synonyms:
CHCS IEN: 4448
Test Code: 10662
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Optimum time to collect sample: 0.5 to 1 hour before next dose (trough) at steady state (3-5 days after treatment with oral doses).
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 72 hours at Room Temperature; 14 days at 2-8 ºC; 60 days Frozen.
Rejection Criteria: Received room temperature, Left at room temperature >72 hours, Specimens collected in gel barrier tubes.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MYCOPHENOLIC ACID**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Mycophenolic acid is an immunosuppressant used in tissue transplants. It prevents graft rejection by the host's immune system. It is very important to monitor it's level. Too little of this drug will cause graft rejection, while too much will lead to infection. Monitoring its level is essential to optimize therapeutic effects, avoid toxicity, and assure compliance.

MYCOPLASMA HOMINIS UREAPLASMA CULTURE Q

Synonyms:
CHCS IEN: 6280
Test Code: 871
Container (Preferred/Alternate): Quest Diagnostics Supplied V-C-M Medium (Green-Cap Tube) or Equivalent
Specimen and Volume Required
Type(s):
Urogenital (vaginal, cervical, urethral swabs or secretions)
Sterile body fluids
Tissue
Wounds.
Respiratory (sputum, bronchial washing, tracheobronchial secretions, bronchoalveolar lavage, nasopharyngeal or throat swabs), are only acceptable from children under 1 year old.
Volume: 1 mL fluid
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: See appropriate clinical procedure for specimen collection.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated Frozen at -70 ºC on dry ice. Specimen stability: Unacceptable at Room Temperature; 48 hour at 2-8 ºC; Unacceptable Frozen at -20 ºC, 30 days Frozen -70 ºC.
Rejection Criteria: Specimens collected on wooden shafted swabs or cotton swabs, Specimens received in expired transport medium, Tissue specimen in formalin, Urine containing any preservatives, Specimen received in M4RT transport medium, Received room temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Conventional Culture
Order Method: CHCS order entry under: **MYCOPLASMA/UREAPLASMA CUL**; MAMC Form 1787-L (Clinical Lab Test

Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: *Ureaplasma urealyticum* and *Mycoplasma Hominis* are primarily associated with genital tract colonization and disease in adults and respiratory tract colonization and disease in newborns. Though controversial, these organisms have been associated with endometritis, chorioamnionitis, premature rupture of membranes, stillbirth, premature birth, low birth weight, post-partum infections, and infertility. Of particular concern is the causal relationship between central nervous system infections in the premature newborn and *U. urealyticum*.

MYCOPLASMA PNEUMONIAE ANTIBODY (IGG) Q

Synonyms: M Pheumoniae IGG
CHCS IEN: 3601
Test Code: 659
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.1 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 C. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **M PHEUMONIAE IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: ≤0.90 ISR Negative; 0.91-1.09 Equivocal; ≥1.10 ISR Positive.
A positive result indicates that the patient has antibody to *Mycoplasma*. It does not differentiate between an active or past infection. The clinical diagnosis must be interpreted in conjunction with the clinical signs and symptoms of the patient.
Critical Value:
Clinical Significance: *Mycoplasma pneumoniae* is the causative agent of primary atypical pneumonia also called "walking pneumonia". The organism may be responsible for as many as 50% of all non-influenza community-acquired pneumonias. This disease is primarily seen in children, young adults, particularly college students and military recruits. A four fold rise in antibody titer (or EIA equivalent) in acute and convalescent sera or the presence of IgM antibody suggests a recent exposure to *M. pneumonia*. IgM antibody testing is valuable for early diagnosis in children; in adults, paired sera for specific IgG and IgM are generally required together with PCR. Specific IgM antibodies are often absent in reinfections; specific IgA might be quite useful in this circumstance.

MYCOPLASMA PNEUMONIAE ANTIBODY (IGM) Q

Synonyms: M Pheumoniae IGM
CHCS IEN: 3600
Test Code: 21130
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.1 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Hyperlipemia, Grossly icteric

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay

Order Method: CHCS order entry under: **M PHEUMONIAE IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: <770 u/mL Negative; 770-950 U/mL Low Positive; >950 U/mL Positive

Critical Value:

Clinical Significance: *Mycoplasma* are the smallest of the free-living organisms. *M. pneumoniae* causes approximately 10-20% of all cases of pneumonia. These pneumonias that can affect otherwise healthy individuals, are commonly referred to as "walking" and "atypical" pneumonias.

MYELIN-ASSOCIATED GLYCOPROTEIN (MAG) ANTIBODY (IGM), EIA

Synonyms:

CHCS IEN: 2139

Test Code: 37438

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel, No Additive); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: mL Serum

Minimum volume: 0.1 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 1 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Room Temperature

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

MYELIN BASIC PROTEIN

Synonyms:

CHCS IEN: 2028

Test Code: 663

Container (Preferred/Alternate): Sterile Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): CSF

Volume: 1.2 mL CSF

Minimum volume: 0.5 mL CSF

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 1 days at room temperature; 14 days at 2-8 ºC; 1 year frozen.

Rejection Criteria: Room Temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **Q MYELIN BASIC PROTEIN, CSF $17**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

MYELOPEROXIDASE ANTIBODY (MPO)
Synonyms:
CHCS IEN: 4837
Test Code: 8796
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / EIA
Order Method: CHCS order entry under: **MYELOPEROXIDASE AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <6 U/mL Negative; 6-9 U/mL Equivocal; >9 U/mL Positive
Critical Value:
Clinical Significance: Patients with vascular diseases will generally have either a C-ANCA pattern or P-ANCA pattern, and give positive results in specific tests for PR-3 or MPO. Patients with bowel disease have been shown to have antibodies that give a P-ANCA or C-ANCA pattern. These antibodies, however, may not be directed toward MPO. Patients with drug induced lupus, etc., often present with a P-ANCA pattern that is associated with antibodies against MPO. Approximately 90% of patients with a P-ANCA pattern by IFA have myeloperoxidase-specific antibodies

MYOGLOBIN, SERUM (MAMC/OH)
Synonyms:
CHCS IEN: 3959
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tubes for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry / Beckman Coulter DXI Unicell 800

Order Method: CHCS order entry under: **MYOGLOBIN, SERUM (MAMC/OH)**; ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
MAMC FORM 1787-L (CLINICAL LAB TEST PROCEDURE REQUEST) (Miscellaneous) for CHCS non-availability. Exact collection time is required on specimen and request form.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	8.9	<70			ng/mL

Critical Value:
Clinical Significance: Breakdown of skeletal muscle (rhabdomyolysis) releases myoglobin.

MYOGLOBIN-URINE

Synonyms:
CHCS IEN: 2211
Components:
Container (Preferred/Alternate): Sterile Urine Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 10 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: : Collect first morning void. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Deliver to the laboratory within 1 hour of collection. Refrigerate if delivery to lab is delayed more than 1 hour.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature within 1 hour of collection. Refrigerate if delivery is delayed more than on hour after collection.
Rejection Criteria: Quantity Not Sufficient, Sample older than 1 hour.
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC /
Order Method: CHCS order entry under: **MYOGLOBIN-URINE;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Breakdown of skeletal muscle (rhabdomyolysis) releases myoglobin. Increased myoglobin concentration may increase the risk of acute renal failure.

MYOSITIS PLUS JO-1 Q P

Synonyms:
CHCS IEN: 2139
Test Code: 10185
Components:
Autoantibodies for PL-7, PL-12, Mi-2, Ku, EJ, OJ, SRP, Jo-1
Container (Preferred/Alternate): 5 mL Red-Top Tubes or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately (within 4 hours after collection). Split serume into two transfer tube with volumes of 3 mL each. Second tube required for possible repeat(s).
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 60 days frozen.
Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Radioimmunoprecipitation assay (RIPA), Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

MYOTONIC DYSTROPHY O

Synonyms: Myo Dystrophy, Myot Dys, Keesler
CHCS IEN: 6488
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.

Specimen and Volume Required

Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.

Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.

Admin Notes

Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **MYOTONIC DYSTROPHY .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

N. MENINGITIDIS GP B/E. COLI
Synonyms: NMGB
CHCS IEN: 1915
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): CSF
Volume: 1.5 mL
Minimum Volume: 1.0 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: Transport to laboratory promptly.
Special Instructions: Maintain specimen at Room Temperature.
Transport/Storage Temperature: Maintain specimen at Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **N. MENINGITIDIS GP B/E. COLI**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: 8 hours - STAT: ASAP: Routine:
Other: N. Meningitidis GpB/E. Coli antigen testing can not be performed on urine due to crossreaction with normal fecal flora.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

N. MENINGITIDIS SP A, C,W135, Y *See:* **CSF LATEX AGGLUTINATION PANEL** and **URINE LATEX AGGLUTINATION PANEL** in this laboratory information guide.

N-TELOPEPTIDE 24 HOURS URINE Q
Synonyms:
CHCS IEN: 2139
Test Code: 36421
Components:
Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

NASAL SMEAR FOR EOSINOPHILS
Synonyms: Eosinophil Smear
CHCS IEN: 1574
Components:
Container (Preferred/Alternate): Slide (in carrier)
Specimen and Volume Required
Type(s): Nasal Secretions/Nasal Swab
Volume:
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Patient blows nose on waxed paper or plastic saran wrap. Smear is made from sample. Two smears preferred. Note: Cotton tipped applicator can be used for collection but is not preferred because of cell absorption on the swab. See appropriate clinical procedures for procedure being performed. Submit labeled, dried smear of nasal secretions.
Specimen Processing: Transport to lab in plastic slide container as soon as possible.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Dry swab
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **NASAL SMEAR FOR EOSINOPHILS**; MAMC Form 1787-L (Clinical Lab Test

Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: 8 hours

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Screening test to aid in diagnosis of allergic rhinitis.

NBIL A calculated result from panel. See*:* **BILIRUBIN, NEONATAL(MAMC)** in this laboratory information guide.

NEISSERIA GONORRHOEAE RNA, TMA, RETAL Q

Synonyms:
CHCS IEN: 2139
Test Code: 16504
Components:
Container (Preferred/Alternate): Rectal swab in Aptima ® Combo 2 Transport Media

Specimen and Volume Required
Type(s): Rectal Swab
Volume:
Minimum volume:

Instructions
Patient Preparation:
Collection: Use the ATPIMA Unisex Swab Specimen Collection kit (white label) or the APTIMA Vaginal Swab Specimen Collection kit (orange label). Insert the small, blue shafted collection swab (Unisex kit, NOT the larger white shafted cleansing swab) or the small, pink shafted collection swab (Vaginal kit) approximately 3-5 cm into the rectum. Rotate swab against the rectal wall at least 3 times. Withdraw the swab carefully. Swabs that are grossly contaminated with feces should be discarded and the collection repeated. Remove the cap from the swab specimen transport tube and immediately place the swab into the transport tube. Carefully break the swab shaft at the score line. Re-cap the swab specimen transport tube tightly, label and ship to the lab.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 30 days.

Rejection Criteria: Transport tubes with 2 swabs, Transport tubes with non-GenProbe ® swabs, Specimens in broken containers, Swab submitted in M4 transport media, Swab submitted in Viral Culture Media (V-C-M).

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Transcription-Mediated Amplification (TMA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: *Neisseria gonorrhoeae* may infect the anal/rectal canal of sexually active individuals. Detection of this organism may be important for determining the risk for disease progression or transmission.

NEISSERIA GONORRHOEAE TMA Q

Synonyms:
CHCS IEN: 2139
Test Code: 15033
Components:
Container (Preferred/Alternate): Swab submitted in Aptima ® Combo 2 Assay Unisex Swab Specimen Collection Tube. Urine must be submitted in Aptima ® Combo 2 Assay Urine Specimen Collection Tube within 24 hours of collection.

Specimen and Volume Required
Type(s):
Swab
Urine
Volume:
Minimum volume:

Instructions
Patient Preparation:

Collection:. Swab must be submitted in Aptima ® Combo 2 Assay Unisex Swab Specimen Collection Tube. Follow instructions in the Aptima ® Combo 2 Assay Unisex Swab Specimen Collection Kit for Endocervical and Urethral Swab Specimens package insert. In females, to ensure collection of an adequate specimen, columnar epithelial cells lining the endocervix should be obtained. To that effect, excess mucus should be removed prior to sampling by using the white shaft cleaning swab which is discarded after use. Urine must be submitted in Aptima ® Combo 2 Assay Urine Specimen Collection Tube within 24 hours of collection. The patient should not have urinated for at least one hour prior to specimen collection. Direct patient to provide a first-catch urine (approximately 20-30 mL of the initial urine stream) into a urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution that may reduce test sensitivity. Female patients should not cleanse the labial area prior to providing the specimen. Thus, a urine sample collected from a female for Chlamydia/GC TMA cannot be collected at the same voiding event as that urine which would be intended for bacterial culture. Remove the cap of the Aptima ® Combo 2 Assay Urine Specimen Collection Tube and transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided. The correct volume of urine has been added when the fluid level is between the black lines within the clear pane on the urine specimen transport tube label. For urine, patient should not have urinated within 1 hour prior to collection.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Swab: 2 months at room temperature; 2 months refrigerated, 3 months Frozen. Urine: 1 month at room temperature, 1 months refrigerated 2-8 C, 90 days Frozen.

Rejection Criteria: Transport tubes with 2 swabs, Transport tubes with non-GenProbe ® swabs, Specimens in broken containers, Swab submitted in M4 transport media, Swab submitted in Viral Culture Media (V-C-M).

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Target capture, Transcription-Mediated Amplification, Dual Kinetic Assay (DKA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Several methods are available for the detection of *N. gonorrhoeae* in clinical specimens. These methods include: Observation of gram-negative intracellular diplococci in gram-stained smears of urethral discharges from men and of endocervical secretions from women; Growth of *N. gonorrhoeae* from the urethra (men) or endocervix on selective culture media followed by demonstration of typical colonial morphology; And/or detection of N. gonorrhoeae with non-culture laboratory tests. A definitive diagnosis of gonorrhoea requires: Isolation of N. gonorrhoeae from the sites of exposure by culture; Demonstration of typical colonial morphology, a positive oxidase test, and typical gram-negative morphology; And finally, a confirmation by specific identification methods. These confirmation methods may include acid production from carbohydrates, rapid enzyme tests, serologic assays, and tests for specific nucleic acids, such as is performed by the CT/NG Aptima ® TMA Assay.

NEUROMYELITIS OPTICA (NMO) IGG, SERUM

Synonyms:
CHCS IEN: 6187
Test Code: 90382
Container (Preferred/Alternate): 5 mL Red-Top (No Gel); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 72 hours at room temperature, 14 day refrigerated at 2-8 ºC, Unacceptable Frozen.

Rejection Criteria: Received frozen, Serum Separator Tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics /
Order Method: CHCS order entry under: **NEUROMYELITIS OPTICA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Confirm suspected cases of NMO and assist in making a differential diagnosis and identifying the cause of MS-like symptoms in the patient. An accurate diagnosis will further help predict disease course and provide direction in treatment options.

NEURONAL NUCLEAR (HU) ANTIBODY REFLEX TO TITER AND WESTERN BLOT Q P

Synonyms:

CHCS IEN: 6026

Test Code: 37053

Components:

Neuronal Nuclear AB
Neuronal Nuclear AB Titer
Neuronal Nuclear Western Blot

Container (Preferred/Alternate): 5 mL Gold-Top Tube (SST) or Red-Top Tube; Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.2 mL

Instructions

Patient Preparation: Overnight fasting is preferred.

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 21 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA), Western Blot (WB)

Order Method: CHCS order entry under: **Q NEURONAL NUCLEAR AB PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges

Critical Value:

Clinical Significance: Paraneoplastic Syndrome involves non-metastatic systemic effects that accompany malignant disease. Antineuronal Nuclear Antibody (Anti-Hu) is found in 5-10% of patients with small cell carcinoma of the lung. Anti-Hu is associated with subacute syndrome of encephalomyeloradiculopathy, sensory neuropathy, and autoimmune neuropathy, predominantly affecting the gastrointestinal tract.

NEUTROPHIL OXIDATIVE BURST Q

Synonyms:

CHCS IEN: 2139

Test Code: 58846

Components:

Container (Preferred/Alternate): Plain Green-Top Tube (Sodium Heparin). Do Not use Gel Separator or microtainers tubes.

Specimen and Volume Required

Type(s): Blood/Whole

Volume: 10 mL

Minimum volume: 1.0 mL

Instructions

Patient Preparation: None

Collection: Routine Venipuncture..

Specimen Processing:

Special Instructions: For Lab**:** A normal control specimen should be collected and accompany this specimen

Transport/Storage Temperature: It is critical that the sample be kept at Room Temperature. Use extra packing to maintain temperature. If specimen will not arrive at children's hospital before noon same day of testing, blood should be drawn as late in the day as possible, maintained at room temperature and sent overnight to allow test set-up within the 20 hour window the following morning. Specimen stable for 20 hours in Green-Top Tube. Sample must be analyzed within 20 hours after collection.

Rejection Criteria: Serum separator gel tube, specimen older than 20 hours.
Admin Notes
Testing Location/Methodology: Ships to Quest Diagnostics (Testing done at Seattle Children's Hospital) / Flow cytometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Mon-Thursday, Friday if arriving before noon. No testing on weekends or holidays.
TAT: Routine
Other: Ordering this test requires budget paperwork completion and approval
Interpretive
Reference Range: Normal Stimulation Index >20
Critical Value:
Clinical Significance:

NICOTINE + METABOLITE Q P
Synonyms:
CHCS IEN: 6492
Test Code: 90642
Components:
Nicotine
Cotinine
Container (Preferred/Alternate): 2 Red-Top Tubes (No Gel/SST tubes allowed), or 2 Lavendar-Top Tubes (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/Serum
Blood/Plasma
Volume: 5 mL Serum or Plasma
Minimum Volume: 2.5 mL serum or plasma
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Spin to separate serum or plasma from cells.
Special Instructions:
Transport/Storage Temperature: Ship and store at Refrigerated Temperature 2-8 C on cold packs. Specimen Stability: 72 hours at room temperature, 21 days refrigerated at 2-8 ºC, 30 days Frozen.
Rejection Criteria: Room temperature, SST or PST, Gross Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid chromatography/Tandem mass spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **NICOTINE + METABOLITE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:This assay is used for the detection of nicotine and continine in serum and plasma to determine the tobacco exposure status of the individual. Nicotine has a short half-life of approximately forty minutes; its presence may indicate recent tobacco exposure. Coninine, the major metabolite, has a half-life of 24 hours and is detectable for several days after cessation of tobacco.

NICOTIN AND METABOLITES , URINE Q
Synonyms:
CHCS IEN: 2139
Test Code: 90646
Components:
Container (Preferred/Alternate): Plastic Screw-Cap vial
Specimen and Volume Required
Type(s): Urine/Radom
Volume: 5 mL urine
Minimum volume: 0.1
Instructions
Patient Preparation:
Collection:
Specimen Processing:

Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 3 days at room temperature; 21 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / Monday - Friday
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: This assay is used for the detection of nicotine and continine in serum and plasma to determine the tobacco exposure status of the individual. Nicotine has a short half-life of approximately forty minutes; its presence may indicate recent tobacco exposure. Coninine, the major metabolite, has a half-life of 24 hours and is detectable for several days after cessation of tobacco.

NOREPINEPHRINE Q

Synonyms:
CHCS IEN: 2139
Test Code: 37562
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Plastic Screw-Cap vial

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 4 mL Plasma
Minimum volume: 2.5 mL

Instructions

Patient Preparation: Patient should be relaxed in either a supine or upright position before blood is drawn. States of anxiety and stress can cause fluctuations in the catecholamine levels.
Collection: Routine Venipuncture. Draw in pre-chilled Green-Top Tube. Gently invent tube 8 times to mix blood with additive
Specimen Processing: Deliver to laboratory immediately**.** Centrifuge specimen in refrigerated centrifuge 2-8 ºC within 30 mins of collection to separate plasma and then immediately freeze plasma at -20 ºC.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 6 hours at room temperature; 6 hours at 2-8 ºC; 30 days frozen.

Rejection Criteria: Received thawed, Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography (HPLC), Electrochemical Detection
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / Monday - Friday
TAT: Routine

Interpretive

Reference Range: False-positive results have been observed in patients with either chronic kidney disease and hypertension.
Critical Value:
Clinical Significance: Plasma norepinephrine is an independent risk factor in patients with chronic congestive heart failure that relates to subsequent mortality. Norepinephrine is useful in evaluating patients with hypertension.

NORTHWEST RAST PANEL (MAMC) P

Synonyms: NW Rast
CHCS IEN: 6344
Components:

Alder IgE KU/L
Alternaria SP IgE KU/L
Birch IgE KU/L
Boxelder Tree IgE KU/L
C Herbarum IgE KU/L
Cat Dander IgE KU/L

D Pteronyssinus IgE KU/L
Dog Dander IgE KU/L
Thistle Russian IgE KU/L
Timothy IgE KU/L

Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tubes for pediatric draws.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL serum

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross Hemolysis, Hyperlipemia

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Immunocap 250
Order Method: CHCS order entry under: **NORTHWEST RAST PANEL (MAMC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: Notify and Routine, Routien: 4 to 24 hours

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

NORTRIPTYLINE Q

Synonyms:
CHCS IEN: 2027
Test Code: 272
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 1.5 mL

Instructions

Patient Preparation: Collect just before next dose or at least 12 hours after last dose.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Lipemia, Serum Separator Tube (SST ®) or any other tube with an additive

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography, Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **NORTRIPTYLINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: 50-150 ng/mL
Critical Value:
Clinical Significance: Nortriptyline is a tricyclic antidepressant used in the treatment of depressive disorders. The drugs are specifically useful in treatment of autonomous or endogenous depressions. Side effects are primarily anticholinergic consisting of dry mouth, epigastric distress, constipation, palpitations, blurred vision, urinary retention, tachycardia and hypotension. Toxicity can lead to arrythmias, coma and death.

NUCLEOTIDASE, 5' Q

See: **5' NUCLEOTIDASE**

NUT FOOD RAST PANEL (MAMC) P

Synonyms:
CHCS IEN: 6347
Components:
Almond IgE KU/L
Coconut IgE KU/L
Peanut IgE KU/L
Pecan Nut IgE KU/L
Sesame Seed IgE KU/L
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tubes for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross Hemolysis, Hyperlipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Immunocap 250
Order Method: CHCS order entry under: **NUT FOOD RAST PANEL (MAMC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: Notify and Routine, Routine: 4 to 24 hours
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

NUT MEG (F282) IGE, IMCAP
Synonyms:
CHCS IEN: 2139
Test Code: 2718
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

O2 CAPACITY *See:* **CO-OXIMETRY PROFILE** in this laboratory test information guide.

O2 CONTENT *See:* **BLOOD GAS (MAMC)** and **CO-OXIMETRY PROFILE** in this laboratory test information guide.

O2% SATURATION
Synonyms: Percent Oxygen Saturation
CHCS IEN: 1570
Components Container (Preferred/Alternate): Syringe (Dry Lithium Heparin)
Specimen and Volume Required
Type(s):
Blood/Arterial
Blood/Venous
Blood/Arterial Cord
Blood /Venous Cord
Volume: 1 mL required for a 5 mL syringe
Minimum Volume: 0.5 mL for a 1 mL syring
Instructions
Patient Preparation: Patient should be supine and relaxed
Collection: Do not draw above intravenous infusion. Collection performed by respiratory therapy or other qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples. Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen.
Specimen Processing: Remove needle and cap syring. Secure cap in place with small length of tape. Place specimen on ice and Transport to laboratory immediately
Special Instructions:
Transport/StorageTemperature: Place on ice immediately after drawing and capping. Transport on ice to Laboratory immediately.
Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.
Admin Notes
Testing Location/Methodology:
Order method: CHCS order entry under: **O2% SATURATION**; Please indicate source (Blood Arterial, Blood Venous, Arterial Cord Blood, Venous Cord Blood) in Order Comment. ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
Newborn	40	90			%
Adult	92.0	98.5			

Critical Value:
Clinical Significance: Used in part to evaluate oxygen and carbon dioxide gas exchange, respiratory function including hypoxia and acid base status and the assessment of asthma, chronic obstructive pulmonary disease (COPD), embolism and other types of lung disease.

O2 SATURATION HB (CO-OX) *See:* **CO-OXIMETRY PROFILE** in this laboratory test information guide.

OAK (T7), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2507
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

OAT (F7) IGE Q
Synonyms:
CHCS IEN: 6083
Test Code: 2807
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **OAT IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

OB PANEL (MAMC) P
Synonyms:
CHCS IEN: 2795

Components:
Urea Nitrogen
Albumin
Lactate Dehydrogenase
Creatinine
A/G Ratio
Bilirubin, Total
Uric Acid
Alkaline Phosphates
Protein Total
Aspartate Aminotransferase

Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store serum Refrigerated at 2-8 °C.

Rejection Criteria: Gross Hemolysis

Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **OB PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range: See individual tests
Critical Value:
Clinical Significance:

OCCULT BLOOD PANEL, 1-3 SAMPLES

Order Note: This order is valid for up to 3 hemoccult cards or specimens; multiple orders are not necessary.

Synonyms: Occult Blood, Hemoccult

CHCS IEN: 4430

Components:
Occult Blood 1st
Occult Blood 2nd
Occult Blood 3rd

Container (Preferred/Alternate): Hemoccult Card or Equivalent

Specimen and Volume Required
Type(s): Stool
Volume:
Minimum Volume:

Instructions
Patient Preparation: No special drug or dietary restrictions are required. Patients should not collect samples 3 days prior, during or after their menstrual period, if they have bleeding hemorrhoids, blood in their urine, open cuts on their hands, or if they have strained during their bowel movement. Roughage in the diet can increase test accuracy by helping uncover "silent" lesions which bleed intermittently.
Collection: Follow instructions on Hemoccult Card. Due to irregular distribution of blood in stool, 2 different parts of the stool sample should be tested on each card for 3 consecutive days.
Specimen Processing: Have patient or clinic return all materials to the laboratory within 14 days after collection of the first specimen.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Bulk Stool, Specimens not received on Hemoccult or like card, specimens older than 14 days.

Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Hemoccult Card- Enzymatic
Order Method: CHCS order entry under: **OCCULT BLOOD PANEL, 1-3 SAMPLES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Positive results in patients who have followed the prescribed pre-test diet, are suggestive of gastrointestinal bleeding from causes that include colorectal cancer, polyps, peptic ulcers, and hemorrhoids.

OLIGOCLONAL BANDS, CSF Q
Synonyms:
CHCS IEN: 3741
Test Code: 674
Container (Preferred/Alternate): Both Plastic Screw-Cap Vial and 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Requires both CSF and Serum
Volume: 1 mL CSF and 1 mL Serum
Minimum volume: 0.2 mL and 0.5 mL Serum
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures for blood. See appropriate clinical procedures for CSF collection. It is preferred that the collection date and time be the same for both CSF and serum; however, it is acceptable for them to be drawn within 48 hours of each other. Client must be contacted when no serum is supplied to confirm the order. It is acceptable to send through CSF without serum when client has indicated to "run with serum control". CSF must be crystalline and clear. (CSF collection tube #4 preferred).
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 8 hours at room temperature; 5 days at 2-8 ºC; 14 days frozen.
Rejection Criteria: Room Temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics /Isoelectric Focusing
Order Method: CHCS order entry under: **OLIGOCLONAL BANDS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: No bands.
Critical Value:
Clinical Significance: Oligoclonal bands are present in the CSF of more than 85% of patients with clinically definite multiple sclerosis (MS). To distinguish between oligoclonal bands in the CSF due to a peripheral gammopathy and oligoclonal bands due to local production in the CNS, serum and CSF should be tested simultaneously. Oligoclonal bands can however, be observed in a variety of other diseases, e.g., subacute sclerosing panencephalitis, inflammatory polyneuropathy, CNS lupus, and brain tumors and infarctions. The clinical significance of a numerical band count, determined by isoelectric focusing, has not been definitively defined. The data should be interpreted in conjunction with all pertinent clinical and laboratory data for this patient.

ORANGE (E33), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2833
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

OREGANO (F283), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 3045
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

OSMOLALITY

Synonyms: Osmo
CHCS IEN: 203
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer tube. Urine collection container; Sterile Container with Screw-Top Cap for Urine.

Specimen and Volume Required

Type(s):
Blood/Serum
Urine, 24 hour
Urine, Random
Volume: 5 mL Serum
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: See appropriate clinical procedures for procedure being performed. Do not draw above intravenous infusion. See: 24-Hour Urine Collection instructions in the appendices of this guide. 24-Hour Urine Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.

Laboratory Processing: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Advanced Micro-Osmometer
Order Method: CHCS order entry under: **OSMOLALITY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Serum					
Male/No Sex					
All	275	295	<250	>326	mOsmo/Kg
Urine, Random					
	50	1200			mOsmo/Kg
Urine, 24 Hour					
	300	900			mOsmo/Kg

Critical Value: Serum: <250 mOsmo/Kg; >326 mOsmo/Kg
Clinical Significance: Random Urine values can vary widely (50-1200 mOsmo/Kg) depending on prior fluid intake. For assessing the concentrating ability of the kidney

OSTEOCALCIN Q

Synonyms: Osteocalcin, N Mid
CHCS IEN: 6503
Test Code: 16322
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)

Specimen and Volume Required

Type(s):Blood/Serum
Volume: 5 mL Serum
Minimum Volume: 1 mL

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Routine Venipuncture. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Allow specimen to clot at room temp, centrifuge and separate serum. Freeze ASAP.
Special Instructions:
Transport/Storage Temperature: Ship serum frozen to Quest Diagnostics

Rejection Criteria*:* Room temperature, hemolysis, specimen from patient that has been administered Biotin within 8 hour of draw

Admin Notes

Testing Location/Methodology: Quest Diagnostics
Order Method: CHCS order entry under*:* **OSTEOCALCIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: 8 hours

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Osteocalcin, the most abundant non-collagen protein in bone matrix, is a bone-specific, calcium binding protein. Serum osteocalcin levels are related to the rate of bone turnover in various disorders of bone metabolism, e.g., osteoporosis, primary and secondary hyperparathyroidism, and Paget's disease.

OVA™ Q

Synonyms:
CHCS IEN: 2139
Test Code: 16991
Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2.2 mL Serum
Minimum volume: 1.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Unacceptable at room temperature; 5 days at 2-8 ºC; 63 days frozen at -20 ºC, 84 day frozen at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Fixed Rate Time Nephelometry, Electrochemiluminescence
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: The OVA1™ Test is an aid to further assess the likelihood that malignancy is present when the physician's independent clinical and radiological evaluation does not indicate malignancy. The OVA1™ Test is a qualitative serum test that combines the results of five immunoassays into a single numerical result. It is indicated for women who meet the following criteria: over age 18, ovarian adnexal mass present for which surgery is planned, and not yet referred to an oncologist. The test is not intended as a screening or stand-alone diagnostic assay, or for patients with a diagnosis of malignancy within the last 5 years, or to determine whether a patient should proceed to surgery. Samples that contain rheumatoid factor ≥250 IU/mL cannot be used in the OVA1™ Test. Triglyceride levels above 4.5 g/L may interfere with the assay and should not be used in the OVA1™ Test. OVA1 Test is not to be used if patient is known to have rheumatoid factor of ≥250 IU/L. Triglycerides above 450 mg/dL may interfere with the assay and should not be used. The test is not indicated for patients with diagnosis of malignancy within the last 5 years.

OVA AND PARASITE, DIRECT EXAMINATION

Synonyms: Direct Wet Mount
CHCS IEN: 1876
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 Grams
Minimum Volume:
Instructions
Patient Preparation: Coordinate with the Microbiology Section at 968-1753 before specimen collection.
Collection: See: General Collection Instructions For All Stool Specimens in the appedices of this manual.
Specimen Processing: Deliver fresh Stool to laboratory within 1 hour after collection. If specimen arrives 1 hour after collection, this test will be cancelled and a routine O&P will be ordered and performed.
Special Instructions: If Raw specimen is received and it has been more than one hour since collection, preserve part of the specimen in PVA and in Formalin tubes. Retain the unpreserved portion of the specimen.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature.
Rejection Criteria: Specimen delivered longer than 1 hour after collection.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Direct Microscopic Exam
Order Method: CHCS order entry under: **DIRECT EXAMINATION FOR 0+P**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Schedule with Microbiology Section before collection of specimen.
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Diseases caused by human parasites remain on a worldwide basis among the principle causes of morbidity and mortality. Correct diagnosis of intestinal parasitic infection depends on proper collection, transport, detection and identification of parasites in stool specimens. Symptoms range from malaise to death. Treatment is dependent upon

examining multiple stool exams due to the erratic shed rates of some parasites.

OVA AND PARASITES ID
Synonyms: O & P Exam
CHCS IEN: 1879
Components:
Container (Preferred/Alternate): Sterile Container and Formalin and PVA vials.
Specimen and Volume Required
Type(s): Stool, Raw. Collect up to 3 separate stool samples (with 3 separate CHCS order requests) over a 10 day period.
Volume: Fill Formalin and PVA vials to line with feces.
Minimum Volume:
Instructions
Patient Preparation: Delay collection 5 to 10 days if Barium, Mineral oil, Bismuth or nonabsorbable anti-diarrheal preparations have been administered. Coordinate with the Microbiology Section at 968-1753 before specimen collection.
Collection: See: General Collection Instructions For All Stool Specimens in the appedices of this manual. Collect and submit up to 3 separate stool specimens over a 10 day period. It is recommended that specimens be submitted no more than every other day, allowing for fluctuation and accumulation of the organisms. Fill formalin and PVA vials to line with feces. Preserve specimens within one hour of collection. Specimen should not be allowed to mix with water (i.e.tolet) or urine (i.e.diaper), even briefly. Some organisms can be destroyed if exposed to these conditions and will not be visible during examination.
Specimen Processing: Preserve specimen within 1 hour of collection. Formalin vial: Thoroughly mix formalin with feces. PVA Vial: Thoroughly mix PVA with feces. Fresh/unpreserved specimens can be submitted from inpatients and outpatients within MAMC for processing if submitted immediately after collection.
Special Instructions: Specimens from inpatients that have been in the hospital longer than 3 days shoud not be tested for O & P without coordination with the MAMC Infectious Disease Service, Microbiology OIC or Medical Director.
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Store at 22 C. Specimen Stability: Raw Stool <1 hour at Room Temperature; Specimen in Parapak (formalin and PVA set) is 4 days at Room Temperature.
Rejection Criteria: Specimen delivered longer than 1 hour after collection.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC /
Order Method: CHCS order entry under: **OVA AND PARASITES ID**; A separate laboratory request form and test order must be placed in CHCS for each stool specimen submitted for testing. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Procedure performed daily during normal duty hours. Specimens received after daily processing or on weekend will be processed on the next duty day.
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Diseases caused by human parasites remain on a worldwide basis among the principle causes of morbidity and mortality. Correct diagnosis of intestinal parasitic infection depends on proper collection, transport, detection and identification of parasites in stool specimens. Symptoms range from malaise to death. Treatment is dependent upon examining multiple stool exams due to the erratic shed rates of some parasites.

OVARIAN ANTIBODY SCREEN WITH REFLEX TITER, IFA Q
Synonyms:
CHCS IEN: 2139
Test Code: 10328
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Hemolysis, lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA)

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range: Ovarian Antibody Screen Negative; Ovarian antibody screen is at 1:5 dilution
Critical Value:
Clinical Significance: Ovarian Antibody is found in patients with premature ovarian failure, Addison's disease, and polyendocrinopathy syndromes.

OXALIC ACID 24-HOUR URINE WITH CREATININE Q P

Synonyms:
CHCS IEN: 6242
Test Code: 682
Components:
Total volume
Oxalate UA
Oxalate/Creatinine
Creatinine UA
Container (Preferred/Alternate): 24 Hour Urine Container and Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 10 mL aliquot from 24 hour urine
Minimum volume: 2 mL
Instructions
Patient Preparation: Patient should refrain from taking excessive amounts of Ascorbic Acid or Oxalate-rich foods (i.e.,spinach, coffee, tea, chocolate, rhubarb) for at least 48 hours prior to the collection period.
Collection: Collect urine with 25 mL of 6N HCl to maintain a pH <3. Random urine is not acceptable. 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 6 days at room temperature; 7 days at 2-8 ºC; 4 months frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Spectrophotometry (SP)
Order Method: CHCS order entry under: **Q OXALATE 24HR URINE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

OXYCODONE Q

Synonyms:
CHCS IEN: 6300
Test Code: 6235
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel) Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 4 mL Serum
Minimum volume: 2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 1 year frozen.

Rejection Criteria: SST

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Gas Chromatography/Mass Spectrometry (GC/MS)
Order Method: CHCS order entry under: **OXYCODONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

OXYCODONE (OXY) *See:* **DRUG SCREEN-UR(MAMC/BREM/MMC)** in this laboratory test information guide.

OXY HEMOGLOBIN *See:* **CO-OXIMETRY PROFILE** in this laboratory test information guide.

OYBEAN (F14) IGE Q

Synonyms:
CHCS IEN: 2139
Test Code: 2814
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

OYSTER (F290) IGE Q

Synonyms:
CHCS IEN: 6384
Test Code: 8932
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting

time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **OYSTER IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

P2Y12 PANEL

Order Note: Collection of this specimen requires scheduling an appointment with Pathology Suport Services by calling (253) 968-5238. This test has special specimen collection and submission requirements. Only personnel having received special training may collect specimens for this test.

Synonyms: Verifynow, Verify Now, P2Y12 Inhibition, Clopidogrel Response, Prasugral Response

CHCS IEN: 6471

Components

Platelet Function P2Y12
Platelet Function Base
P2Y12 % Inhibition

Container (Preferred/Alternate): 1 Special Grenier Bio-one Tube and 1 Light Blue-Top Tube

Specimen and Volume Required

Type(s): Blood
Volume:
Minimum Volume: Light Blue-Top Discard Tube requires at least 2 mL; Grenier Bio-One Tube filled to black line 2 mL

Instructions

Patient Preparation: Patient collections require scheduling an appointment with PSS at 968-5238.
Collection: Only personnel having received special training may collect specimens for this test. Do not draw above intravenous infusion. Onlyuse a 21 gauge needle or larger. Collect 1 Light Blue-Top Tube and label "Discard" and then draw 1 Special Grenier Bio-One Tube, filling this tube to the black line on the tube. Submit both tubes to Special Hematology.
Specimen Processing: Gently mix tubes by inverting 8 times. Do **NOT** refrigerate or spin specimens. Testing must occur within 4 hours of collection. Deliver specimens directly to Special hematology section of main lab, MAMC.
Special Instructions: Collection tubes containing additives/preservatives of any type must be collected AFTER the Grenier Bio-One tube and never before. If drawing for a CBC at the same time, fill the CBC tube last.
Transport/StorageTemperature: Transport to lab at Room Temperature. Do NOT refrigerate or spin specimens. Testing must occur within 4 hours of collection.

Rejection Criteria: Clotted specimens, incorrect order of tube draw

Admin Notes

Testing Location/Methodology: Special Hematology, MAMC/
Order method: CHCS order entry under: **xP2Y12 PANEL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday 07:30-15:00 only.
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The VerifyNow P2y12 assay is intended for evaluationg a patient's response to Clopidrogel or prasugrel as measured by inhibition of platelet aggregation. The test is not FDA approved and has not been validated for use as a presurgical assessment for plt function. This test has special specimen collection and submission requirements. Please contact PSS (968-5238) or Special Hematology (968-2716) for further information.

PACKED RED BLOOD CELLS *See:* **TYPE AND CROSS** in this laboratory test information guide.

PANCREATIC ELASTASE-1 Q

Synonyms:
CHCS IEN: 6200
Test Code: 14693
Container (Preferred/Alternate): Plast Screw-Cap Vial
Specimen and Volume Required
Type(s): Stool/Fresh and unpreserved
Volume: 1 gram (1 mL) Stool
Minimum volume: 0.3 grams
Instructions
Patient Preparation:
Collection: Collect undiluted feces in clean, dry, sterile leak-proof container. Do not add fixative or preservative. See appendices in this quide for stool specimen collection procedures.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 5 days at room temperature; 7 days at 2-8 ºC; 1 year frozen.
Rejection Criteria: Specimens stored at room temperature >5 days, Specimens collected in formalin, MF, SAF or PVA, Cary-blair media
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay (IA)
Order Method: CHCS order entry under: **CDT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The Elastase-1 is a quantitative enzyme linked immunosorbent assay for measuring concentrations of elastase-1 in feces as an aid in diagnosis of the exocrine pancreatic function.

PANEL, PANELS *See each of the following available "In-House" Panels* listed in this laboratory test information guide:

CHEMISTRY
AMYLASE, 2 HOUR URINE AMYLASE
BILIRUBIN, DELTA
BILIRUBIN, NEONATAL
BLOOD GAS(MAMC)
BMP(MAMC)
C3/C4 PANEL
CALCIUM, 24 HOURS URINE CALCIUM
CHEM 4 ELECTROLYTE PANEL
CMP(MAMC)
CO-OXIMETRY PROFILE
CREATININE, 24 HOUR URINE CREATININE
DRUG SCREEN-UR(MAMC/BREM/MMC)
FLIGHT PHYSICAL-CHEMISTRY
GLUCOSE, 24 HOUR URINE GLUCOSE
GLUCOSE/PROTEIN CSF PANEL
HEPATIC PUNCTION PANEL (MAMC)
IG A,G,M
IMMUNOGLOBULINS W/LIGHT CHN
IRON PANEL
LIPID PANEL(MAMC ONLY)
MAGNESIUM, 24 HOUR URINE MAGNESIUM
MICROALBUMIN, RANDOM/TIME(MAMC)
OB PANEL (MAMC ONLY)
PE PANEL
PHOSPHORUS, 24 HOUR URINE PHOSPHORUS
POTASSIUM, 24 HOUR URINE POTASSIUM
PROTEIN, 24 HOUR URINE PROTEIN

RENAL FUNCTION PANEL(MAMC)
SODIUM, 24 HOUR URINE SODIUM
SPOT URINE PROT/CREAT RATIO
UREA NITROGEN, 24 HOUR URINE UREA NITROGEN
URIC ACID 24 HOUR URINE URIC ACID
URINE LYTES(MAMC)

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

CHEMISTRY - IMMMUNOCHEMISTRY
ENDOCRINE LAB TFT PANEL
FETAL LUNG MATURITY TEST
FREE PSA PANEL (MAMC)
LH/FSH PANEL
PTH-INTACT/INTEROP (MAMC)
THYROGLOBULIN, QNT PANEL

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

CHEMISTRY - SPECIAL CHEMISTRY
CELIAC DISEASE IGA PNL(MAMC)
CELIAC DISEASE IGG PNL(MAMC)
CELIAC DISEASE PANEL(MAMC)
KAPPA/LAMBDA LIGHT CHAIN PANEL
NORTHWEST RAST PANEL(MAMC)
NUT FOOD RAST PANEL(MAMC)
PED FOOD ALLERGY PANEL(MAMC)
SHELLFISH RAST PANEL(MAMC)
STINGING INSECT PANEL(MAMC)

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

HEMATOLOGY
CBC
CBC(WITHOUT AUTO DIFF)
CELL COUNT WITH DIFF
EXTRAVASCULAR FLUID DIFF
GASTRIC OCCULT BLOOD AND PH
HEMOGLOBIN AND HEMATOCRIT
MANUAL DIFFERENTIAL
RETICULOCYTE COUNT PANEL
SEMEN ANALYSIS.(MAMC)
SPERM MORPHOLOGY

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

HEMATOLOGY - COAGULATION
DIC PANEL
MIXING STUDIES
P2Y12 PANEL *See:* **xP2Y12 PANEL** in CHCS
PROTIME

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

HEMATOLOGY - FLOW CYTOMETRY
FLOW CYTOMETRY
LYMPHOCYTE SUBSETS.
SUBSETS-BAL

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

HEMATOLOGY - SPECIAL HEMATOLOGY
APC-R (MAMC)
HEMOGLOBIN ELECTROPHORESIS

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

HEMATOLOGY - UA
URINALYSIS (MAMC,BREM,PSNS,EV)
URINALYSIS, DIABETES

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

MICROBIOLOGY
BORDETELLA PERTUSSIS CULTURE WA
CSF LATEX AGGLUTINATION PANEL
OCCULT BLOOD PANEL, 1-3 SAMPLES
URINE LATEX AGGLUTINATION
VAG WET PREP (MAMC +NHOH)

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

MOLECULAR DIAGNOSTICS
INFLUENZA RT-PCR SUBTYPING

PANEL, PANELS *See each of the following available "In-House" Panels listed in this laboratory test information guide:*

TRANSFUSION SERVICE
CORD BLOOD (MAMC ONLY)
PRENATAL SCREEN (MAMC ONLY)
RHOGAM (MAMC ONLY)
TYPE AND CROSS (MAMC ONLY)
TYPE AND SCREEN (MAMC ONLY)

PAPAYA (F293), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2720
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PARATHYROID HORMONE, INTACT Q For MAMC See: **PTH-INTACT/INTEROP (MAMC)** in this laboratory test information guide.

PARATHYRIN INTACT *See*: **PTH-INTACT/INTEROP (MAMC)** in this laboratory test information guide.

PARENTAL STUDY SG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Requires both Lavendar-Top Tube (K2EDTA) and Green-Top Tube (Sodium Heparain)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL Lavendar-Top Tube and 10 mL Green-Top Tube (Sodium Heparin)
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions: Requires completeion of Requisition form before shipment.
Transport/Storage Temperature: Store and Ship at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Signature Genomics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PAROXYSMAL NOCTURNAL HEMOGLOBINURIA (PNH) with FLAER (HIGH SENSITIVITY) Q
Synonyms:
CHCS IEN: 2139
Test Code: 16433
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 ml
Minimum volume: 3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 8 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship tube with whole blood to Quest at room temperature. Specimen stability: 72 hours at room temperature; Not established at 2-8 ºC; Unacceptable frozen.
Rejection Criteria: Received frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Flow cytometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: This test was developed and its performance characteristics have been determined by Quest Diagnostics. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. Performance characteristics refer to the analytical performance of the test.
Critical Value:
Clinical Significance: This high sensitivity and quantitative flow cytometry assay is used in the diagnosis and follow-up monitoring of patients with parozysmal nocturnal hemoglobinuria (PNH). Markers evaluated are FLAER, CD14, CD16, CD24, CD55, and CD59 with CD33, CD45 and glycophorin A used for gating. Granulocytes, monocytes and erythrocytes (RBCs) are

evaluated separately. The assay can detect glycosylphosphatidyllinositol (GPI)-deficient cell populations down to a level of 0.01%.

PARROT DROP (E77), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2663
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PARROT FEATHER (E78), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2662
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PARROT FEATHERS IGG Q
Synonyms:
CHCS IEN: 2139
Test Code: 10620
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PARTIAL THROMBOPLASTIN TIME
Synonyms: APTT, PTT
CHCS IEN: 3064
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (Sodium Citrate 3.2%) 4.5 mL or Light Blue-Top Tube (Sodium Citrate 3.2%) 1.8 mL
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum. Do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive.
Special Instructions: If patient is receiving anticoagulant therapy, specify type (heparin, Coumadin, etc.) with request form.
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/Coagulation Section, MAMC
Order Method: CHCS order entry under: **PARTIAL THROMBOPLASTIN TIME**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive: The recommended therapeutic range for heparin IV therapy is 62-94 seconds
Reference Range: See CHCS /CHCS results report
Critical Value:
Clinical Significance: Evaluation of the intrinsic coagulation system; useful in monitoring heparin therapy; aids in screening for presence of classical hemophilia A and B, congenital deficiencies of factors II, V, VIII, IX, XI and XII, dysfibrinogenemia, Disseminated Intravascular Coagulation, liver failure and vitamin K deficiency.

PARVO VIRUS B19 ANTIBODIES (IGG/IGM) Q

Synonyms:
CHCS IEN: 4411
Test Code: 8946
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: No glass tubes.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **Q PARVOVIRUS** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <0.9 Negative; 0.9-1.1 Equivocal; >1.1 Positive
IgG persists for years and provides life-long immunity. Results from any one IgM assay should not be used as a sole indicator of a current or recent infection. Because IgM tests can yield false positive results and low levels of IgM antibody may persist for months post infection, reliance on a single test result could be misleading. If an acute infection is suspected, consider obtaining a new specimen and submit for both IgG and IgM testing in two or more weeks.
Critical Value:
Clinical Significance: Parvovirus B19 is also known as "Fifth Disease", affects primarily children and causes a rash on the face, trunk, and limbs. Joint pain and swelling is more common in adults. Although one-fifth of those affected have only mild disease, patients with sickle cell anemia or similar types of chronic anemia can suffer from acute anemia. Infection during pregnancy can lead to complications.

PATIENT THROMBIN TIME

Synonyms: Thrombin Time, TT
CHCS IEN: 1936
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (Sodium Citrate 3.2%) 4.5 mL or Light Blue-Top Tube (Sodium Citrate 3.2%) 1.8 mL
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum. Do not over or underfill tube. Caution: A discard tube (without additives) must be used before a citrate tube is drawn with a winged blood collection set. If blood is drawn with a syringe, allow the tube to draw the blood from the syringe, using a blood transfer device. Do not force blood into the tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive.
Special Instructions: If patient is receiving anticoagulant therapy, specify type (heparin, Coumadin, etc.) with request form.
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Tube not filled to line, Clotted, Hemolyzed, Quantity Not Sufficient.
Admin Notes
Testing Location/Methodology: Hematology/Coagulation Section, MAMC
Order Method: CHCS order entry under: **PATIENT THROMBIN TIME**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					

Adult	15.5	18.6	Seconds

Critical Value:
Clinical Significance:

PCB *See:* **POLYCHLORINATED BIPHENYLS** in this laboratory information guide.

PCO2. *See:* **BLOOD GAS (MAMC)** in this laboratory information guide.

PEA (E12), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2812
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PEACH (E95), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 8405
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PEANUT (F13) IGE Q

Synonyms:
CHCS IEN: 6127
Test Code: 2864
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **PEANUT IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PEANUT IGE *Not orderable as a single test. See:* **NUT FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

PEAR (F94), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 8884
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PECAN NUT (F201) IGE Q
Synonyms:
CHCS IEN: 6127
Test Code: 2864
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **PECAN NUT IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PE PANEL P
Order Note: This Panel is for use by Reserve and National Guard Units only.
Synonyms: Physical Exam Panel

CHCS IEN: 2841
Components:
Glucose
Cholesterol
HDL Cholesterol
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store serum Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: See individual tests
Critical Value:
Clinical Significance:

PECAN IGE *Not orderable as a single test. See:* **NUT FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

PED FOOD ALLERGY PANEL (MAMC)
Synonyms: Pediatric Food Allergy Panel
CHCS IEN: 6345
Components:
Codfish IgE KU/L
Egg White IgE KU/L
Milk IgE KU/L
Peanut IgE KU/L
Sesame Seed IgE KU/L
Soybean IgE KU/L
Wheat IgE KU/L
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store serum Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis, Hyperlipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / ImmunoCap 250
Order Method: CHCS order entry under: **PED FOOD ALLERGY PANEL (MAMC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range: See individual tests
Critical Value:
Clinical Significance: Allergy studies

PERENNIAL RYE (G5) IGE Q

Synonyms:
CHCS IEN: 6046
Test Code: 2305
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **GRASS RYE PERENNIAL PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PH (BLOOD GASES) *Not orderable as a single test. See:* **BLOOD GAS(MAMC)** in this laboratory test information guide.

PH (BODY FLUIDS)
Synonyms:
CHCS IEN: 2807
Components:
Container (Preferred/Alternate): Sterile Container
Specimen and Volume Required
Type(s): Body Fluid
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: : See appropriate clinical procedures for procedure being performed.
Collection: : See appropriate clinical procedures for procedure being performed.
Specimen Processing:
Special Instructions: Indicate specimen site source and type on request form and in CHCS order comment
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / pH stick
Order Method: CHCS order entry under: **PH (BODY FLUIDS)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Hydrogen Ion Concentration. pH below 3 indicates presence of free Hydrochloric Acid in gastric contents Amniotic fluid pH used to determinee ruptured membranes**.**

PH-URINE
Synonyms:
CHCS IEN: 2182
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: Deliver to laboratory within 1 hour of collection**.**
Special Instructions:
Transport/Storage Temperature: Room Temperature; Refrigerate if testing is delay greater than 1 hour.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/UA, Section / pH stick
Order Method: CHCS order entry under: **PH-URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	5.0	9.0			

Critical Value:
Clinical Significance:

PHENCYCLIDINE *See*: **DRUG SCREEN-UR (MAMC/BREM/MMC)** in this laboratory test information guide.

PHENOBARBITAL
Synonyms: Luminal, Antrocol
CHCS IEN: 207

Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator); Do not use Serum Separator tube (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion . Do not use Serum Separator tube (SST). Draw Peak: 6 to 18 hours after oral dose unless physician specifies otherwise. Draw Trough: Just prior to dose.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Serum Separator tube (SST), Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PHENOBARBITAL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	15	39		40	µg/mL

Critical Value:
Clinical Significance: Phenobarbital is an anticonvulsant used for the lon-term treatment of generalized tonic-clonic (Grand mal) seizures and cortical focal seizures. Phenobarbital levels are monitored to assure adequate therapeutic levels are achieved and to avoid toxicity.

PHENOTYPE *See:* **ANTIGEN PHENOTYPE** in this laboratory test information guide.

PHENYLALANINE Q
Synonyms:
CHCS IEN: 2336
Test Code: 37356
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL Plasma
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Overnight fasting required. Non-fasting specimens acceptable for pediatric patients.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; 7 days at 2-8 ºC; 30 days Frozen.
Rejection Criteria: Serum, CSF, Gray-Top Tube, Light Blue-Top Tube, Room Temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **PHENYLALANINE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Abnormalities in phenylalanine metabolism are autosomal recessive disorders that occur in 1 in 10,000 births. The most common form is phenylketonuria. Heterozygotes can have transient cognitive impairment with large phenylalanine loads. If non-PKU types of hyperphenylalanemia are suspected, additional testing for tetraahydrobiopterin pathway enzyme defects should be perfomed.

PHENYLKETONURIA (PKU) O

Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate):
Specimen and Volume Required
Type(s):
Volume:
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Washington State Public Health Laboratory
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PHENYTOIN

Synonyms: Dilantin
CHCS IEN: 1288
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator), Do not use Serum Separator tube (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion. Do not use Serum Separator tube (SST).
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions: Draw IV Peak: 2-4 hours post dose. (Oral: 3 to 9 hours after loading dose). Draw Trough Immediately prior to next dose. Steady state is reached after 7-10 days.
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Serum Separator tube (SST), Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PHENYTOIN** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	10	20	0	20.1	µg/mL

Critical Value:
Clinical Significance: Phenytoin is an anticonvulsant hydantion used for the treatment of generalized tonic-clonic (grand-mal) and complex partial seizures. Phenytoin is also used for prophylaxis in neurosurgical procedures. Phenytoin levels are monitored to assure adequate therapeutic levels are achieved and to avoid toxicity.

PHENYTOIN, FREE Q

Synonyms:
CHCS IEN: 2139

Test Code: 3189
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Collect 4 hours post oral dose.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 60 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Fluorescent Polarization Immunoassay (FPIA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 1.0-2.0 mg/L
Critical Value:
Clinical Significance: The unbound (free) drug is the pharmacologically active component of phenytoin. The percent free is influenced by renal disease, pregnancy, protein abnormalities, and other medical conditions.

PHEOCHROMOCTYOTMA EVALUATION

Synonyms:
CHCS IEN: 2139
Test Code: 10520
Components:
Total Catecholamines
Total Metanephrines
Creatinine
Catecholamine/Creatinine Ratio
Metanephrine/Creatinine Ratio
Container (Preferred/Alternate): 24 Hour Urine Container and Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 10 mL aliquot from 24 hour urine
Minimum volume: 2 mL
Instructions
Patient Preparation: It is preferable for the patient to be off medications for three days prior to collection. Patient should avoid tobacco, tea, coffee, for three days prior to specimen collection. Common antihypertensives (diuretics, ACE inhibitors, calcium channel blockers, alpha and beta blockers) cause minimal or no interference. Medications which are alpha agonists (aldomet), alpha blockers (dibenzyline) should be avoided 18-24 hours prior to specimen collection.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen. After urine collection, add 25 mL of 6N HCl to maintain a pH below 3. Urine without preservative is acceptable if pH is below 6 and the sample is shipped frozen. Record 24-hour urine volume on test requisition and urine vial. Record patient's age on test requisition and urine vial.
Specimen Processing: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 8 hours at room temperature; 8 days at 2-8 ºC; 1 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography (HPLC), LCMSMS, Kinentic Alkaline Picrate

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PHOSPHATIDYLSERINE ANTIBODIES (IGG,IGA,IGM) Q

Synonyms:
CHCS IEN: 2139
Test Code: 10062
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate)
Specimen and Volume Required
Type(s): Blood/Platelet-poor Plasma
Volume: 1 mL
Minimum volume: 0.5 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Centrifuge light blue-top tube 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/µL).
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 28 days at 2-8 ºC; 28 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Phosphatidylserine antibody is used to assist in the diagnosis, management, and possible prevention of thrombotic complications as part of the Phospholipid Syndrome. The Antibody Panel provides a more specific measurement of antibodies useful in the confirmation of Antiphospholipid Syndrome.

PHOSPHOROUS

Synonyms: Phos; PO4
CHCS IEN: 181
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric; Sterile Container with Screw-Top Cap for urine
Specimen and Volume Required
Type(s):
Blood/Serum
Urine, Random
Urine, 24 hour
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for 24 Hour Urine Collection in the appendices of this manual.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See appropriate clinical procedures for procedure being performed.
Specimen Processing:

Special Instructions:
Transport/Storage Temperature:

Rejection Criteria*:* Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PHOSPHOROUS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value: < 1.2 mg/dL; > 8.0 mg/dL
Clinical Significance: Antacids, diuretics and long-term steroids are among common agents bearing a relationship to severe hypophosphatemia. High phosphate values can be caused by youth, exercise, dehydration, hypovolemia, acromegaly, hypoparathyroidism, liver disease, cardiac resuscitation, pulmonary embolism and renal failure; low phosphate values can be caused by malnourished subjects.

PHOSPHORUS, 24 HOUR URINE *P*

Synonyms: 24 HR Phosphorus Urine, 24HR Urine Phosphorus, Phosphorus 24 HR Urine
CHCS IEN: 2438
Components:
Phosphorus
Total Volume
Phosphorus, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages. See 24 Hour Urine Collection instructions in the appendices of this manual.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE PHOSPHORUS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range: 0.4 – 1.3 g/24 Hours
Critical Value:
Clinical Significance: Phosphorus is present in many foods with a mean intake of approximately 1500 mg per day for adult males and about 1000 mg per day for adult females. Absorbed phosphate, under the influence of parathyroid hormone is readily excreted in the kidney. Measurement of urinary phosphorus generally reflects dietary intake, hence, day-to-day excretion may show considerable variation.

PHOSPHOROUS, CONTINUED For additional PHOSPHOROUS testing also see the following panel in this laboratory test information guide: **RENAL FUNCTION PANEL (MAMC .**

PINTO BEAN IGE, IMCAP *Q*

Synonyms:

CHCS IEN: 2139
Test Code: 6223
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PINWORM EXAM
Synonyms: Pinworm Paddle; Enterobius Vermicularis Prep
CHCS IEN: 1164
Components:
Container (Preferred/Alternate): Pinworm Paddle is used in place of cellophane tape.
Specimen and Volume Required
Type(s):
Volume: Collect up to 3 different specimens, 1 on each of 3 mornings.
Minimum Volume:
Instructions
Patient Preparation: Obtain Pinworm Paddle from MAMC Laboratory Reception Front Desk.
Collection Specimen is best obtained a few hours after patient has retired, or early in the morning, before a bowel movement or a bath.***:*** Collect immediately after awakening before washing or voiding. The anal folds are spread apart and the sticky part of the paddle is pressed in all four quadrants several times. The paddle is then returned to the container and recapped. Collect up to 3 different specimens, 1 on each of 3 mornings.
Specimen Processing: Submit specimen the same day as collected, or if obtained late in day, submit next day in AM.
Special Instructions: Do not use scotch tape prep if paddle is not available. Pinworm eggs are infectious. Wash hands after collection.
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Specimen is not in covered container; submission of raw stool; improperly labeled specimen, glass slides with "Magic" Brand scotch tape.
Admin Notes
Testing Location/Methodology: Parasitolgoy Section, MAMC / Examination
Order Method: CHCS order entry under: **PINWORM EXAM.** State time and date of collection on laboratory request form. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: up to72 hours
Interpretive
Reference Range: No Enterobius vermicularis eggs or larvae seen
Critical Value:
Clinical Significance: One negative result does not rule out possibility of parasitic infestation. A stool specimen is not satisfactory for pinworm studies. Enterobius is often present in multiple family members. Therefore, it is recommended that all family members be tested. To detect cases of pinworm infestation.

PISTACHIO (F203), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 2726
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PLASMA RENIN ACTIVITY LC/MS/MS Q
Synonyms: Renin Activity
CHCS IEN: 4591
Test Code: 16846
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Frozen
Volume: 1 mL Plasma
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. After collection sample can be stored at room temperature up to 24 hours. Do **not** refrigerate the sample. Refrigeration will cause cryoactivation to occur and prorenin will convert to renin causing falsely high renin activity result. Freeze plasma immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 24 hours at room temperature; Unacceptable days at 2-8 ºC; 28 days frozen.
Rejection Criteria: Received room temperature, Received refrigerated, Plasma collected in plasma separator tube (PST)
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **PLASMA RENIN ACTIVITY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 0.25-5.82 ng/mL/h
Critical Value:
Clinical Significance:

PLASMINOGEN ACTIVATOR INHIBITOR-1 (PAI-1) Q
Synonyms:
CHCS IEN: 2139

Test Code: 36555
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Frozen
Volume: 1 mL Plasma
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Freeze Plasma.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; 2 hours at 2-8 ºC; 30 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.
Rejection Criteria: Received thawed, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay (IA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability..
Availability: Set up: Wed a.m.; Report available: 8 days
TAT: Routine
Interpretive
Reference Range: 4-43 ng/mL
Critical Value:
Clinical Significance: Increased activity is associated with increased risk of arterial thrombosis, such as with unexplained premature myocardial infarction. As an acute phase reactant, the activity is increased after an acute event. Studies suggest PAI-1 may be a prognostic marker in early stage breast cancer.

PLASMINOGEN ACTIVATOR INHIBITOR-1 (PAI-1) 4G/5G

Synonyms:
CHCS IEN: 2139
Test Code: 11368
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Preferred: Blood/Whole
Bone Marrow
Tissue, Fresh Unfixed
Volume: 5 mL Whole Blood
Minimum volume: 3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperatrue. Specimen stability: 8 days at room temperature; 8 days at 2-8 ºC; Unacceptable Frozen.
Rejection Criteria: Gross hemolysis, Clotted blood, Received refrigerated, Received frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR), Single Nucleotide Primer Extension
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability..
Availability: Set up Tues a.m.; Report available Fri p.m.
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: The 4G allele of a recently described common guanine insertion/deletion polymorphism (4G/5G) in the PAI-1 gene promoter region is associated with higher plasma plasminogen activator inhibitor (PAI-1) activity. When PAI-1 is high, fibrinolytic activity is depressed, and there is increased risk for arterial and venous thrombosis. PAI-1 is also a significant risk factor for coronary artery disease, myocardial infarction and recurrent spontaneous abortion.

PLASMINOGEN ACTIVITY Q

Synonyms:
CHCS IEN: 2139
Test Code: 4458
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Frozen
Volume: 2 mL Plasma
Minimum volume: 1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Freeze Plasma immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; Unacceptable at 2-8 ºC; 30 days Frozen.
Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Spectrophotometry (Chromogenic Substrate)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability..
Availability: Set up: Sun a.m.; Tues, Thurs p.m.
TAT: Routine
Interpretive
Reference Range: 65-176%
Critical Value:
Clinical Significance: The precursor of plasmin is plasminogen, plasmin lyses fibrin clots. Activity is increased in pregnancy and as an acute phase reactant. Rare hereditary deficiency of plasminogen predisposes to venous thrombosis. Low activity is associated with DIC, liver disease, and increased risk of thrombosis.

PLATELET ANTIBODY, INDIRECT (IGG) Q

Synonyms:
CHCS IEN: 3619
Test Code: 5341
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1.5 mL Serum
Minimum volume: 0.8 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 48 hours at room temperature; 48 hours at 2-8 ºC; 30 days frozen.
Rejection Criteria: Plasma received
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **PLATELET IGG INDIRECT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Sat; Report available 3 days
TAT: Routine
Interpretive
Reference Range: Negative. The Indirect APA assay detects alloantibodies directed against platelet and/or HLA Class I antigens. This test is most often used to evaluate neonatal alloimmune thrombocytopenia (NAIT) and post transfusion purpura. NAIT is associated with the presence of platelet specific antibodies. HLA Class I antibodies are common in pregnancy. Involvement of HLA Class I antibodies in NAIT has been suspected in a few cases, but a true association has not been proven. Clinical correlations are necessary for diagnosis.

Critical Value:
Clinical Significance: Neonatal alloimmune thrombocytopenia (NAIT) results from the placental transfer of maternal antiplatelet IgG antibody (alloantibody) formed against incompatible fetal platelet antigens. Indirect antibody may also be present in post-transfusion purpura (PTP).

PLATELET APHERESIS (Blood Product) *See*: **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

PLATELET COUNT
Synonyms: Platelets; Platetet Count, PLT
CHCS IEN: 1383
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA); EDTA Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Whole blood collected in 3 mL lavender-Top tube . Allow tube to fill by vacuum at least 3/4 of stated volume on tube.
Specimen Processing: Gently invert Lavendar-Top Tube 10 times to mix blood with additive to ensure anticoagulant is effective. Ensure that Microtainer is mixed during collection when used.
Special Instructions: Specimen must be received in the laboratory within 8 hours after collection. Traumatic venipuncture tap can introduce thromboplastin and trap white blood cells and platelets. Refrigeration can precipitate fibrin and trap white blood cells and platelets.
Transport/Storage Temperature: Room Temperature. Do Not Refrigerate. Must be delivered within 8 hours from draw.
Rejection Criteria: Gross Hemolysis, Clotted specimen, Refrigerated specimen, Quantity Not Sufficient
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC /
Order Method: CHCS order entry under: **PLT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Clumping may cause a falsely low platelet count. Platelet satellitism of neutrophils will cause a pseudothrombocytopenia. RBC or WBC fragments, including fragmented fragile leukemia cells and neutrophil pseudo-platelets, may cause falsely elevated counts. However, these conditions are noted on the report and new specimens are requested if necessary. **Use:** Evaluation, diagnosis and follow-up of bleeding disorders, petechiae, thrombocytopenia, ITP, Disseminated Intravascular Coagulation, leukemia and chemotherapy management.

PLATELET FUNCTION P2Y12 PANEL

Order Note: Collection of this specimen requires scheduling an appointment with Pathology Suport Services by calling (253) 968-5238. This test has special specimen collection and submission requirements. Only personnel having received special training may collect specimens for this test.

Synonyms: Verifynow, Verify Now, P2Y12 Inhibition, Clopidogrel Response, Prasugral Response

CHCS IEN: 6471

Components

Platelet Function P2Y12
Platelet Function Base
P2Y12 % Inhibition

Container (Preferred/Alternate): 1 Special Grenier Bio-one Tube and 1 Light Blue-Top Tube

Specimen and Volume Required

Type(s): Blood
Volume:
Minimum Volume: Light Blue-Top Discard Tube requires at least 2 mL; Grenier Bio-One Tube filled to black line 2 mL

Instructions

Patient Preparation: Patient collections require scheduling an appointment with PSS at 968-5238.
Collection: Only personnel having received special training may collect specimens for this test. Do not draw above intravenous infusion. Onlyuse a 21 gauge needle or larger. Collect 1 Light Blue-Top Tube and label "Discard" and then draw 1 Special Grenier Bio-One Tube, filling this tube to the black line on the tube. Submit both tubes to Special Hematology.
Specimen Processing: Gently mix tubes by inverting 8 times. Do **NOT** refrigerate or spin specimens. Testing must occur within 4 hours of collection. Deliver specimens directly to Special hematology section of main lab, MAMC.
Special Instructions: Collection tubes containing additives/preservatives of any type must be collected AFTER the Grenier Bio-One tube and never before. If drawing for a CBC at the same time, fill the CBC tube last.
Transport/StorageTemperature: Transport to lab at Room Temperature. Do **NOT** refrigerate or spin specimens. Testing must occur within 4 hours of collection.

Rejection Criteria: Clotted specimens, incorrect order of tube draw

Admin Notes

Testing Location/Methodology: Special Hematology, MAMC/
Order method: CHCS order entry under: **xP2Y12 PANEL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday 07:30-15:00 only.
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The VerifyNow P2y12 assay is intended for evaluationg a patient's response to Clopidrogel or prasugrel as measured by inhibition of platelet aggregation. The test is not FDA approved and has not been validated for use as a presurgical assessment for plt function. This test has special specimen collection and submission requirements. Please contact PSS (968-5238) or Special Hematology (968-2716) for further information.

PLATELET FUNCTION SCREEN (PFA-100) TG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): 2 Light Blue-Top Tubes (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Whole (Do Not Centrifuge)
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Do Not Centrifuge
Special Instructions: Ship within 3 hours of drawing specimen.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Tacoma General Hospital
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Requires Pathologist approval.
Interpretive
Reference Range:
Critical Values:
Clinical Significance:

PM-SCI ANTIBODY Q
Synonyms:
CHCS IEN: 4980
Test Code: 37103
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Serum Separator Tube (SST ®)
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunodiffusion (ID)
Order Method: CHCS order entry under: **PM-1 AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Sat a.m.
TAT: Routine
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: Scleroderma may be localized or diffuse (Progressive Systemic Sclerosis [PSS]) and may involve skin, gastrointestinal tracts, lungs, vascular and cardiac systems, and kidneys. PM-1 (PM-Scl) Antibody is present in approximately one-fourth of patients with the polymyositis/scleroderma overlap syndrome, 8% of patients with polymyositis alone and 2-5% of patients with scleroderma alone.

PML/RARA T (15;17), QUANTITATIVE PCR Q
Synonyms:
CHCS IEN: 2139

Test Code: 14994
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Blood/Whole or Bone Marrow
Volume: 3 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Whole blood collected in 3 mL lavender-Top tube . Allow tube to fill by vacuum at least 3/4 of stated volume on tube.**.** Record the draw time and date on the tube. Information regarding draw time and date is required to ensure stability of the sample is maintained.
Specimen Processing: Gently invert Lavendar-Top Tube 10 times to mix blood with additive to ensure anticoagulant is effective. Do not freeze whole blood or bone marrow.
Special Instructions:
Transport/Storage Temperature: Whole blood or bone marrow are shipped at room temperature or 4° C. Ship immediately to maintain sample stability. Specimen Stability: 3 days at room temperature, 3 days refrigerated at 2-8 C, Unacceptable Frozen.
Rejection Criteria: Bone marrow, Clotted blood, Gross hemolysis, Received frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostic / Real-Time Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: PML/RARA fusion oncogene is present in >99% of cases of acute promyelocytric leukemia (APL). This real-time polymerase chain reaction assay can be used to detect the presence of the two gene fusion patterns: short and long isoform. It can be used to monitor minimal residual disease in APL. Ideally, recent patient samples should be tested side by side with the previous sample to determine if there is a change in disease course.

PNEUMOCYSTIS CARINII STAIN
Synonyms: PCP
CHCS IEN: 2162
Components:
Container (Preferred/Alternate): Sterile Container
Specimen and Volume Required
Type(s):
Bronchoalveolar lavage
Sputum/Induced
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: Patient preparation and sample collection is performed by the Pulmonary Clinic. See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Induced sputum is an acceptable specimen only for HIV positive patients. A negative result does not rule out infection. A BAL is the specimen of choice for the HIV negative patient and to confirm a negative sputum result.
Specimen Processing: Deliver to laboratory immediately. After normal duty hours deliver directly to the Lead Tech.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **PNEUMOCYSTIS CARINII STAIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours/ 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:

Clinical Significance: Induced sputum is an acceptable specimen only for HIV positive patients. A negative result does not rule out Pneumocystis Carinii infection. A BAL is the specimen of choice for the HIV negative patient and to confirm a negative sputum result.

PO2. *See:* **BLOOD GAS (MAMC)** in this laboratory test information guide.

POLIOVIRUS ANTIBODY, NEUTRALIZATION Q

Synonyms:
CHCS IEN: 2139
Test Code: 988
Components: Poliovirus Types 1, 2 and 3
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics /Tissue Culture/Neutralization
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Thurs; Report available: 2-8 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: This sensitive procedure is recommended for vaccine response testing and type-specific serodiagnosis of recent poliovirus infection. It can also serve as an aid for diagnosing immune deficiency disorders.

POLYCHLORINATED BIPHENYLS Q

Synonyms: PCB
CHCS IEN: 4300
Test Code: 34535
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 1.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 4 months at 2-8 ºC; 4 months Frozen.
Rejection Criteria: SST
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Gas Chromatography (GC)
Order Method: CHCS order entry under: **PCB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

POOLED COMPONENTS *See:* **TYPE AND CROSS (MAMC ONLY)** in this laboratory test information guide.

PORK (F26) IGE Q
Synonyms:
CHCS IEN: 6104
Test Code: 2826
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **PORK IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PORPHOBILINOGEN, RANDOM URINE Q
Synonyms:
CHCS IEN: 2139
Test Code: 6329
Components:
Container (Preferred/Alternate): Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/Random
Volume: 10 mL
Minimum volume: 2 mL
Instructions
Patient Preparation:
Collection: Random urine collected without preservatives. See applicable clinical collection procedures found in appendices of this guide.
Specimen Processing: Refrigerate during and after collection. Wrap tube in aluminum foil to protect from light.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Received room temperature, Received not protected from light
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Colorimetric
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Fri
TAT: Routine: 4 days
Interpretive

Reference Range:
Critical Value:
Clinical Significance:

PORPHYRINS, FRACTIONATED, QUANTITATIVE, 24-HOUR URINE Q P

Synonyms:
CHCS IEN: 4480
Test Code: 729
Components:
Coproporphyrins
Heptacarboxyporphyrin
Hexacarboxyporphyrin
Pentacarboxyporphyrin
Total Porphyrins
Uroporphyrins
Container (Preferred/Alternate): 24 hour urine container(s); Light-Protected Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 2 mL aliquot from 24 hour urine specimen
Minimum volume: 5 mL aliquot from 24 hour urine specimen
Instructions
Patient Preparation:
Collection: 24-hour urine collected in a 5 g sodium carbonate container or no preservative container. 24-hour urine collected with 5 grams of sodium carbonate, refrigerated and protected from light during collection. Collection with no preservative is acceptable, if properly refrigerated and light protected. 24-hour total volume must be provided on the test request form.1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Unpreserved specimens must be frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote to brown plastic screw cap container to Protect from light during handling and shipment.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store and ship refrigerated or frozen. Specimen stability: Unacceptable at room temperature; 7 days at 2-8 ºC; 30 weeks frozen.
Rejection Criteria: Received room temperature, Not protected from light, pH <4.0
Admin Notes
Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **PORPHYRINS FRACTIONATED URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Tues-Fri, Sun p.m.; Report available 3 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Porphyria is a group of distinct disorders characterized by the abnormal accumulation of porphyrins or porphyrin precursors. Porphyrin Fractionation of Urine is useful in diagnosing porphyrin cutanea tarda, hereditary coproporphyria, and variegate porphyria.

PORPHYRINS FRACTIONATED, PLASMA Q P

Synonyms:
CHCS IEN: 2139
Test Code: 5519
Components:
Coproporphyrins
Heptacarboxyporphyrin
Hexacarboxyporphyrin
Pentacarboxyporphyrin
Protoporphyrin
Total Porphyrins
Uroporphyrins
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Light-Protected Plastic Scew-Cap Vial

Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 2 mL Plasma
Minimum volume: 0.4 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Collect blood sample with foil-wrapped green-top tube. Avoid hemolysis.
Specimen Processing: Gently invert tube 8 times to mix additive with blood. Tranport to lab immediately. Immedately Centrifuge, separate plasma from cells and freeze.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 8 hours at room temperature; 8 hours refrigerated at 2-8 ºC; 90 days frozen.
Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated, Not protected from light, Serum Separator Tube (SST ®)
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics for established ranges.
Critical Value:
Clinical Significance: To diagnose certain types of porphyria. To diagnose patients with chronic renal failure who may be suspected of primary or secondary porphyria.

POST VASECTOMY SEMEM ANALYSIS

Synonyms: Semen Count; Sperm Count
CHCS IEN: 2989
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Seminal Fluid
Volume: Submit 1 complete ejaculation
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. Provide collection instructions and collection container to patient. Abstain from ejactulation for a minimum of 48 hours and up to 7 days before collection sample. See: Semen Analysis Collection and Submission Instructions in the appendices of the manual.
Collection: Have patient obtain semen sample by masturbation. Do not collect the sample in a condom. Ejaculate all the semen directly into the sterile specimen cup provided to you. Do not contaminate the cup or specimen with any other substances. Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See appropriate clinical procedures for the this procedure.
Special Instructions: Deliver to laboratory within 1 HOUR of collection. Answer questions and record ejaculatory abstinence time on the instruction sheet.
Transport/Storage Temperature: Keep the semen sample at room temperature. Do not expose to excessive heat or cold.
Rejection Criteria: Specimen submitted in condom; contaminated with other substances.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC / Examination
Order Method: CHCS order entry under: **POST VASECTOMY SPERM COUNT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Samples only accepted on Monday thru Thursday (0830 to 1100 hours) not including holidays.
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Evaluation of post-vasectomy cases.

POTASSIUM

Synonyms: K; K+
CHCS IEN: 177

Components:
Container (Preferred/Alternate):
MAMC Preferred: Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) or
Red-Top Tube (Clot Activator)
Alternate: Green-Top Tube (Lithium heparin) without use of tourniquet during draw
1 Red,Green or Amber-Top Microtainer Tube for pediatric draw
Sterile Container with Screw-Top Lid for Urine samples
Specimen and Volume Required:
Type(s):
Blood/Serum
Blood/Plasma
Urine, Random
Urine, 24 Hour
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Spin to separate Serum from cells. Refrigerate
Special Instructions: Avoid use of tourniquet. Avoid hand-clenching. These increase likelihood of blood stasis, resulting in hemolysis.
Transport/Storage Temperature: Refrigerate Serum at 2-8 °C. Refrigerate Urine at 2-8 °C.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **POTASSIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Serum: 3.8 – 5.2 mmol/L
Critical Value: <2.8; >6.2 mmol/L
Clinical Significance: Potassium levels are monitored especially in elderly patients. Also potassium levels should be monitored for those patients on intravenous hyperalimentations, in patients on diuretic therapy, in cases of renal disease, and in hypertensive patients. **Use:** Evaluation of electrolyte balance.

POTASSIUM, 24 HOUR URINE

Synonyms: 24HR UP, 24HR Urine Protein
CHCS IEN: 2550
Components:
Potassium
Total Volume
Potassium, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C
Rejection Criteria:
Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE POTASSIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive
Reference Range: 25 – 125 mmol/24 Hours
Critical Value:
Clinical Significance: Urinary excretion of potassium is increased in primary aldosteronism. It is often increased in dehydration and in salicylate toxicity. Decreased levels are seen in malabsorption.

POTASSIUM, CONTINUED For additional POTASSIUM testing also see the following panels in this laboratory test information guide: **BMP(MAMC)**, **CHEM 4 ELECTROLYTE PANEL**, **CMP(MAMC)** , **RENAL FUNCTION PANEL(MAMC)** and **URINE LYTES(MAMC)**.

POTATO (F35) IGE

Synonyms:
CHCS IEN: 6114
Test Code: 2835
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **POTATO IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PRADER-WILLI SYNDROME DNA

Synonyms: P-W Synd, Prad-Willi Syn, Keesler
CHCS IEN: 6486
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.

Specimen and Volume Required
Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube.

Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.
Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.
Admin Notes
Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **PRADER-WILLI SYNDROME DNA .** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance:

PREALBUMIN
Synonyms:
CHCS IEN: 3257
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) or Red-Top Tube (Clot Activator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross Hemoylsis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PREALBUMIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday only.
TAT: Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/ All	17.6	36			mg/dL

Critical Value:
Clinical Significance: Prealbumin is decreaed in protein-calorie malnutrition, liver disease, and acute inflammation. It may be used as an indicator of nutritional requirements and response to therapy during total parenteral nutrition and as a biochemical marker of nutritional adequacy in premature infants.

PREGNENOLONE, 17-OH (LC/MS/MS) Q *See:* **17-HYDROXYPREGNENONLONE, LC/MS/MS** in this guide.

PREGNENOLONE LC/MS/MS Q
Synonyms:
CHCS IEN: 2139
Test Code: 31493
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.5 mL Serum
Minimum volume: 0.2 mL
Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 48 hours at room temperature; 7 days at 2-8 ºC; 1 year frozen.

Rejection Criteria: Moderate to gross hemolysis, Received room temperature, Serum separator tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Tues, Fri p.m.; Report available Thurs-Sat, Mon, Tue
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance:

PRENATAL SCREEN (MAMC ONLY) P

Synonyms: Prenatal Blood Bank Panel

CHCS IEN: 6519

Components:

ABO/RH Group - CHCS
Antibody Screen – CHCS
Antibody Identification
Antibody Titer

Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Transport to lab ASAP. Specimen must be refrigerated if delayed more than 12 hours. DO NOT FREEZE. Specimen will be kept in blood bank for 1 week
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store Refrigerated at 2-8 °C.

Rejection Criteria: Mislabeled specimen, grossly hemolyzed specimen, specimen drawn in a serum separator tube

Admin Notes

Testing Location/Methodology: Transfusion Service, MAMC
Order Method: CHCS order entry under: **PRENATAL SCREEN (MAMC ONLY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Other: If antibody screen result is positive, an antibody identification and titer is performed. If a clinically significant antibody is found, the physician will be notified. Additional samples may be required for antibody titer testing.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: To determinee ABO/Rh and presence of clinically significant antibody(ies) in a female prenatal patient.

PROCAINAMIDE Q

Synonyms:
CHCS IEN: 2421
Test Code: 743
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Collect as a trough just prior to next dose.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC.
Rejection Criteria: Serum Separator Tube (SST ®)
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **Q PROCAINAMIDE + NAPA PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up Mon-Sun a.m. (Available 24-hrs); Report available 48-hrs
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Procainamide is used to treat a variety of atrial and ventricular arrhythmias. Metabolism of procainamide produces an active metabolite N-Acetylprocainamide (NAPA). The concentration of both procainamide and NAPA levels are monitored to assure adequate therapeutic levels of procainamide are achieved and to avoid toxicity.

PROGESTERONE

Synonyms:
CHCS IEN: 4604
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)or Red-Top Tube
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 time to mix blood with additive. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria*:* Grossly Lipemic
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **PROGESTERONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Male: 0.14 – 2.06 ng/mL

Non-Pregnant Females

Follicular Phase:	0.31 – 1.52 ng/mL
Luteal Phase:	5.16 – 18.56 ng/mL
Postmenopausal:	<0.08 – 0.78 ng/mL (Not on hormonal therapy)

Pregnant Females

First Trimester	4.73 – 50.74 ng/mL
Second Trimester	19.41 – 45.30 ng/mL

Critical Value:
Clinical Significance: Levels increase sharply during the luteal phase of the menstrual cycle. The level increases from 9 to 32 weeks of pregnancy.

PROINSULIN Q

Synonyms:
CHCS IEN: 4000
Test Code: 760
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.8 mL
Instructions
Patient Preparation: Overnight fasting is required.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Remove serum from SST immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Serum Specimen stability: 1 days at room temperature; 3 days at 2-8 ºC; 6 months frozen.
Rejection Criteria: Received room temperature, Sodium heparin green-top tube, Lithium heparin (green-top) tube, Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **PROINSULIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: ≤18.8 pmol/L
Critical Value:
Clinical Significance: Proinsulin is used to detect and monitor excessive hormone production from insulinomas

PROLACTIN TOTAL

Synonyms:
CHCS IEN: 248
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); Do not draw in Microtainers.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Do not draw above intravenous infusion***.*** Routine Venipuncture. Do not draw in Microtainers.
Specimen Processing: Gently invert tube 5 time to mix blood with additive***.*** Spin to separate serum from cells***.***
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry/CI Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **PROLACTIN TOTAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range: Male: 2.64 – 13.13 ng/mL
Female Premenopausal: 3.34 – 26.72 ng/mL
Female Postmenopausal: 2.74 – 19.64 ng/mL
Critical Value:
Clinical Significance: During pregnancy and postpartum lactation, serum prolactin can increase 10-20 fold. Exercise, stress, and sleep also cause transient increases in prolactin levels. Consistently elevated serum prolactin levels (>30 ng/mL), in the

absence of pregnancy and postpartum lactation, are indicative of hyperprolactinemia. Hypersecretion of prolactin can be caused by pituitary adenomas, hypothalamic disease, breast or chest wall stimulation, renal failure or hypothyroidism. A number of drugs, including may antidepressants, are also common causes of abnormally elevated prolactin levels. Hyperprolactinemia often results in galactorrhea, amenorrhea, and infertility in females, and in impotence and hypogonadism in males. Renal failure, hypothyroidism, and prolactin-secreting pituitary adenomas are also common causes of abnormally elevated prolactin levels.

PROPOXYPHENE GC/MS URINE Q P

Synonyms:
CHCS IEN: 3038
Test Code: 8419
Components:
Propoxyphene
Proproxyphene metabolite
Container (Preferred/Alternate): Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Urine/Random
Volume: 20mL random urine
Minimum volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Serum Specimen stability: 1 days at room temperature; 3 days at 2-8 ºC; 6 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics /Gas Chromatography/Mass Spectrometry (GC/MS)
Order Method: CHCS order entry under: **PROPOXYPHENE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PROPREDICT GENETIC ANALYSIS O

Synonyms:
CHCS IEN: 4899
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing:
Special Instructions: Ship specimen to arrive Monday thru Thursday only.
Transport/Storage Temperature: Store and Ship at Refrigerated Temperature 2 – 8° C.
Rejection Criteria: Room Temperature, Frozen NOT acceptable
Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics
Order Method: CHCS order entry under: **TPMT GENETIC ANALYSIS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Specimen stable for 8 days at refrigerated temperature.
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

PROPREDICT GENETICS ASSESSMENT O P

Synonyms: TPMT Genetic Assessment, TPMT Enzymatic Activity, TPMT Panel
CHCS IEN: 4462
Components:
TPMT Genetic Analysis
TPMT Enzyme Activity
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing:
Special Instructions: Ship specimen to arrive Monday thru Thursday only.
Transport/Storage Temperature: Store and Ship at Refrigerated Temperature 2 – 8° C.
Rejection Criteria: Room Temperature, Frozen NOT acceptable
Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics
Order Method: CHCS order entry under: **TPMT PANEL (GENETIC+ENZ ACTIV)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Specimen stable for 8 days at refrigerated temperature.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PROPREDICT METABOLITES O P

Synonyms: 6-TGN, 6-MMPN, 6-MP
CHCS IEN: 4874
Components:
6-Methyl-Mercaptopurine
Interpretation
6-Thioguanine
interpretation
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing:
Special Instructions: Ship specimen to arrive Monday thru Thursday only.
Transport/Storage Temperature: Store and Ship at Refrigerated Temperature 2 – 8° C.
Rejection Criteria: Room Temperature, Frozen NOT acceptable
Admin Notes
Testing Location/Methodology: Testing done at Prometheus Therapeutics
Order Method: CHCS order entry under: **PRO-PREDICT METABOLITES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: Specimen stable for 8 days at refrigerated temperature.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

PROSTATIC SPECIFIC AG FREE *See:* **FREE PSA PANEL (MAMC)** in this laboratory test information guide.

PROSTATIC SPECIFIC ANTIGEN TOTAL

Order Note: Per discussions with the Urology Serivice in conjuction with other MAMC departments, the laboratory discontinued Free-PSA reflex testing as of 2 April 2008. Previously, a Total PSA > 4.0 reflexively generated an order for a Free-PSA test which was reported along with the Total PSA. Referral to Urology is indicated for patients with concern for prostate cancer based on PSA testing or digital rectal exam. PSA is not an absolute positive/negative marker, but rather one with values that reflect a continuum of risk of prostate cancer. Free-PSA testing will be available to the Urology Service only. If a free PSA result is required please Order/See: **FREE PSA PANEL (MAMC)** in this laboratory test information guide. Please call with questions to 253 968-1945.

Synonyms: PSA

CHCS IEN: 1583

Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: None.

Collection: Routine Venipuncture. Do not draw above intravenous infusion. Do not draw specimen after a transrectal biopsy.

Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive. Deliver to laboratory at Room Temperature. Spin to separate serum from cells.

Special Instructions:

Transport/Storage Temperature: Ship serum refrigerated or frozen. If specimen has been previously frozen and thawed, do not refreeze.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800

Order Method: CHCS order entry under: **PROSTATIC SPECIFIC ANTIGEN TOT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine: 4 to 24 hours

Other: Access hybritech free PSA should be used only with Hybritech (total) PSA to calculate the ratio of free PSA to total PSA (percent free PSA). Use of another manufacturer's total PSA assay may result in: An inappropriate population of patients selected for follow-up percent free PSA testing; and significantly different percent free PSA values, cutoffs and cancer probabilities than those presented in the Expected Values of this insert. Expected Values contained in this insert apply only to percent free PSA as measured by the Hybritech free PSA and (total) PSA Assays. The concentration of free PSA and total PSA in a given specimen determineed with assays from different manufacturers can vary due to differences in assay methods and reagent specificity. The results reported by the laboratory to the physician must specify the manufacturer of the free and total PSA assays used. Values obtained with different manufacturers assays cannot be used interchangeably. Reference range: Free PSA 0.2-4.9 ng/mL. Calculation of percent free PSA: Freee PSA values alone have not been shown to be effective in patient management and should not be used. Both total PSA and free PSA concentrations should be determineed on the same serum specimen and used to calculate the percentage of free PSA. Percent free PSA values are then used for patient management. Free PSA (ng/mL)/Total PSA x 100 = percent free PSA

Interpretive

Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0	4.0			ng/mL

Critical Value:

Clinical Significance: In men over 50 years with total PSA between 4.0 and 10.0ng/mL, the percent (%) free PSA gives an estimate of the probability of cancer. In these circumstances the measurement of the % free PSA may aid in avoiding unnecessary biopsies. Elevated levels of Prosate Specific Antigen (PSA) have been associated with benign and malignant prostatic disorders. Studies indicate that in men 50 years or older measurement of PSA is a useful addition to the digital rectal exam in the early detection of prostate cancer. In addition, PSA decreases to undetectable levels following complete resection of the tumor and may rise again with recurrent diease or persist with residual disease. Thus, PSA levels may be of assistance in the management of prostate cancer patients.

PROTEIN, 24 HOUR URINE P

Synonyms: 24 HR Protein Urine, 24HR UP, 24 HR Urine Protein

CHCS IEN: 2432

Components:

Total Volume

Protein, Urine 24HR
Protein, Urine (random)

Container (Preferred/Alternate): 24 hour urine container(s) with Screw-Top Lid, No preservative

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE PROTEIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range: 42 – 225 mg/24 Hour
Critical Value:
Clinical Significance: There are four ways, in addition to hemorrhage, in which proteinuria can occur: increased glomerular permeablility (glomerular proteinuria), in which the urinary protein is mainly albumin; defective tubular reabsorption (tubular proteinuria), in which the urinary proteins are mainly normal low-molecular-weight plasma proteins; increased concentration in the plasma of an abnormal low-molecular-weight protein such as immunoglobulin light chains (overload proteinuria); and abnormal secretion of protein into the urinary tract (postrenal proteinuria).

PROTEIN/CREATININE RATIO, SPOT URINE P

Synonyms: Random Urine Prot/Creat Ratio

CHCS IEN: 6373

Components:

Protein Urine Random
Creatinine Urine Random
Protein/Creatinine Ratio

Container (Preferred/Alternate): Sterile Container with Screw-Top Lid with No Preservative(s)

Specimen and Volume Required

Type(s): Urine, Random
Volume:
Minimum Volume: 1 mL

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Acidified Urine

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: : CHCS order entry under: **SPOT URINE PROT/CREAT RATIO**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range:

Critical Value:
Clinical Significance: Proteinuria is characteristic of renal disease and concentrations may be increased with diabetes, hypertension, nephritic syndrome, and drug nephrotoxicity.

PROTEIN C, ACTIVITY Q

Synonyms:
CHCS IEN: 2107
Test Code: 1777
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate.
Specimen Processing: Centrifuge light blue-top tube for 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/mcl). Freeze immediately and ship on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and Refrigerated, 14 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.
Rejection Criteria: Gross hemolysis, Received thawed, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Clotting Assay
Order Method: CHCS order entry under: **PROTEIN C ACTIVITY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Sat a.m.; Report available 5 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The Protein C activity done by a RVV type matrix coagulation assay is more sensitive to subclinical vitamin K deficiency, hepatic failure, coumadin and DIC. Some genetic mutations of protein C will be missed by the chromogenic assay which will be satisfactorily detected with the protein C clottable assay system. Alternatively, chromogenic assay may be more reliable to measure half-life and recovery of protein C concentrates.

PROTEIN C AND S ACTIVITY WITH REFLEX TO PROTEIN C AND/OR S ANTIGEN Q P

Order Note: This test requires Pathologist approval prior to ordering and testing. CHCS automatically prompts for the approving Pathologist's name when ordering this test. If Protein C Activity is <70%, Protein C Antigen is performed at an additional charge. If Protein S Activity is <70% for males or <60% for females, Protein S Antigen is performed at an additional charge.
Synonyms: Protein C and S, Protein C/S
CHCS IEN: 6421
Test Code: 7942
Components:
Protein C Activity
Protein C AG
Protein S Activity
Protein S Antigen
Interpretation 3:
Container (Preferred/Alternate): 2 Light Blue-Top Tubes (3.2% Sodium Citrate); 2 Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Platetet Poor
Volume: 2 mL (x2) Platelet Poor Plasma
Minimum volume: 1 (x2) mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in two light blue-top tubes containing 3.2% sodium citrate.
Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial(s). Freeze immediately and transport on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and

Refrigerated, 14 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.
Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / See individual tests
Order Method: CHCS order entry under: **PROTEIN C+S ACTIV REFLEX TO AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Sat a.m.; Report available 5 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: An abnormal (deficiency) of Protein C functional is confirmed by Protein C antigen and gives classification as Type I or II. Similarily, deficiency of Protein S functional should be corroborated by Protein S antigen for confirmation and subtyping.

PROTEIN C, ANTIGEN Q
Synonyms:
CHCS IEN: 4282
Test Code: 4948
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate.
Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet (buffy) layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Freeze immediately and ship on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and Refrigerated, 14 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.
Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **PROTEIN C AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Sat a.m.; Report available 5 days
TAT: Routine
Interpretive
Reference Range: 70-140 % normal
Critical Value:
Clinical Significance: Aids in diagnosis of congenital deficiencies characterized by recurrent venous thrombosis. Acquired deficiencies associated with Protein C include: oral anticoagulant therapy, liver disease, vitamin K deficiency, malignancy, consumptive DIC, surgery, trauma, antibodies to Protein C and hepatic immaturity of the newborn.

PROTEIN ELECTROPHORESIS RANDOM URINE (UPEP) Q P
Synonyms:
CHCS IEN: 4487
Test Code: 8525
Components:
Total Protein
Protein Electrophoresis
Creatinine
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid with No Preservative(s)
Specimen and Volume Required
Type(s): Urine/Random
Volume: 25 mL Random Urine
Minimum Volume: 15 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the

appendices of this manual. Mix specimen well before aliquotting sample.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Electrophoresis, Specrophotometry (SP)
Order Method: CHCS order entry under: **Q PROTEIN ELECTRO, RANDOM URINE ;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up Mon-Fri 1st shift; Report available 5 days
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

PROTEIN ELECTROPHORESIS, WITH TOTAL PROTEIN AND REFLEX TO IFE, SERUM Q

Synonyms:

CHCS IEN: 6029

Test Code: 10269

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.

Rejection Criteria: Hemolysis, Plasma is not acceptable

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Spectrophotometry, Electrophoresis, Immunofixation
Order Method: CHCS order entry under: **PROTEIN ELECT (SERUM) REFLEX IFE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability**.**
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

PROTEIN ELECTROPHORESIS, WITH TOTAL PROTEIN AND REFLEX TO IFE, URINE Q P

Synonyms:

CHCS IEN: 6214

Test Code: 10263

Components:

Albumin EP
A-1 Globulin
A-2 Globulin
B Globulin
G Globulin
Protein
Protein/creatinine
Creatinine UA

Container (Preferred/Alternate): Sterile Container with Screw-Top Lid with No Preservative(s)

Specimen and Volume Required

Type(s): Urine/24 Hour
Volume: 25 mL urine aliquot from a 24-hour collection
Minimum Volume: 15 mL

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual. Mix specimen well before aliquotting sample.
Specimen Processing: Record volume on requisition and aliquot bottle
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Electrophoresis, Specrophotometry (SP)
Order Method: CHCS order entry under: **Q PROTEIN ELECTRO, 24 HR UR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

PROTEIN S, ACTIVITY *Q*

Synonyms:
CHCS IEN: 2139
Test Code: 1779
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate.
Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet (buffy) layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Freeze immediately and ship on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and Refrigerated, 30 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.

Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated, Received thawed

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoturbidimetric
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon-Fri; Report available 4 days
TAT: Routine

Interpretive

Reference Range: Male 70-150% normal; Female 60-140% normal
Critical Value:
Clinical Significance:

PROTEIN S, ANTIGEN *Q*

Synonyms:
CHCS IEN: 2139
Test Code: 5165
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate.

Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet (buffy) layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Freeze immediately and ship on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and Refrigerated, 30 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.

Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated, Received thawed

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoturbidimetric
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range: 70-140 % normal
Critical Value:
Clinical Significance:

PROTEIN S, FREE Q

Synonyms:
CHCS IEN: 2139
Test Code: 10170
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate.
Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet (buffy) layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Freeze immediately and ship on dry ice.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: Unacceptable Room Temperature and Refrigerated, 30 days Frozen at -20 ºC, 1 year Frozen at -70 ºC.

Rejection Criteria: Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoturbidimetric
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Fri (Evening shift)
TAT: Routine

Interpretive

Reference Range: Male 57-171 % normal; Female 50-147 % normal
Critical Value:
Clinical Significance:

PROTEIN TOTAL (MAMC)

Order Note: This test is not for Urine specimens. For urine protein testing please order as **24 HOUR URINE PROTEIN** or **PROTEIN URINE RANDOM** in CHCS
Synonyms: TP
CHCS IEN: 4219
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator); Sterile Container for Body Fluids

Specimen and Volume Required

Type(s):
Blood/Serum
Body Fluids
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Deliver to laboratory at Room Temperature. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature.

Rejection Criteria: Gross Hemolysis, Viscosity on body fluids

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **PROTEIN TOTAL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. If Body fluid specimen, please indicate type of fluid on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	6.3	8.2			g/dL

Critical Value:
Clinical Significance: Evaluate nutritional states; investigation of edema.

PROTEIN, URINE (RANDOM)

Synonyms:
CHCS IEN: 2801
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid

Specimen and Volume Required

Type(s): Urine, Random
Volume:
Minimum Volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: Random Urine: See procedures contained in Instructions for Collecting a Clean Catch Urine Sample in the appendices of the guide.
Specimen Processing: **Laboratory:** ***Special Instructions:***
Transport/Storage Temperature: Room Temperature.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **PROTEIN, URINE (RANDOM)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

PROTEIN CONTINUED For additional Protein testing also see the following panels in this laboratory test information guide: **CMP(MAMC)**, **GLUCOSE/PROTEIN CSF PANEL**, **OB PANEL(MAMC)**, **URINALYSIS(MAMC)** and **URINALYSIS, DIABETES**.

PROTEINASE-3 ANTIBODY Q

Synonyms:
CHCS IEN: 4836
Test Code: 34151
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.3 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen, Indefinitely frozen at -70 C.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Enzyme Immunoassay (EIA)
Order Method: CHCS order entry under: **PROTEINASE 3 AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <6 U/mL Negative; 6-9 U/mL Equivocal; >9 U/mL Positive
Critical Value:
Clinical Significance: PR-3 or cytoplasmic antinuclear cyotplasmic antibody is often present with Wegener's granulomatosis, a necrotizing granulomatosis vascular disease typically involving the respiratory tract and kidneys.

PROTHROMBIN G20210A GENE MUT
Synonyms: G20210A Gene Mutation
CHCS IEN: 4381
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Transport directly to Molecular Diagnostics Section at room temperature when collection done at MAMC. If shipping to MAMC, ship whole blood refrigerated or frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Molecular Diagnostics Section, MAMC / PCR
Order Method: CHCS order entry under: **PROTHROMBIN G20210A GENE MUT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Call section at 968-1743
TAT: Notify and Routine, Routine: up to 14 days
Other: This test as of 19 Jan 2010 is being performed in the Molecular Diagnostic Section of MAMC.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Factor II Mutation (G20210A) is one of the most common causes of venous thrombosis. 2.3% of the general population is heterozygous in contrast with 6.2% of patients with venous thrombosis and 18% with familial venous thrombosis. Other risk factors compound the risk for veous thrombosis.

PROTHROMBIN TIME/INR P
Synonyms: PT; Protime
CHCS IEN: 3067
Components:
Prothrombin Time
INR
Container (Preferred/Alternate): Light Blue-Top Tube (Sodium Citrate 3.2%) 4.5 mL or Light Blue-Top Tube 1.8 mL
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume: 1.8 mL
Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Whole blood collected in either 4.5 mL or 1.8 mL Light Blue-Top tube. Allow tube to fill by vacuum. Do not over or underfill. CAUTION: A discard tube (without additives) must be used before a citrate tube is drawn with a winged blood collection set. If blood is drawn with a syring, allow the tube to draw the blood from the syringe, using a blood transfer device. Do not force blood into tube. Do not over or underfill tube.
Specimen Processing: Gently invert tube 8 times to mix blood with additive.
Special Instructions: If patient is receiving anticoagulant therapy, specify type (heparin, Coumadin, etc.) with request form.
Transport/Storage Temperature: Room Temperature. Stable for 24 hours at room temperature if capped.

Rejection Criteria*:* Clotted, hemolysis, or Quantity not suuficent.

Admin Notes

Testing Location/Methodology: Hematology/Coagulation Section, MAMC
Order Method: CHCS order entry under: **PROTIME**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: See CHCS report.
Critical Value:
Clinical Significance: Evaluation of coagulation system; aids in screening for congenital deficiencies of factors II, V, VII, and X, liver failure and DIC; monitor long-term coumadin therapy.

PROTOPORPHYRIN, ZINC

Synonyms:
CHCS IEN: 2298
Test Code: 948
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin) or Lavender-top Tube (EDTA); Protect from Light

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 2 mL
Minimum Volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture. Draw blood in prechilled Green-top tube**.** Gently invent tube 8 times to mix blood with additive.
Specimen Processing: Wrap tube in aluminum foil to protect from light**.** Use a lead-free tube if a blood lead is also requested. Deliver to laboratory immediately**.** Do not freeze.
Special Instructions:.
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen stability: 5 days at room temperature; 30 days refrigerated; Unaccetpable Frozen.

Rejection Criteria: Frozen, No additive (royal-blue top)

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Fluorometric
Order Method: CHCS order entry under: **PROTOPORPHYRIN, ZINC** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Zinc protoporphyrin is elevated in chronic lead poisoning and iron deficiency anemia. Its measurement is commonly included in screening for lead exposure, and in evalutation of anemia. This assay is not recommended for monitoring acute intermittent porphyria. Aluminum and anemia of chronic disease may cause elevated results.

PSA PERCENT FREE

See: **FREE PSE PANEL (MAMC)** in this laboratory test information guide.

PTH-INTACT/INTEROP (MAMC)

Order Note: This test is for MAMC use only.
Synonyms: Parathyroid Hormone Intact; Interoperative Parathyroid Hormone
CHCS IEN: 6301
Components:
Parathyroid Intact
Container (Preferred/Alternate): Green-Top Tube (Lithium Heparin)

Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 5 mL
Minimum Volume: 0.5 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing blood.
Special Instructions: For interoperative PTH testing, specimen must be hand delivered to laboratory STAT.
Madigan Healthcare System Remote Clinic s: Draw Green-Top tube, centrifuge and separate plasma from cells. Refrigerate plasma until courier service transport to MAMC lab for testing.
Transport/Storage Temperature: Room Temperature. Deliver to Chemistry Section within 15 minutes of draw.
Rejection Criteria: Moderate to Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC
Order Method: CHCS order entry under: **PTH-INTACT/INTEROP (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate collection on specimen, request form and in CHCS order comment as: pre-, interoperative, post-extraction
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: 12 – 88 pg/mL
Critical Value:
Clinical Significance: The intact PTH assay is indicated to aid in the differential diagnosis of hyperparathyroidism, hypoparathyroidism, or hypercalcemia of malignancy. Assay results should be used in conjunction with other clinical data to assist the clinician in making individual patient management decisions.

PTH-RELATED PROTEIN (PTHrP) Q
Synonyms:
CHCS IEN: 2139
Test Code: 34478
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparin); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL
Minimum Volume: 0.3 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing blood.
Special Instructions: Centrifuge the specimen as soon as possible. Transfer the plasma to a plastic screw-cap vial. Mark the specimen type as plasma on the transport tube. Do not submit unspun tubes.
Transport/Storage Temperature: Ship to Quest at room Temperature. Specimen Stability: 7 days at Room Temperature, 7 days Refrigerated, 28 days Frozen.
Rejection Criteria: Whole Blood
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Fri
TAT: Routine:
Interpretive
Reference Range: 14-27 pg/mL
Critical Value:
Clinical Significance: Differential diagnosis of hypercalcemia; manage patients with solid tumors and hypercalcemia. This is a C-terminal PTH-RP assay. Elevated results may be observed in patients with renal disease.

PURKINJE CELL (YO) ANTIBODY SCREEN WITH REFLEX TO TITER, IFA,CSF Q *See:* **YO ANTIBODY SCREEN WITH REFLEX TO TITER AND WESTERN BLOT,CSF** in this guide

PURKINJE CELL (YO) ANTIBODY SCREEN WITH REFLEX TO TITER, IFA, SERUM Q *See:* **YO ANTIBODY SCREEN WITH REFLEX TO TITER AND WESTERN BLOT** in this guide

PYRUVATE ACID (PYRUVATE) Q

Synonyms:
CHCS IEN: 3932
Test Code: 765
Container (Preferred/Alternate): 5 mL Lavendar-Top Tubes (EDTA); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/ Protein-Free Filtrate
Volume: 4 mL EDTA (lavender-top) whole blood mixed with 4 mL perchloric acid
Minimum Volume: 2 mL EDTA (lavender-top) whole blood mixed with 2 mL perchloric acid
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Immediately mix EDTA whole blood with 4 mL ice cold 7% perchloric acid (8% perchloric acid tubes are acceptable). Let mixture stand for 10 minutes, then centrifuge. Separate and submit 4.5 mL supernatant fluid for assay.
Special Instructions: Please specify on the test requisition volumes of blood and perchloric acid used.
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability: Unacceptable at room temperature, 1 month refrigerated at 2-8 ºC, 3 months Frozen.
Rejection Criteria*:* Frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Enzymatic
Order Method: CHCS order entry under: **PYRUVATE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up: Mon, Wed, Fri
TAT: Routine***:***
Other:
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

Q FEVER PANEL (EPI) O P

Order Note: See each individual component name (in this guide and in CHCS) if the entire panel is not required.
Synonyms: Q Fever; C Burnetii IgG + IgM
CHCS IEN: 6354
Components:
C Burnetii Phase 1 IgG
C Burnetii Phase 2 IgG
C Burnetii Phase 1 IgM
C Burnetii Phase 2 IgM
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot activator and gel separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix the clot activator with blood. Tranport to lab immediately. Centrifuge to separate serum from cells.
Special Instructions: Deliver to laboratory as soon as possible.
Transport/Storage Temperature: Store/Ship serum Frozen.
Rejection Criteria:
Admin Notes
Testing Location /Methodology: Testing done at USAFSAM EPILAB, BAMC
Order Method: CHCS order entry under: **Q FEVER PANEL (EPI)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value: None

Clinical Significance:

QUAD SCREEN G P
Synonyms: MSAFP
CHCS IEN: 4433
Components:
Gest. Age
Maternal Weight
Number of Fetuses this Pg
Procedure Date (MM/DD/YY)
Pregnancy Dating by
Race
Age at Term
IDDM
NTD/DS Family Hx
AFP
AFP Relative
Mom Expected (AFP)
HCG
HCG Relative
Estriol
Estriol Relative
Inhibin
Multiples of Medium
Quad Screen Interpretation
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions: A compled Genzyme Gentics maternal testing form must be submitted to the laboratory. Specimen ships to Genzyme Gentics Laboratory for testing.
Transport/Storage Temperature: Ship refrigerated
Rejection Criteria
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry: **QUAD SCREEN (MAMC)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Other: HCP must submit completed Genzyme Genetics Maternal Testing Form
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Maternal Serum Screen testing. Maternal serum Quad Screen is used for prenatal screening of Down syndrome (Trisomy 21), Trisomy 18 (Edwards syndrome), and open neural tube defects (ONTD). This profile includes alpha-fetaprotein (AFP), unconjugated estriol (µE3), human chorionic gonadotropin (hCG), and inhibin A. Establishing risk for fetal Down syndrome, using the quad screen achieves a 70-75% detection rate with a 5% false positive rate. Screening for Trisomy 18 detects 60% of affected fetuses with a 0.2% false positive rate. MSAFP screening detects 88% of anencephaly and 79% of open spina bifida with a 3% false positive rate. Normal results do not ensure birth of a normal infant. In addition, 2-3% of newborns have some type of physical or mental defect, many of which may be undetectable with current prenatal diagnostic procedures.

QUANTIFERON TB GOLD Q
Synonyms:
CHCS IEN: 6467
Test Code: 16603
Components:
Container (Preferred/Alternate): QFT-Nil Control (gray-cap, white-ring) **and** QFT-TB Antigen (red-cap, white-ring) **and** QFT-Mitogen Control (purple-cap, white-ring)

Specimen and Volume Required
Type(s): Blood/Whole
Volume: 1 mL whole blood in each of the 3 specified tubes.
Minimum Volume: 0.8 mL
Instructions
Patient Preparation: None
Collection: For each patient, collect 1 mL of blood by venipuncture directly into each of the three (3) unique QuantiFERON ®-TB Gold IT blood collection tubes. Tubes must be at room temperature prior to collection. Under or overfilling of the tubes may lead to erroneous results.
Specimen Processing Mix ten times just firmly enought to ensure the entire surface of the tube is coated with blood, to solubilize antigens on tube walls. Incubate the three (3) tubes upright at 36-38° C for 16 to 24 hours. Following incubation immediately transport the three (3) incubated collection tubes to Quest Diagnostics between 2 and 27° C. Samples will be stable for 72 hours at 2-27° C (refrigerated or room temperature).
Note: If shipment is to be delayed: Centrifuge each of the three (3) incubated collection tubes for 15 minutes at 2000-3000 RCF(G). Label with patient name, identification number, and date of collection. Samples will be stable for 28 days at refrigerated at 2-8° C.
Special Instructions:
Transport/Storage Temperature: Centrifuged specimens ship Refrigerated at 2-8 C on cold packs; Non-centrifuged specimens ship at Room Temperature. Uncentrifuged Specimen Stability: 72 hours at room temperature and refrigerated 2-8 C, Unacceptable Frozen. Centrifuged Specimen Stability:72 hours at room temperature, 28 days refrigerated, Unacceptable Frozen.
Rejection Criteria: Received >72 hours (room temperature), Received frozen, Specimens not collected in QuantiFERON ® Gold IT blood collection tubes
Admin Notes
Testing Location/Methodology: Quest Diagnostics /
Order Method: CHCS order entry under: **QUANTIFERON TB GOLD**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Tues, Thur, Sat
TAT: Routine
Other:
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: The Nil value adjusts for patient sample background, heterophile antibody effects, or non-specific IFN. The Mitogen serves as a patient positive control. The result "Positive", "Negative", or "Indeterminate" is calculated from these values using an FDA-approved algorithm run on Quantiferon ® software. The performance of the Quantiferon ® TB Gold IT (QFT-GIT) test has not been extensively evaluated in children younger than 17 years of age. Therefore, there is limited published data to document the performance of QFT-GIT in this age group. According to the CDC, QFT-GIT should not be used for children <5 years of age.

QUETIAPINE, (SEROQUEL) Q

Synonyms:
CHCS IEN: 2139
Test Code: 35299
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen Stability: 7 days at room temperature; 16 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: SST
Admin Notes
Testing Location/Methodology: Quest Diagnostics / High Performance Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up: Wed
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RABBIT EPITHELIUM (E82) IGE Q

Synonyms:
CHCS IEN: 6130
Test Code: 2654
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **RABBIT EPITHELIUM IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RABIES VACCINE RESPONSE END POINT TITER Q

Synonyms:
CHCS IEN: 3998
Test Code: 5789
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: Unacceptable at room temperature; 7 days refrigerated at 2-8 ºC; 3 years frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Date drawn not provided
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Rapid Fluorescent Foci Inhibition Test (RFFIT)
Order Method: CHCS order entry under: **RABIES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Other: Referral lab will not release results unless collection date is provided
Interpretive
Reference Range: See Quest Diagnostics established ranges
Critical Value:

Clinical Significance:

RAPAMYCIN (SIROLIMUS) Q

Synonyms:
CHCS IEN: 4870
Test Code: 36712
Container (Preferred/Alternate): 5 mL Lavendar-Top Tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 4 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Draw specimen ½ to 1 hour before next oral dose at steady state.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability: 5 days at room temperature, 7 days refrigerated at 2-8 ºC, 30 days Frozen.
Rejection Criteria*:* Clotted, Gel barrier tube
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **RAPAMYCIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up Sun-Sat a.m./p.m.; Report available 3 days
TAT: Routine
Other:
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Sirolimus is an immunosuppressant drug used to prevent organ graft rejection. Therapeutic drug monitoring is used to optimize dose and avoid toxicity.

RAPID PLASMA REAGIN

Order Note: This test for serum only. For syphilis testing on CSF *See:* **VDRL CSF** in this laboratory test information guide.
Synonyms: Syphilis Screen; RPR; RPR Screen
CHCS IEN: 137
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator); 1 3 mL Red/Gold-Top tube for Pediatric draws. Do not use Lavendar-Top, capillary or other small Microtainers intended for submitting specimens under 0.5 mL.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: None
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 time to mix blood with additive.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Serology Section, MAMC
Order Method: CHCS order entry under: **RAPID PLASMA REAGIN***;* MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Enter comment/call 968-1746 if patient previously positive and TP-PA is needed.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other: This is a non-treponemal screening test for syphilis. Positive screening test is automatically followed by confirmatory testing. Reagin is found in many conditions besides syphilis; reactives are followed up with confirmatory testing. Patients that are known to have been previously RPR reactive and a TP-PA test is required, please add a comment to the RPR Screen order and call the Serology Section at 968-1746.
Interpretive
Reference Range: Nonreactive
Critical Value:

Clinical Significance: Screening test for Syphilis.

RAS MUTATION ANALYSIS, CELL BASED Q P

Synonyms:
CHCS IEN: 2139
Test Code: 16128
Components:
H ras Mutation
K ras Mutation
N ras Mutation
Container (Preferred/Alternate): 5 mL Lavendar-Top Tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 4 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not freeze whole blood. Record the draw time and date on the tube.
Specimen Processing: Ship immediately to maintain sample stability.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability: 72 hours at room temperature, 72 hours refrigerated at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria*:*
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Polymerase Chain Reaction (PCR), Sequencing
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up Mon
TAT: Routine
Other:
Interpretive
Reference Range: Negative
Critical Value:
Clinical Significance: Activating ras mutations can be found in human malignancies with overall frequency of 15-20%. A high incidence of ras gene mutations has been reported in malignant tumors of the pancreas (80-90%,K-ras), in colon rectal carcinomas (30-60%, K-ras), in non-melanoma skin cancer (30-50%, H-ras), in hematopoietic neoplasia of myeloid origin (18-30%, K-ras or N-ras).

RBC CHOLINESTERASE O

Order Note: This test can not be performed by Quest Diagnostics as per DoD/DoA regulations pertaining to testing standards for exposure to nerve agents ordered by Occupational Health. Do not deviate from USACHPPM standards. Testing must be performed by Chlinesterase Reference Laboratory, USACHIPPM.
Synonyms: Cholinesterase
CHCS IEN: 4166
Components:
Container (Preferred/Alternate): Requires 2 Lavendar-Top Tubes (K_2EDTA) 6 mL each
Specimen and Volume Required
Type(s): Blood/RBCs
Volume: 2 x 6 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Draw two (2)- 6 mL Lavendar-Top Tubes.
Specimen Processing: Gently invert each tube 10 time to mix blood with additive immediately after each draw. Centrifuge to remove plasma and buffy coat. Ship only one Lavendar-top tube (with remaining RBCs) Refrigerated. Do Not Freeze! Hold one (1) of two (2) 6 mL Lavendar-Top Tubes in shipping refrigerator in case initial specimen shipment is rejected by the receiving laboratory. This backup specimen is stable for up to 14 days.
Special Instructions: Clinics, please deliver specimens to MAMC before Thurday.
Transport/Storage Temperature: Store/ship Refrigerated 0 – 10° C.
Rejection Criteria*:* Plasma; Room Temperature or Frozen specimens. Specimen must arrive at 0 – 10° C.
Admin Notes
Testing Location/Methodology: Chlinesterase Reference Laboratory, USACHIPPM
Order Method: CHCS order entry under: **RBC CHOLINESTERASE**; MAMC Form 1787-L (Clinical Lab Test Procedure

Request) for CHCS non-availability.

Availability:
TAT: Routine:1 week
Other: Hold one of two 6 mL Lavendar-Top Tubes in shipping refrigerator in case initial specimen shipment is rejected by the receiving laboratory. This specimen is stable for up to 14 days. Specimens shipped Monday thru Wednesday only.

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

RBC PHENOTYPE *See:* **ANTIGEN PHENOTYPE** found in this laboratory test information guide.

RBC TYPING *See:* **ANTIGEN PHENOTYPE** found in this laboratory test information guide.

RED BLOOD CELLS (Blood Product) *See:* **TYPE AND CROSS (MAMC ONLY)** found in this laboratory test information guide.

REDUCING SUBSTANCES
Synonyms: Clinitest
CHCS IEN: 1301
Components:
Container (Preferred/Alternate): Sterile Container
Specimen and Volume Required
Type(s):
Urine, Clean Catch
Urine, Catheter
Urine, Random
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing: Deliver to laboratory within 1 hour of collection.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Refrigerate if testing to be delayed longer than 1 hour.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC
Order Method: CHCS order entr under: **REDUCING SUBSTANCES** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Differentiation of glycosuria (glucose in the urine) and non-glucose reducing sugars, e.g., galactose found in the urine of infants afflicted with galactosemia.

REFERRAL SLIDES
Synonyms:
CHCS IEN: 1384
Components:
Container (Preferred/Alternate): Slide- Peripheral Blood Smear for Pathologist interpretation submitted from outside lab. Cytospin prep of extravascular fluid sent for pathologist interpretation from outside lab.
Specimen and Volume Required
Type(s):
Blood
CSF
Peritoneal Fluid
Pleural Fluid
Synovial Fluid
Body Fluid
Volume:
Minimum Volume:
Instructions
Patient Preparation:
Collection: Cytospin prep of extravascular fluid sent for pathologist interpretation from outside lab.
Specimen Processing:
Special Instructions:
Transport/Store Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Pathology
Order Method: CHCS order entry under: **REFERRAL SLIDES**; Please include brief patient clinical history.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:

Clinical Significance:

REFERRED SPECIMEN FOR ID/SENS
Synonyms: Specimen Referred to MAMC Bacteriology
CHCS IEN: 903
Components:
Container (Preferred/Alternate): Submit in Appropriate media and under appropriate conditions which will keep specimen viable
Specimen and Volume Required
Type(s): Other Misc (Specify Source);
Volume: Submit live, pure subculture of isolate to be identified
Minimum Volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **REFERRED SPECIMEN FOR ID/SENS** ;Indicate specimen site and source on request form and in CHCS order comment**.** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: up to 24 hours
Other: Indicate type of testing requested. Provide name of requesting activity, point of contact name and telephone number and any previous results to date.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RENAL FUNCTION PANEL (MAMC) ***P***
Synonyms: RFP
CHCS IEN: 6412
Components:
Sodium
Potassium
Chloride
Carbon Dioxide
Urea Nitrogen
Glucose
Calcium
Creatinine
Phosphorus
Albumin
Glumerular Filtrate Rate (Calculated)
Anion Gap with K+
BUN/Creatinine Ratio
Calculated Osmo
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator: 1 Red or Amber-Top Microtainer Tube for pediatric draws.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive**.** Deliver to laboratory at Room Temperature. Spin to separate serum from cells.
Special Instructions:

Transport/Storage Temperature: Room Temperature.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **RENAL FUNCTION PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RENIN *See:* **PLASMA RENIN ACTIVITY LC/MS/MS** in this laboratory test information guide.

REPTILASE TIME P
Synonyms:
CHCS IEN: 1969
Components:
Patient Reptilase Time
Control Reptilase Time
Container (Preferred/Alternate): Light Blue-Top Tube (Sodium Citrate 3.2%)
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4.5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum. Do not over or underfill.
Specimen Processing: Gently invert tube 8 times to mix blood with additive.
Special Instructions: If patient is receiving anticoagulant therapy, specify type (Heparin, Coumadin, etc.) with request form.
Transport/Storage Temperature: Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/Coagulation Section, MAMC
Order Method: CHCS order entry under: **REPTILASE TIME** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RESPIRATORY CULTURE-CF PATIENT
Synonyms: Cystic Fibrous Culture
CHCS IEN: 3314
Components:
Container (Preferred/Alternate): Sterile Container; Culturette Swab- Submit 2 swabs if a Gram Stain is needed with Culture
Specimen and Volume Required
Type(s):
Throat Swab
Sputum/Expectorated
Nasopharyneal Swab
Tracheal Aspirate
Volume:
Minimum Volume:
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of expectorated sputum. See appropriate clinical procedure for collection of specific specimen being submitted.
Collection: See appropriate clinical procedure for collection of specific specimen being submitted. Submit throat swab or nasopharyneal swab using a cluturette. Submit tracheal aspirate in sterile, leak-proof container.
Specimen Processing: Maintain specimen at room temperature until transported to the lab.
Special Instructions: Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection.
Transport/Storage Temperature: Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **RESPIRATORY CULTURE-CF PATIENT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate CF patient on request form when used instead of CHCS order entry to differentiate specimen from ordinary respiratory culture. Include date and time of collection on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 3 to 5 days
Other: CF Patient Respiratory Culture includes additional media for isolation of pathogens associated with CF.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RESPIRATORY VIRUS CULTURE-MAMC
Order Note: For specimens other than respiratory, please order **VIRAL CULTURE BDYFLDS/TISSUE** or other culture tests appropriate for the body site or sample (herpes culture, cmv culture, etc.). Respiratory virus culture is ordered automatically on all negative rapid RSV or Rapid Flu testing performed at MAMC.
Synonyms:
CHCS IEN: 6395
Components:
Viral Culture Respiratory
Container (Preferred/Alternate): Viral Tranport Medium (VTM)
Specimen and Volume Required: See Chart Below
Type(s):
Throat Swab
Bronchoalveolar Lavage
Nasopharyngeal
Bronchial Washing
Nasal Washing
Volume:
Minimum Volume:
Instructions: See Chart Below
Transport/Storage Temperature: Room Temperature. If transport is to be delayed refrigerate at 4 °C within 1 hour after collection. Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection. If shipping to Madigan AMC, sample must be submitted in Viral Transport Medium.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiolgy Section, MAMC
Order Method: CHCS order entry under: **RESPIRATORY VIRUS CULTURE-MAMC** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Order Required Data Set: COLLECTION_SITE.

Availability: 24 hours / 7 days a week
TAT: Routine: 72 hours
Other: Questions: (253) 968-1753 Microbiolgy Section, MAMC

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

Bronchial Washing; Bronchoalveolar Lavage	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** If there is a delay in submitting the sample, specimen must be placed in Viral Transport Medium (VTM). Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection. If transport is to be delayed refrigerate at 4 °C within 1 hour after collection.
Nasal Washing	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL of fluid for wash or aspirate ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection. If transport is to be delayed refrigerate at 4 °C within 1 hour after collection.
Nasopharyngeal (Choose for all Naopharyngeal Swabs Washes and Aspirates)	***Container:*** Viral Transport Medium (VTM) ***Volume:*** 0.5 to 1.0 mL of fluid for wash or aspirate. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Use only Dacron (polyester) swabs, placed in VTM. Do not use Calgi or cotton swabs. Gently pass the swab through the nostril into the nasopharynx. Avoid touching the nasal passage. When the swab encounters resistance, gently rotate the swab and remove it. Immediately inoculate the swab into the VTM and thoroughtly mix. More than one swab may be inoculated into a tube. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection. If transport is to be delayed refrigerate at 4 °C within 1 hour after collection.
Throat Swab	***Container:*** Swab in Viral Transport Media ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Use only Dacron (polyester) swabs, placed in VTM. Do not use Calgi or cotton swabs. Immediately inoculate the swab into the VTM and thoroughtly mix. More than one swab may be inoculated into a tube. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens should be delivered to the lab promptly, ideally within 2 hours after sample collection, but at least within 1 day of collection. If transport is to be delayed refrigerate at 4 °C within 1 hour after collection.

RETICULOCYTE COUNT PANEL P

Synonyms:
CHCS IEN: 2362
Components:
Reticulocyte Count
Reticulocyte ABS
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) or EDTA Mircotainer for pediatric draw
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL for pediatric
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 2/3 of stated volume of tube. If multiple draw, collect lavender-top last.
Specimen Processing: Gently invert tube 10 times to mix blood with additive. Deliver to laboratory promptly.
Special Instructions: Test must be performed within 8 hours of collection. Maintain specimen at room temperature.
Transport/Storage Temperature: Maintain specimen at room temperature. Room Temperature.
Rejection Criteria: Gross Hemolysis; Clotted specimen; specimen greater than 24 hours old
Admin Notes

Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **RETICULOCYTE COUNT PANEL;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: This test/specimen may be combined with a CBC test order.

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Demonstration of an increase in the number of circulating reticulocytes provides reliable evidence of increased red cell production. Evaluation of erythropoietic activity.

RETINOL BINDING PROTEIN Q

Synonyms:
CHCS IEN: 2139
Test Code: 791
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.5 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 4 hours at room temperature; 7 days at 2-8 ºC; 3 months frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics / Fixed Time Nephelometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RETT SYNDROME SEQUENCING O

Synonyms: RETT Syndrome Mutation, Ret Synd Seq, Keesler
CHCS IEN: 6295
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (K_2EDTA) 6mL , Sterile Containers for other specimen types.
Specimen and Volume Required
Type(s):
Blood/Whole
Amniotic Fluid: Also requires 3-5 mL of Maternal blood (Lavendar-Top Tube) to be submitted with Amniotic Fluid (sterile container)
Tissue samples shipped in RPMI
Volume: 5 mL
Minimum Volume: 3 mL

Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood. See appropriate clinical procedures for collection of Amniotic Fluid and Tissue
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions: Testing must be performed within 7 days of draw. Tissue samples must be placed in a sealed plastic bag. Double bagging and/or sealing with parafilm is recommended for tissue samples which are prone to leakage. Wrap the

specimen in paper towels or gauze and then cushion the specimen in a Styrofoam box.
Transport/Storage Temperature: Store and ship at Room Temperature. Collect and ship only Monday thru Thursday. Deliver immediately to lab. Specimen must be in the lab no later than 13:00 in order to make shipment by next day air.

Rejection Criteria: Gross Hemolysis, specimen over 7 days old. Testing will be attempted, but redraw may be necessary.

Admin Notes

Testing Location/Methodology: Testing done at Air Force Medical Genetics Center, Keesler AFB, MS
Order Method: CHCS order entry under: **RETT SYNDROME SEQUENCING.** All prompts presented during order entry of the test must be answered. Order Required Data Set: Molecgen Set – Othr Molec Tests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance:

RETT SYNDROME MUTATION ANALYSIS

Synonyms:
CHCS IEN: 2139
Test Code: 15088
Components:
Container (Preferred/Alternate): Requires Lavendar-Top Tubes (EDTA)

Specimen and Volume Required

Type(s):
Preferred: Blood/Whole
Amniocyte culture -Sterile T25 flask, filled with culture medium. Specimen stability is crucial. Store and ship immediately. Do not refrigerate or freeze.
Amniotic fluid: Please contact laboratory.
Tissue samples: Please contact laboratory.
Volume: 5 mL
Minimum Volume: 3 mL

Instructions

Patient Preparation: None
Collection: Routine venipuncture for blood.
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature. Blood and Amniotic Specimen Stability: 8 days at room temperature, 8 days refrigerated at 2-8 ºC, Unacceptable Frozen. Chorionic villi and cultured cells Specimen Stability: 48 hours at Room temperature, Unacceptable Refrigerated or Frozen.
Rejection Criteria: Received frozen, Refrigerated chorioic villi, Refrigerated cultured cells, Bone marrow, Bone marrow biopsy, Tissue biopsy, Extracted DNA

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Direct Sequencing, Polymerase Chain Reaction Amplification
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Received frozen, Incorrect specimen type
TAT: Routine

Interpretive:

Reference Range:
Critical Value:
Clinical Significance: Detection of disease-causing mutations in the MECP2 gene confirms the clinical diagnosis of Rett syndrome. Testing is also acceptable to females with partial phenotypes, males with unexplained neonatal encephalopathy, individuals with Angelman-type symptoms with no molecular abnormality of chromosome 15ql-13, and individuals with X-linked mental retardation with negative Fragile X test. The sequencing test can only detect mutations in about 80% of patients with classic Rett syndrome. Therefore, a negative test result does not rule out the clinical diagnosis of Rett syndrome.

RETT SYNDROME REARRANGEMENT, DETECTION OR DUPLICATON

Synonyms:
CHCS IEN: 2139
Test Code: 16662
Components:

Container (Preferred/Alternate): Requires Lavendar-Top Tubes (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 5 mL
Minimum Volume: 3 mL
Instructions
Patient Preparation: None
Collection: Routine venipuncture for blood.
Specimen Processing: Gently invert tube 10 times to mix clot activator with blood immediately after drawing tube. Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Store and ship at Room Temperature. Specimen Stability: 8 days at room temperature, 8 days refrigerated at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Semi-Quantitative Polymerase Chain Reaction
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Received frozen, Incorrect specimen type
TAT: Routine
Interpretive:
Reference Range:
Critical Value:
Clinical Significance: MECP2 deletions and duplications are associated with a broad spectrum of clinical phenotypes that range from mild learning disabilities and autism to mental retardation with spasticity in females. Duplications of the MECP2 region have been found in some males with severe mental retardation. Some individuals with mental retardation who do not have Rett syndrome may have other chromosomal or DNA abnormalities not detected by this test.

RH TYPING *See:* **ABO/RH GROUP – CHCS** in this laboratory test information guide.

RHEUMATOID FACTOR
Synonyms: RF; RF Quant
CHCS IEN: 3258
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross Hemoylsis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **RHEUMATOID FACTOR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday only.
TAT: Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0	12			IU/mL

Critical Value:
Clinical Significance: Elevated RF is found in collagen vascular diseases such as SLE, rheumatoid arthritis, scleroderma, Sjogren's Syndrome, and in other conditions such as leprosy, tuberculosis, syphilis, malignancy, thyroid disease and in a significant percentage of otherwise normal elderly patients.

RHIG *See:* **RHOGAM (MAMC ONLY)** in this laboratory test information guide.

RHOGAM (MAMC ONLY) P
Synonyms: Rhogam, Rhogam Workup, RHIG
CHCS IEN: 6515
Components:
ABO/RH Group - CHCS
Antibody Screen – CHCS
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum volume:
Instructions
Patient Preparation:
Collection: Routine venipuncture
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Mislabeled specimen, grossly hemolyzed specimen, or specimen drawn in a serum separator tube.
Admin Notes
Test methodology:
Order method: CHCS order entry under: **RHOGAM (MAMC ONLY)**; A SF 518 is not necessary for Rhogam requests. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The RhoGAM trademark product (preparation of Rh_0 (D antigen) immune globulin derived from the plasma of women previously immunized to the Rh_0 (D) antigen) is administered after each Rh-incompatible pregnancy. The gamma globulin prevents the formation of antibodies after delivery or abortion.

RIBOSOMAL P ANTIBODY Q
Synonyms:
CHCS IEN: 2139
Test Code: 34283
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Gross Icteric
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <1.0 AI Negative
Critical Value:
Clinical Significance: Ribosomal P Antibody is present in 5-10% of patients with systemic lupus erythematosus (SLE)

RICE (F9) IGE Q
Synonyms:
CHCS IEN: 6087
Test Code: 2809
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **RICE IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RICKETTSIA (RMSF) ANTIBODIES (IGG, IGM) WITH REFLEX TO TITERS Q
Synonyms: Rocky Mountain Spotted
CHCS IEN: 1993
Test Code: 6419
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Microbial contamination may interfere.
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **Q ROCKY MOUNTAIN SPOTTED FVR**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: RMSF IgG Not detected; RMSF IgG Titer<1:64; RMSF IgM Not detected; RMSF IgM Titer <1:64
Critical Value:
Clinical Significance: Antigen specific IgG and IgM titers allow rapid diagnosis of infection by any of the spotted fever group of rickettsial agents. This group of agents include *R. rickettsii* (Rocky Mountain Spotted Fever) and *R. akari* (rickettsial pox), both seen in the continental United States. Even after infection has been treated, positive results may persist. False-positive reactions may occur during pregnancy.

RISPERIDONE Q P
Synonyms:

CHCS IEN: 2139
Test Code: 2339
Components:
Risperidone
9-Hydroxyrisperidone (metabolite)
Total Risperidone
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 1.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 28 days at 2-8 ºC; 60 days frozen.
Rejection Criteria: Serum Separator Tube (SST ®)
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Therapeutic drug monitoring for effective therapy. Risperidone is rapidly converted into its hydroxy metabolite in the liver. Peak concentration of risperidone occurs in about 1 hour following oral administration and for 9-hydroxyrisperidone the peak level is reached at 3 hours (17 hours for poor metabolizers). The elimination half-life of risperidone is 3 hours (20 hours for poor metabolizers), and is 21 hours of hydroxyrisperidone (30 hours for poor metabolizers).

RISTOCETIN COFACTOR Q
Synonyms:
CHCS IEN: 4861
Test Code: 4459
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma, Platetet Poor
Volume: 1 mL Platelet Poor Plasma
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine Venipuncture. Draw blood in light blue-top tube containing 3.2% sodium citrate. Do not refrigerate.
Specimen Processing: Mix gently by inverting 3-4 times. Centrifuge 15 minutes at 1500 g within 1 hour of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet (buffy) layer and place into a plastic vial. Centrifuge a second time and transfer platelet-poor plasma into a new plastic vial. Freeze immediately and ship on dry ice. Note: Storage of whole blood at refrigerated temperatures prior to processing may lead to cryoprecipitate formation and falsely low Factor VIII and von Willebrand Factor studies.
Special Instructions:
Transport/Storage Temperature: Store and Ship Frozen. Specimen Stability: 6 hours Room Temperature, Unacceptable Refrigerated, 30 days Frozen.
Rejection Criteria: Hemolysis, Lipemia, Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Platelet Agglutination
Order Method: CHCS order entry under: **VW FACT RIST COFACTOR ACTIVITY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up: Mon-Fri a.m.; Report available: 5 days
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance: von Willebrand Disease is the most common hereditary bleeding disorder. von Willebrand Factor is necessary for platelet adhesion to injured endothelium. Ristocetin cofactor is useful in assessing binding of von Willebrand Factor to platelet factor GP1b. When combined with other tests, results are useful in categorizing the type of von Willebrand Disease.

ROCKY MOUNTAIN SPOTTED FEVER (RMSF) ANTIBODIES (IGG, IGM) WITH REFLEX TO TITERS Q *See:* **RICKETTSIA (RMSF) ANTIBODIES (IGG, IGM) WITH REFLEX TO TITERS** in this laboratory test information guide.

ROTAVIRUS ANTIGEN DETECTION Q
Synonyms:
CHCS IEN: 6171
Test Code: 706
Container (Preferred/Alternate): Sterile Container; Swab; No preservatives
Specimen and Volume Required
Type(s):
Stool
Rectal Swab
Volume: 2 grams of Stool or Swab
Minimum Volume: 1 g
Instructions
Patient Preparation: See appropriate clinical procedure for collection of specific specimen being submitted.
Collection: Collect fecal specimens for direct testing into sterile containers that do not contain media, such as M4 or bacterial transports, or preservatives such as formalin or PVA, animal sera, metal ions, oxidizing agents or detergents, as all of these additives may interfere with the IDEIA Rotavirus test.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen promptly after specimen collection. Specimen Stability: Unacceptability at Room Temperature; 72 hours Refrigerated 2-8 °C, >72 hours Frozen.
Rejection Criteria: Room temperature.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **ROTAVIRUS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon, Wed, Fri a.m.; Report available: 5 days
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance: Clinical use is for detection rotavirus antigen.

RPR TITER
Order Note: This test is available for positive RPR titer testing. For initial testing, order: **RAPID PLASMA REAGIN** .
Synonyms:
CHCS IEN: 1882
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL Serum
Instructions
Patient Preparation:. None
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Immunology/Microbiology Section, MAMC /
Order Method: CHCS order entry under: **xRPR TITER**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive

Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	N				

Critical Value:

Clinical Significance:

RSV RAPID AG (MAMC/NHOH/MMC)

Order Note: All Rapid RSV specimens will automatically be set up for Respiratory Shell Vial Culture. A culture will automatically be performed on all negative specimens at MAMC.

Synonyms: Rapid RSV; Respiratory syncitial Virus

CHCS IEN: 4695

Components:

Container (Preferred/Alternate): Sterile Container; Swab

Specimen and Volume Required

Type(s):

Nasopharyngeal Cavity
Nasopharyngeal Aspirate
Nasopharyngeal Wash

Volume:

Minimum Volume: 0.5 mL of Aspirate/Wash

Instructions

Patient Preparation: See appropriate clinical procedure for collection of specific specimen being submitted.

Collection: Submit >0.5 mL Nasopharyngeal aspirate or wash in sterile container or 1 Nasopharyngeal Swab. Collect using flexible wire or plastic staffed Dacron nasopharyngeal swab and submit in Viral Transport Media (VTM). Use of flocked swabs is recommended (Not available via Microbiology Section). See appropriate clinical procedure for collection of specific specimen being submitted.

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Transport at Room Temperature promptly after specimen collection. Samples that take more than 1 hour to deliver to the laboratory should be transported Refrigerated 2-8 °C.

Rejection Criteria: Calcium alginate or swabs with wooden shafts.

Admin Notes

Testing Location/Methodology: Virology Section, MAMC

Order Method: CHCS order entry under: **RSV RAPID AG (MAMC/NHOH/MMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Other: This test employs bound antibody immobilized on matrix. When specimen is added, the virus binds to the antibody. A colorimetric reaction indicates the presence of the antigen. Due to previous studies to evaluate the sensitivity and specificity of this product, its is recommended (CDC guidelines) that all specimens tesing negative are submitted for viral culture. Viral culture is accepted as the gold standard for testing for respiratory virus. This test has been cleared and approved by the U.S. Food and Drug Administration (FDA) and is intended to be used for clinical diagnostic purposes and only according to the manufacturers specified guidelines. This laboratory is regulated under Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical testing.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Respiratory syncytial virus (RSV) is considered the single most important virus affecting infants and young adults causing acute lower respiratory tract illness, mainly bronchiolitis and pneumonia. Adults are susceptible to infection but usually experience mild respiratory tract illness. Elderly patients may suffer severe lower respiratory tract disease.

RUBELLA VIRUS IGG

Synonyms: Rubella Screen; Rubella Immunity Screen

CHCS IEN: 2431

Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume: 2 mL Serum

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive.
Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature:
Specimen Stability: 8 hours Room Temperature, 48 hours Refrigerated at 2-8° C, 48 hours at 20° C.

Rejection Criteria: Gross Hemolysis, Icteric or grossly contaminated. Heat-inactivated samples.

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **RUBELLA VIRUS IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: Not for diagnosis of primary or recent infection. Immune status: ≥10 IU/Ml. Negative for Rubella Virus IgG is presumed non-immune to Rubella infection.
Critical Value:
Clinical Significance: Rubella is an acute exanthematous viral infection of children and adults. Rash, fever and lymphadenopathy characterize the illness. While many infections are subclinical, this virus has the potential to cause fetal infection with resultant birth defects. Diagnosis of a current or recent infection, a demonstration of specific IgG on a serum sample is evident of immunity to Rubella.

RUBELLA IGM ANTIBODY

Synonyms:
CHCS IEN: 3667
Test Code: 4422
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.6 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Gross lipemia

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Immunoassay
Order Method: CHCS order entry under: **RUBELLA VIRUS IGM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues-Sat
TAT: Routine

Interpretive

Reference Range: 0.90 Negative; 0.90-1.09 Equivocal; ≥1.10 Positive
Critical Value:
Clinical Significance: Rubella is an acute exanthematous viral infection of children and adults. Rash, fever and lymphadenopathy characterize the illness. While many infections are subclinical, this virus has the potential to cause fetal infection with resultant birth defects. In the absence of a current or recent infection, a demonstration of specific IgG on a serum sample is evidence of immunity to rubella. A positive rubella IgM result does not necessarily indicate current or recent infection. Without a history of exposure to rubella or symptoms consistent with rubella, the IgM result may be difficult to interpret. Rubella IgM can be false positive due to other causes (e.g., parvovirus, rheumatoid factor, cytomegalovirus). Rubella IgM may also persist for more than 12 months after vaccination or natural infection. For a serologic diagnosis of congenital rubella in the neonatal period, antibody to rubella virus should be measured in both infant and maternal sera. If IgM is detected in a newborn infants serum, it is probable that transplacental rubella infection has occurred.

RUBEOLA VIRUS IGG

Synonyms: Measles IGG, Rubeola AB, IGG,
CHCS IEN: 3402
Test Code: 964

Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Specimens should be collected under aseptic or sterile conditions. Avoid hemolysis by prompt separation of the serum from the clot.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability***:*** 4 days Room Temperature, 1 week Refrigerated at 2-8° C, 30 days Frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia, Plasma,Grossly icteric
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under**:** **RUBEOLA VIRUS IGG,** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Measles is an acute infection caused by Rubeola Virus. After an incubation period of 10-14 days, cough, coryza, fever and a maculopapular rash that begins several days after the initial symptoms characterize the illness. The characteristic oral exanthem, Koplik's spots, is specific for measles and precedes the onset of rash. Serologic testing can aid in the clinical diagnosis. In the absence of a current or recent infection, a demonstration of specific IgG on a serum sample by enzyme immunoassay is evidence of immunity to Rubeola. Acute infection is diagnosed by a demonstration of IgM antibody. Positive results suggest recent or previous infection with Measles (Rubeola) virus and imply immunity. Patients exhibiting equivocal results should be retested in one month, if clinically indicated. Negative for Rubeola Virus IgG is presumed non-immune to Rubeola infection.

RUBEOLA ANTIBODIES (IGM)
Synonyms: Measles AB IgM
CHCS IEN: 3742
Test Code: 34256
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL
Minimum Volume: 0.2 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Specimens should be collected under aseptic or sterile conditions. Avoid hemolysis by prompt separation of the serum from the clot.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stability***:*** 4 days Room Temperature, 1 week Refrigerated at 2-8° C, 30 days Frozen.
Rejection Criteria: Gross Hemolysis, Icteric or grossly contaminated. Heat-inactivated samples.
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under**:** **RUBEOLA VIRUS IGM,** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: <10 titer. Positive results from any one IgM assay should not be used as a sole determinant of a current or recent infection. Because an IgM test can yield false positive results and low level of IgM antibody may persist for more than 12 months post infection, reliance on a single test result could be misleading. If an acute infection is suspected, consider obtaining a new specimen and submit for both IgG and IgM testing in two or more weeks.
Critical Value:
Clinical Significance: Measles, also popularly known as Rubeola, causes fever, irritability, respiratory illness, and the

characteristic skin rash. Immunization has greatly diminished the incidence of measles. The presence of IgG or a four-fold increase in IgG titer is consistent with a recent infection. IgM tests can generate false-positive results. Low levels of IgM can persist for longer than 12 months.

RUSSIAN THISTLE (W11) IGE Q

Synonyms:
CHCS IEN: 6054
Test Code: 2411
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **THISTLE RUSSIAN IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

RYE (F5), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2805
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SACCHAROMYCES CEREVISIAE ANTIBODIES (ASCA) IGA

Synonyms:
CHCS IEN: 6189
Test Code: 10295
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 21 days frozen.
Rejection Criteria: Gross hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **SACCHAROMYCES CEREVISIAE IGA**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Fri p.m.; Report available: 8 days
TAT: Routine
Interpretive
Reference Range: ≤20 U Negative; 20.1-24.9 U Equivoca; I≥25 U Positive
Critical Value:
Clinical Significance: Antibodies to *Saccharomyces cerevisiae* are found in approximately 75% of patients with Crohn's disease, 15% of patients with ulcerative colitis, and 5% of the healthy population. High titers of antibody increase the likelihood of disease, and specifically Crohn's disease, and are associated with more aggressive disease.

SACCHAROMYCES CEREVISIAE ANTIBODIES (ASCA) IGG

Synonyms:
CHCS IEN: 6188
Test Code: 10294
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 21 days at 2-8 ºC; 21 days frozen.
Rejection Criteria: Moderate hemolysis, Gross hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **SACCHAROMYCES CEREVISIAE IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Fri p.m.; Report available: 8 days
TAT: Routine
Interpretive
Reference Range: ≤20 U Negative; 20.1-29.9 U Equivocal; ≥30 U Positive
Critical Value:
Clinical Significance: The QuantaLite™ ASCA (*S. cerevisiae*) IgG kit is an Enzyme-Linked Immunosorbent Assay (ELISA) for the semi-quantitative detection of anti- *saccharomyces cerevisiae* antibodies (ASCA) of the IgG class in human serum. This test is intended to aid in the diagnosis of patients with Crohn's disease.

SALICYLATES
Synonyms: Aspirin
CHCS IEN: 212
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator); 1 Red or Amber-Top Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Deliver to laboratory at Room Temperature. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under**:** **SALICYLATES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range: Analgesic: 50 – 100 mg/L; Anti-Inflammatory: 100 – 250 mg/L
Critical Value: >300 mg/L
Clinical Significance: Monitor therapeutic level; evaluate aspirin toxicity.

SALMON (F41) IGE Q
Synonyms:
CHCS IEN: 6121
Test Code: 2841
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **SALMON IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SALMONELLA BRUCELLA PANEL Q
Synonyms:
CHCS IEN: 2139
Test Code: 70140
Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay, Enzyme Linked Immunosorbent Assay (ELISA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SCALLOPS (F338), IGE IMCAP
Synonyms:
CHCS IEN: 2139
Test Code: 273
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SCHISTOSOMIASIS IGE ANTIBODY, FMI (SERUM)
Synonyms:
CHCS IEN: 2139
Test Code: 34306
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.25 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: Unacceptable at room temperature; 3 months at 2-8 ºC; Indifinitely frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Fluorescent Microscopy Immunoassay (FMI)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Setup on Wednesdays
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

SCLERODERMA ANTIBODY (SCL-70)

Synonyms:
CHCS IEN: 4920
Test Code: 4942
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Gross lipemia, Grossly icteric

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **SCL-70 EXTRACTABLE NUCLEAR AB**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: <1.0 AI Negative
Critical Value:
Clinical Significance: Antibodies to Scl-70 are a specific marker for scleroderma and are found in 20-60% of scleroderma patients.

SELENIUM

Synonyms:
CHCS IEN: 2139
Test Code: 5507
Components:
Container (Preferred/Alternate): 5 mL Royal Blue-Top (No Additive) Trace Element Tube

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum

Minimum volume: 0.7 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures. Tests performed on a specimen submitted in a non-trace element tube/container (non-acid washed) may not accurately reflect the patient's level.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Centrifuge serum or plasma specimen within 1 hour of collection. Immediately separate serum or plasma from the cells into special trace element collection vial(s).Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions: If a non-trace element tube/container is received, it will be accepted for testing. However, elevated results shall be reported with a message that re-submission with a trace element tube/container is recommended.

Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 8 hours at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Received room temperature, Hemolysis

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Atomic Spectrometry (AS)

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range: Adult: 63-160 µg/L;
Pediatric: <2 Years 16-71 µg/L; 2-3 Years 40-103 µg/L; 4-16 Years 55-134 µg/L

Critical Value:

Clinical Significance: Selenium is an element of parenteral nutrition. Monitoring the Selenium concentration is useful in assessing parenteral nutrition, especially recent intake. Concentrations are also monitored in children with proprionic acidemia who require special diets with supplements

SEMEN ANALYSIS (MAMC) P

Order Note: For a Post Vasectomy Semen Analysis, *See:* **POST VASECTOMY SPERM COUNT** in this laboratory test information guide.

Synonyms: Fertility Test; Sperm Analysis

CHCS IEN: 4414

Components:

Semen Color
Semen Volume
Liquefaction Time
Semen Viscosity
Sperm Count
Sperm Vigor
Sperm Motility
Sperm Viability
Oval Forms
Amorphous Forms
Tail Defects
Double Forms
Germinal Cells/100 Sperm
WBC/100 Sperm
Sperm Agglutinates
Immature Forms

Container (Preferred/Alternate): Sterile Container with Screw-Top Lid

Specimen and Volume Required

Type(s): Seminal Fluid

Volume: Submit 1 complete ejaculation into sterile container

Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. Provide collection instructions and collection container to patient. Abstain from ejactulation for a minimum of 48 hours and up to 7 days before collection sample. See: Semen Analysis Collection and Submission Instructions in the appendices of the manual.

Collection: Have patient obtain semen sample by masturbation. Do not collect the sample in a condom. Ejaculate all the semen directly into the sterile specimen cup provided to you. Do not contaminate the cup or specimen with any other substances. Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See appropriate clinical procedures for procedure being performed.

Specimen Processing: Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See

appropriate clinical procedures for the this procedure.
Special Instructions: Deliver to laboratory within 30 minutes of collection. Answer questions and record ejaculatory abstinence time on the instruction sheet.
Transport/Storage Temperature: Keep the semen sample at room temperature. Do not expose to excessive heat or cold.

Rejection Criteria: Specimen submitted in condom; contaminated with other substances, Quantity Not Sufficient, Specimen greater than 1 hour old.

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC / Examination
Order Method: CHCS order entry under: **SEMEN ANALYSIS (MAMC)** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Record exact Time/Date of collection on request form and in CHCS order comment.
Availability: Samples only accepted on Monday thru Thursday (0830 to 1100 hours) not including holidays.
TAT: ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance Infertility Studies

SEMEN ANALYSIS , POST VASECTOMY P *See:* **POST VASECTOMY SPERM COUNT** in this laboratory test information guide.

SEMEN FRUCTOSE
Synonyms:
CHCS IEN: 2155
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Seminal Fluid
Volume: Submit 1 complete ejaculation into sterile container
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. Provide collection instructions and collection container to patient. Abstain from ejactulation for a minimum of 48 hours and up to 7 days before collection sample. See: Semen Analysis Collection and Submission Instructions in the appendices of the manual.
Collection: Have patient obtain semen sample by masturbation. Do not collect the sample in a condom. Ejaculate all the semen directly into the sterile specimen cup provided to you. Do not contaminate the cup or specimen with any other substances. Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See appropriate clinical procedures for procedure being performed.
Specimen Processing: Keep the semen sample at room temperature. Do not expose to excessive heat or cold. See appropriate clinical procedures for the this procedure.
Special Instructions: Deliver to laboratory within 30 minutes of collection. Answer questions and record ejaculatory abstinence time on the instruction sheet.
Transport/Storage Temperature: Keep the semen sample at room temperature. Do not expose to excessive heat or cold.
Rejection Criteria: Specimen submitted in condom; contaminated with other substances, Quantity Not Sufficient, Specimen greater than 1 hour old.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC / Examination
Order Method: CHCS order entry under: **SEMEN FRUCTOSE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Record exact Time/Date of collection on request form and in CHCS order comment.
Availability: Samples only accepted on Monday thru Thursday (0830 to 1100 hours) not including holidays.
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SEROTONIN RELEASE ASSAY (RSA) Q
Synonyms:
CHCS IEN: 2139
Test Code: 14627
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.4 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 1 day at room temperature; 2 days at 2-8 ºC; 6 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Radiobinding 14C Serotonin Radiolabel
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Fri
TAT: Routine

Interpretive
Reference Range: UFH SRA Result: Negative
Critical Value:
Clinical Significance: Any patient with an unexplained fall in the platelet count of >40% during or after cessation of heparin therapy should be suspected of heparin-induced thrombocytopenia (HIT).

SEROTONIN, SERUM Q
Synonyms:
CHCS IEN: 6289
Test Code: 29851
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL
Instructions
Patient Preparation: Patient should avoid food high in indoles: Avocado, banana, tomato, plum, walnut, pineapple, and eggplant. Patient should also avoid tobacco, tea and coffee three days prior to specimen collection.
Collection: Routine venipuncture procedures.
Specimen Processing: Spin and freeze serum below -20° C within 2 hours after collection
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Unacceptable at room temperature; Unacceptable at 2-8 ºC; 42 days frozen.
Rejection Criteria: Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC), Fluorescence Detection
Order Method: CHCS order entry under: **SEROTONIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri
TAT: Routine
Interpretive
Reference Range: Adult***:*** 26-165 ng/mL; 1-12 Years81-349 ng/mL
Critical Value:
Clinical Significance:

SESAME SEED IGE *Not orderable as a single test. See:* **PED FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

SEX HORMONE BINDING GLOBULIN Q
Synonyms:
CHCS IEN: 4908
Test Code: 30740
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 5 days at room temperature; 5 days at 2-8 ºC; 60 days frozen.
Rejection Criteria: Gross hemolysis, Plasma
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **SEX HORMONE BINDING GLOBULIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up: Mon-Fri a.m.; Report available: 4 days
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: The hormones testosterone, dihydrotestosterone and estrogens are bound to SHBG. SHBG concentrations are increased with pregnancy, birth control pills, and decreased with testosterone and obesity. Changes in SHBG will influence the total hormone concentration but not the free hormone concentrations by dialysis. Calculated bioavailable testosterone, while immune to minor changes in SHBG, may be biased by extremely elevated concentrations such as in pregnancy.

SHELLFISH RAST PANEL (MAMC)

Synonyms: ShellFood IgE
CHCS IEN: 6348
Components:
Clam IgE KU/L
Crab IgE KU/L
Lobster IgE KU/L
Shrimp IgE KU/L
Tuna IgE KU/L
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 2 Red or Amber-Top Microtainer Tubes for pediatric draw.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Ship/store Serum Refrigerated at 2-8 °C.

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / ImmunoCap 250
Order Method: CHCS order entry under: **SHELLFISH RAST PANEL (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: Notify and Routine, Routine: 24 to 48 hours, longer if specimen submitted on weekend/holiday.

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Allergy evaluations

SHRIMP (F24) IGE Q

Synonyms:
CHCS IEN: 6099
Test Code: 2824
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **SHRIMP IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SICKLE CELL SCREEN
Order Note: Test not performed on patients <3 months of age. **Physician Caution:** Due to the incidence of false positives with this screening test, any Positive result should be confirmed by ordering **HEMOGLOBIN ELECTROPHORESIS** with submission of a new sample.
Synonyms: Sickledex; Hgb S Screen
CHCS IEN: 101
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3 mL or EDTA Microtainer for pediatric draw
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume: 250 µL for pediatric
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 2/3 of stated volume of tube. If multiple draw, collect lavender-top last.
Specimen Processing: Gently invert tube 10 times to mix blood with additive. Deliver to laboratory promptly.
Special Instructions: Test must be performed within 8 hours of collection. Maintain specimen at room temperature.
Transport/Storage Temperature: Maintain specimen at room temperature. Sample is stable for up to two week if stored at 2-8 °C.
Rejection Criteria: Clotted specimen, Gross Hemolysis
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **SICKLE CELL SCREEN** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: 7 days
Interpretive
Reference Range:
Critical Value:
Clinical Significance: To detect the presence of Hgb S; evaluation of hemolytic anemia; evaluation of morphologic (sickle-cell) abnormalities on a peripheral smear.

SIGNATURE CHIP MICROARRAY SG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Requires both: Lavendar-Top Tube (K_2EDTA) and Green-Top Tube (Sodium Heparain)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL Lavendar-Top Tube and 10 mL Green-Top Tube
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions: Requires completeion of Requisition form before shipment.
Transport/Storage Temperature: Store and Ship at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Signature Genomics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:"

when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT:
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SIGNATURE MARKERSHIP SG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Requires both: Lavendar-Top Tube (K_2EDTA) and Green-Top Tube (Sodium Heparain)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL Lavendar-Top Tube and 10 mL Green-Top Tube
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions: Requires completeion of Requisition form before shipment.
Transport/Storage Temperature: Store and Ship at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Signature Genomics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SINGLE/DUAL FISH SG
Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Green-Top Tube (Sodium Heparain)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10 mL Green-Top Tube
Minimum volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing:
Special Instructions: Requires completeion of Requisition form before shipment.
Transport/Storage Temperature: Store and Ship at Room Temperature.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Signature Genomics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT:
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SIROLIMUS BY LC-MS/MS UW

Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K3EDTA) or Lavendar-TopTube (K2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 7 mL
Minimum volume: 1.5 mL whole blood (K3EDTA); 0.5 mL whole blood (K2EDTA)
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Trough specimen preferred.
Specimen Processing: Do not freeze-thaw cycle specimen
Special Instructions: Does not require budget paperwork to order.
Transport/Storage Temperature: Store and Ship at 2-8 ˚C. Specimen is stable 2 days at Room Temperature; 5 days Refrigerated. Frozen specimen is acceptable.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at University of Washington / Liquid Chromatography-Tandem MS
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week..
TAT: Routine: Specimen to UW General Chemistry lab by 1:00pm will have results by 04:30pm
Interpretive
Reference Range: Whole Blood Trough – No reference range
Critical Value:
Clinical Significance: Sirolimus concentration of 5-15 ng/mL are effective in reducing the incidence of acute rejection in renal transplant patients when Sirolimus is used as part of a combined immunosupressive regimen.

SJOGREN'S ANTIBODIES (SS-A, SS-B) Q P

Synonyms:
CHCS IEN: 3643
Test Code: 7832
Components:
SS-A AB
SS-B AB
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Specify age and sex on test requisition.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Plasma
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **SJOGREN'S AB PROFILE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri a.m.; Report available: 4 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: The hormones testosterone, dihydrotestosterone and estrogens are bound to SHBG. SHBG concentrations are increased with pregnancy, birth control pills, and decreased with testosterone and obesity. Changes in SHBG will influence the total hormone concentration but not the free hormone concentrations by dialysis. Calculated bioavailable testosterone, while immune to minor changes in SHBG, may be biased by extremely elevated concentrations

such as in pregnancy.

SM & SM/RNP ANTIBODIES Q
Synonyms:
CHCS IEN: 4468
Test Code: 7448
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Hyperlipemic, Grossly icteric
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **Q SM + RNP ANTIBODIES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: Sm Antibody <1.0 AI Negative; Sm/RNP Antibody <1.0 AI Negative
Critical Value:
Clinical Significance: Antibodies to Sm are highly specific for systemic lupus erythematosus (SLE) and when present are considered a marker antibody. However, these antibodies are found in only 20% of patients with SLE. RNP antibodies (also known as anti-u1 or ribonucleoprotein antibodies) are found in 45% of SLE patients but are also observed in numerous other disease states such as Sjögren's syndrome, scleroderma and polymyositis. Elevated levels of antibodies to RNP are seen in mixed connective tissue disease. In SLE, RNP antibodies have been associated with a relatively benign disease course with lower incidence of renal and central nervous system involvement. Patients may be considered positive for RNP antibodies when the RNP antibody result is significantly higher than the Sm antibody result.

SMOOTH MUSCLE AB SCREEN Q *See:* **ACTIN ANTIBODY (IGG)** in the laboratory test information guide.

SODIUM
Synonyms: Na
CHCS IEN: 176
Components:
Container (Preferred/Alternate):
MAMC Preferred: Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation) or
Red-Top Tube (Clot Activator)
1 Red or Amber-Top Microtainer Tube for pediatric draws
Sterile Container with Screw-Top Lid for Urine or Body Fluid samples
Specimen and Volume Required:
Type(s):
Blood/Serum
Blood/Plasma
Body Fluid
Urine, Random
Urine, 24 Hour
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See instructions for Urine Collection in the appendices of this manual.

Specimen Processing: Gently invert tube 5 times to mix blood with additive. Spin to separate Serum from cells. Refrigerate
Special Instructions: Keep 24 hour urine containers in the refrigerator or on ice during the collection period. Do Not Freeze the specimen. The specimen should be submitted in the container originally provided. Record date and time that collection was started and finished on the container tag/label.
Transport/Storage Temperature: Refrigerate Serum at 2-8 °C. Refrigerate Urine at 2-8 °C. Transport 24 hour urines refrigerated.

Rejection Criteria: Gross Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **SODIUM** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Urine, Random

Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	30	90			mmol/L

Serum

Male/No Sex Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All	137	145	120.0	159	mmol/L

Critical Value:
Clinical Significance: Sodium measurements are useful in the diagnosis and treatment of aldosteronism, diabetes insipidus, adrenal hypertension, Addison's Diseas, dehydration, inappropriate antidiuretic hormone secretion, or other disease involving electrolyte imbalance. Used for Electrolytes Profile; acid-base balance; water balance; water intoxication; diagnosis of dehydration.

SODIUM, 24 HOUR P

Synonyms: 24 HR Sodium Urine, 24HR Ur. Sodium
CHCS IEN: 2553
Components:
Sodium
Total Volume
Sodium, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative

Specimen and Volume Required

Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600
Order Method: CHCS order entry under: **24 HOUR URINE SODIUM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive

Reference Range: 40 – 220 mmol/24 Hours
Critical Value:
Clinical Significance: The excretion of sodium varies with dietary intake. There is a diurnal variation of sodium excretion with excretion being greater during daytime than during the night. Decreased levels are seen in congestive heart failure, excessive sweating, diarrhea, pyloric obstruction, malabsorption and primary aldosteronism, Increased levels may be due to

increased salt intake, failure of the adrenal glands, diabetic acidosis, salt losing renal disease, diuretic therapy and water deprivation dehydration.

SODIUM, CONTINUED For additional SODIUM testing also see the following panels in this laboratory test information guide: **CHEM 4 ELECTROLYTE PANEL**, **CMP(MAMC)**, **RENAL FUNCTION PANEL(MAMC)** and **URINE LYTES(MAMC)**.

SOLUBLE LIVER ANTIGEN (SLA) AUTOANTIBODY Q

Synonyms:
CHCS IEN: 2139
Test Code: 38928
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 2 days at room temperature; 8 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Enzyme Linked Immuosorbent Immunoassay (ELISA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: setup: Tuesday and Thursday
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Anti-soluble liver antigen antibodies are detected in 10-30% of patients with type 1 autoimmune hepatitis (AIH), but not in patients with type 2 AIH, primary sclerosing cholangitis or primary biliary cirrhosis. The antibody is directed against a UGA suppressor TRNA-associated protein. In some patients with AIH, this antibody may be the only autoantibody detected by current assays.

SOLUBLE TRANSFERRIN Q

Synonyms:
CHCS IEN: 2139
Test Code: 37338
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Sample acceptable up to 3 freeze/thaw cycles.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 3 days at room temperature; 27 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoturbidimetry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and

test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Setup Wednesdays
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Elevated soluble transferrin receptor (sTfR) values are found in anemia of chronic disease (ACD), iron deficiency anemia (IDA), polycythemia, hemolytic anemia, thalassemia, hereditary spherocytosis, sickle cell and megaloblastic anemia, myelodysplastic syndrome and vitamin B12 deficiency. Elevated sTfR concentrations occur during pregnancy when there is a functional deficiency of iron.

SOYBEAN (F14) IGE Q

Synonyms:
CHCS IEN: 6090
Test Code: 2814
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **SOYBEAN IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SOYBEAN IGE *Not orderable as a single test. See:* **PED FOOD ALLERGY PANEL (MAMC)** in this laboratory test information guide.

SPECIFIC GRAVITY-URINE
Synonyms: SG; Urine SG
CHCS IEN: 143
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lip
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing:
Special Instructions: Deliver to laboratory within 1 hour of collection.
Transport/Storage Temperature: Room Temperature. Store Refrigerate if testing to be delayed longer than 1 hour.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC
Order Method: CHCS order entry under: **SPECIFIC GRAVITY-URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Used to obtain information about the state of the kidney and the state of hydration of the patient.

SPERM MORPHOLOGY P Do Not Order This Test. *See:* **SEMEN ANALYSIS (MAMC)** in this laboratory test information guide.
Synonyms:
CHCS IEN: 2156
Components:
Amorphous Forms
Immature Forms
Tail Defects
Double Forms
Oval Forms

SPOT URINE PROT/CREAT RATIO P
Synonyms: Random Urine Prot/Creat Ratio
CHCS IEN: 6373
Components:
Protein Urine Random
Creatinine Urine Random
Protein/Creatinine Ratio
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid with No Preservative(s)
Specimen and Volume Required
Type(s): Urine, Random
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Acidified Urine
Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: : CHCS order entry under: **SPOT URINE PROT/CREAT RATIO**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Proteinuria is characteristic of renal disease and concentrations may be increased with diabetes, hypertension, nephritic syndrome, and drug nephrotoxicity.

STERILITY CULTURE
Order Note: This test requires prior coordination with OIC, Microbiology and the MAMC Infection Control Representative
Synonyms: Culture Sterility, Dialysate; Culture Sterility, Water; Culture Sterility, Pulmonary Equipment
CHCS IEN: 2483
Components:
Container (Preferred/Alternate): Sterile Container; Culturette Swab is used to sample the site desired
Specimen and Volume Required
Type(s):
Dialysate Fluid
Water
Saline
Diluent
Equipment - Type varies with equipment. Generally a culturette swab is used to sample the site/type desired.
Volume: 50 mL Fluid
Minimum Volume: 25 mL for Fluid

Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed.
Specimen Processing: See appropriate clinical procedures for procedure being performed.
Special Instructions: Indicate specific source of fluid, equipment or diluent using appropriate non-human codes on specimen label, requrest forms and in CHCS order comment**.** If diluent sample, indicate type, lot number and expiration date.
Transport/Storage Temperature: Room Temperature

Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **STERILITY CULTURE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate specific source of fluid or equipment using appropriate non-human codes on specimen label, requrest forms and in CHCS order comment**.** If diluent sample, indicate type, lot number and expiration date.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 24 to 48 hours

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STINGING INSECTS PANEL (MAMC) P
Synonyms:
CHCS IEN: 6346
Components:
Bee Honey IgE KU/L
Hornet White Faced IgE KU/L
Hornet Yellow IgE KU/L
Wasp Paper IgE KU/L
Yellow Jacket IgE KU/L
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 2 Red or Amber-Top Microtainer Tubes for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to

separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Ship/store Serum Refrigerated at 2-8 °C.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / ImmunoCap 250
Order Method: CHCS order entry under: **STINGING INSECTS PANEL (MAMC)**; MAMC FORM 1787-L (CLINICAL LAB TEST PROCEDURE REQUEST) (Miscellaneous) for CHCS non-availability.
Availability: ImmunoCap Tests are batched twice weekly. Test not done on weekends and holidays.
TAT: Routine: 24 to 48 hours, longer if specimen submitted on weekend/holiday.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Allergy evaluations

STONE ANALYSIS Q
Synonyms:
CHCS IEN: 6193
Test Code: 30260
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Cap
Specimen and Volume Required
Type(s): Stone(s) **or** filtered material **or** dry kidney stone
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed.
Collection: Dry stone in sterile screw-cap container. Stones originating from sources not related to the kidney should be air-dried, then placed in a plastic tube or a urine collection cup. **Do not use tape.** Minute specimens may be placed in a gelatin capsule.
Specimen Processing: See appropriate clinical procedures for procedure being performed.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen Stability: 1 year
Rejection Criteria
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Nidus, Component 1, Component 2: Infrared Spectrum Analysis (IR) (FTIR), Stone Weight: Gravimetric (GRAVMET)
Order Method: CHCS order entry under: **Q KIDNEY STONE ANALYSIS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat a.m.
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Stone analysis is used in determining the etiology of stones. The results are often useful in determining the cause and treatment.

STOOL CULTURE
Order Note: Collect and submit up to 3 Stool Specimens (with 3 CHCS orders) on consecutive days.
Synonyms: Fecal Culture; Rectal Swab Culture
CHCS IEN: 1049
Components: Enteric Screen includes:
Campylobacter
Salmonella
Shigella
Yersinia
E.Coli O157:H7
Vibrio
Aeromonas
If a particular pathogen is suspected, please indicate in Order Entry.
Container (Preferred/Alternate): Sterile Container (no preservative) with Screw-Top Lid/Enteric Transport Media; Rectal Swab Culturette
Specimen and Volume Required
Type(s):

Stool, Raw
Rectal Swab
Volume: 10 grams of fresh stool
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours. Rectal swabs are acceptable when stool samples cannot be obtained.
Collection: Collect and submit up to 3 stool samples on consecutive days. It is also recommended that a separate stool sample be submitted with the first sample for a Fecal WBC test. Specimens may be collected and submitted as follows: 1. Untreated, raw specimen in leak-proof container. Untreated specimens must be transported to lab within 2 hours of collection. 2. Enteric transport medium (kit may be obtained from Laboratory Reception Desk).See appropriate clinical procedures for procedure being performed. Outpatient specimens or other specimens with expected delays in transport should be collected using the Enteric Transport Kit and Media. See: General Collection Instructions For All Stool Specimens in the appendices of this guide.
Specimen Processing: Untreated (no preservative) specimens must be transported to lab within 2 hours of collection. Outpatient specimens or other specimens with expected delays in transport should be collected using the Enteric Transport Kit and Media.
Special Instructions:
Transport/Storage Temperature: Room Temperature***.*** Untreated specimens must be transported to lab within 2 hours of collection. Specimen Stability:Raw untreated specimen: ≤ 24 hours at Room Temperature. Enteric Transport Media: 4 days at Room Temperature.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **STOOL CULTURE** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Enteric Screen includes: Campylobacter, Salmonella, Shigella, Yersinia, E.Coli O157:H7, Vibrio and Aeromonas. If a particular pathogen is suspected, please indicate in Order Entry.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2 to 3 days

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Screen for bacterial pathogenic organisms in the stool. Limitations: Non-bacterial pathogens (See Viral Culture) need to be isolated by other methods.

STOOL MACROSCOPIC EXAM

Synonyms:
CHCS IEN: 1880
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid (No preservatives)

Specimen and Volume Required

Type(s): Stool, Raw
Volume: 10 grams
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours.
Collection: Collect and submit 10 gram of fresh stool in clean, screw-top container. Preserved specimen not acceptable.
Specimen Processing: Specimens must be transported to lab within 2 hours of collection.
Special Instructions:
Transport/Storage Temperature:

Rejection Criteria: Preserved specimen

Admin Notes

Testing Location/Methodology: Microbiology/Parasitology Section, MAMC
Order Method: CHCS order entry under: **STOOL MACROSCOPIC EXAM** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Critical Value:
Clinical Significance:

STOOL PH
Synonyms:
CHCS IEN: 1731
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid (No preservatives)
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 grams
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours.
Collection: Collect and submit 5 gram of fresh stool in clean, screw-top container. Preserved specimen not acceptable.
Specimen Processing: Specimens must be transported to lab within 2 hours of collection.
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria: Preserved specimen
Admin Notes
Testing Location/Methodology: Microbiology/Parasitology Section, MAMC
Order Method: CHCS order entry under: **STOOL PH**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STOOL PHENOLPHTHALEIN
Synonyms:
CHCS IEN: 2876
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid (No preservatives)
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 grams
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours.
Collection: Collect and submit 10 gram of fresh stool in clean, screw-top container. Preserved specimen not acceptable.
Specimen Processing:
Special Instructions:
Transport Temperature:
Rejection Criteria: Preserved specimen
Admin Notes
Testing Location/Methodology: Microbiology/Parasitology Section, MAMC
Order Method: CHCS order entry under: **STOOL PHENOLPHTHALEIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STOOL REDUCING SUBSTANCES
Synonyms:
CHCS IEN: 1732
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid (No preservatives)
Specimen and Volume Required
Type(s): Stool, Raw
Volume: 5 grams
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See: General Collection Instructions For All Stool Specimens in the appendices of this guide. For Outpatient collection, provide materials and instructions to patient for proper collection of a stool specimen. Instructions and material may be obtained from the Laboratory Reception Desk or from the Pathology Lead Tech after normal duty hours.
Collection: Collect and submit 10 gram of fresh stool in clean, screw-top container. Preserved specimen not acceptable.
Specimen Processing:
Special Instructions:
Transport Temperature:
Rejection Criteria: Preserved specimen
Admin Notes
Testing Location/Methodology: Microbiology/Parasitology Section, MAMC
Order Method: CHCS order entry under: **STOOL REDUCING SUBSTANCES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STRAWBERRY (F44), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2844
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STREP GP A SCREEN
Order Note: This is not a culture procedure. This is a rapid screen for GP A Strep Antigen. When negative screening tests are

obtained at the outlying area laboratory services, 2 swabs must be submitted to MAMC for culture setup.

Synonyms: Rapid Strep Screen; GP A Strep Screen
CHCS IEN: 2415
Components:
Container (Preferred/Alternate): Culturette Swab
Specimen and Volume Required
Type(s):
Pharynx
Throat
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of throat swab specimen.
Collection: See appropriate clinical procedure for collection of throat swab specimen. Collect and submit an additional culturette if a Group A Strep Throat Culture or Upper Respiratory Aerobic Culture is required.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC / Latex Agglutination Screen
Order Method: CHCS order entry under: **STREP GP A SCREEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STREP GP B ANTIGEN

Synonyms: Strep GP B AG; Group B Strep Latex Screen
CHCS IEN: 1919
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Cath
Urine
Urine, Bladder Tap
CSF
Volume: 1.5 mL
Minimum Volume: 1.0 mL
Instructions
Patient Preparation: For clean catch urine, provide the patient with materials and instruction for a proper clean catch specimen. See: Instructions for Collecting a Clean Catch Urine Sample in the appendices of this guide. See appropriate clinical procedures for procedure being performed.
Collection: See appropriate clinical procedures for procedure being performed. Collect and submit 1.0 to 1.5 mL CSF in sterile container. Specimens of 5.0 mL or greater can be concentrated by the lab before testing, increasing the sensitivity of the assay 20 times. Bladder tap collection is by aspiration syringe with needle then removed or injected into a sterile container.
Specimen Processing: Transport to laboratory promptly
Special Instructions:
Transport/Storage Temperature: Maintain specimen at Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology:
Order Method: CHCS order entry under: **STREP GP B ANTIGEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Other: This test not offered as STAT due to time required to concentrate specimen.
Interpretive
Reference Range:

Critical Value:
Clinical Significance:

STREP GP B VAGINAL/RECTAL
Synonyms: Strep GP B Screen
CHCS IEN: 2414
Components:
Container (Preferred/Alternate): Neomycin Blood Plate or Culturette Swab
Specimen and Volume Required
Type(s):
Rectal Swab
Endocervical
Endocervical & Rectal
Vaginal (Introitus) and Rectal
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: See appropriate clinical procedures for procedure being performed. Where present, remove excess mucous or exudates before collecting specimen for culture.
Specimen Processing: Transport to laboratory as soon as possible
Special Instructions: Label swab and not on transport bag.
Transport Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **STREP GP B VAGINAL/RECTAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.. Order Required Data Set: GBS/PENICILLIN
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

STREP PNEUMONIAE ANTIGEN *See:* **CSF LATEX AGGLUTINATION PANEL** and **URINE LATEX AGGLUTINATION PANEL** in this laboratory test information guide.

STREPTOCOCCUS PNEUMONIAE IGG ANTIBODY PANEL (14 SEROTYPES), MAID
Synonyms:
CHCS IEN: 4481
Test Code: 19564
Components: Serotypes 1, 3, 4, 5, 8, 9 (9N), 12 (12F), 14, 19 (19F), 23 (23F), 26 (6B), 51 (7F), 56 (18C), 68 (9V)
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.5 mL
Minimum Volume: 0.25 mL
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen Stabiity: 7 days at room temperature, 60 days refrigerated at 2-8 ºC, 1 year Frozen.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Multiple Analyte Immuno Detection (MAID)
Order Method: CHCS order entry under: **PNEUMOCOCCAL AB IGG PANEL**
Availability: Set up Mon-Fri; Report available 1-8 days
TAT: Routine
Interpretive

Reference Range:
Critical Value:
Clinical Significance:

STREPTOLYSIN O AB QN
Synonyms: Anti-Streptolysin O
CHCS IEN: 3255
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 1 Red or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **STREPTOLYSIN O AB QN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday only
TAT: Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0	200			IU/mL

Critical Value:
Clinical Significance: Sensitive test for Streptococcal infection. A rise in ASO begins about one week after infection and peaks two to four weeks later. ASO levels do not rise with cutaneous infections. In the absence of complications or reinfection, the ASO level will fall to preinfection levels within 6 to 12 months. Over 80% of patients with acute rheumatic fever and 95% of patients with acute glomerulonephritis due to streptococci have elevated levels of ASO.

STRIATED MUSCLE WITH REFLEX Q
Synonyms:
CHCS IEN: 4490
Test Code: 266
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 0.5 mL Serum
Minimum volume: 0.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: If Striated Muscle Antibody Screen is positive, Striated Muscle Antibody Titer will be performed at an additional charge.
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 14 days at 2-8 ºC; 30 days frozen at -20 ºC, Indefinity frozen at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunofluorescent Assay (IFA)
Order Method: CHCS order entry under: **ANTISTRIATED MUSCLE AB REFLEX**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: Striated Muscle Ab Screen Negative; Striated Muscle Ab Titer<1:40
Critical Value:
Clinical Significance: Anti-skeletal muscle antibody titers of >1: 80 have been reported to be present in the serum of 30% of patients with *Myasthenia Gravis*, 95% of patients with *Myasthenia Gravis* and thymoma, and 25% of patients with thymoma.

STRONGYLOIDES IGG AB Q

Synonyms: Stronglyoides; 34309
CHCS IEN: 4262
Test Code: 34309
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 5 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:
Admin Notes

Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **Q STRONGYOIDES IGA ANTIBODY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Batched.
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:
Order Method:

SUBSETS-BAL P

Synonyms:
CHCS IEN: 2509
Components:

CD4%
CD8%
CD19%
4/8 Rato
CD3%

Container (Preferred/Alternate): Sterile Container
Specimen and Volume Required

Type(s):
Bronchoalveolar Lavage
Volume: 10 mL
Minimum Volume:

Instructions

Patient Preparation: Preparation and sample collection is performed by the Pulmonary Clinic.
Collection: See appropriate clinical procedures for procedure being performed
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature or Refrigerated

Rejection Criteria
Admin Notes

Testing Location/Methodology: Special Hematology Section / Flow Cytometry
Order Method: CHCS order entry under: **SUBSETS-BAL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours/ 7 days a week
TAT: Notify and Routine, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SUCROSE HEMOLYSIS TEST
Order Note: Please call Coagulation Section, MAMC (968-2716) prior to draw to schedule this test.
Synonyms: Sugar Water Test; PNH Screen
CHCS IEN: 2000
Components:
Container (Preferred/Alternate): Light Blue-Top Tube ((Sodium Citrate 3.2%) 3 mL
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:

Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow tube to fill by vacuum at least 2/3 of stated volume of tube but do not overfill.
Specimen Processing: Gently mix tube 8 times to mix blood with additive. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Do not freeze. Store Refrigerated at 2-8 °C.

Rejection Criteria*:* Frozen, Hemolysis, Clotted, Quantity Not Sufficient, Specimen greater than 4 hours old.

Admin Notes
Testing Location/Methodology: Special Hematology Section, MAMC / Complement Lysis
Order Method: CHCS order entry under: **SUCROSE HEMOLYSIS TEST**; Requires prior scheduling thru Coagulation Section. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Schedule thru Coagulation Section for availability
TAT: ASAP, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: The Sucrose Hemolysis Test is a screening assay for paroxysmal nocturnal hemoglobinuria (PNH).

SULFHEMOGLOBIN *See:* **CO-OXIMETRY PROFILE** in this laboratory test information guide.

SUNFLOWER SEED (K84), IGE IMCAP
Synonyms:
CHCS IEN: 2139
Test Code: 23864
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

SWEAT CHLORIDE
Order Note: Sweat Chlorides are performed by appointment on Tuesday and Thursday mornings. To schedule an appointment, call Special Chemistry Section (968-2014).
Synonyms: Cystic Fibrosis Screen
CHCS IEN: 2061
Components:
Container (Preferred/Alternate): Cup
Specimen and Volume Required
Type(s): Sweat
Volume:
Minimum Volume:
Instructions
Patient Preparation: Patient to drink plently of fluids the night before his/her appointment and wear warm but loose clothing for the appointment. Have patient report to the Laboratory Front Reception Desk the morning of the appointment.
Collection: Samples are collected by pilocarpine iontophoresis. The test is painless and takes approximately 2 hours. Sample can be collected after 48 hours of life, but clinical experience indicates that it is extremely difficult to obtain adequate test samples on infants under four weeks of age.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Special Chemistry Section, MAMC / Haake Buchler Chloridometer
Order Method: CHCS order entry under: **SWEAT CHLORIDE**; Requires prior appointment thru Special Chemistry Section. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Tuesday and Thursday mornings.
TAT: Routine: up to 48 hours
Interpretive
Reference Range: Normal: <40 mEq/L; Marginal: 40-60 mEq/L; Consistent with C.F: >60 mEq/L
Critical Value:
Clinical Significance: Cystic Fibrosis Screen

SYCAMORE (T11), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2511
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive

Reference Range:
Critical Value:
Clinical Significance:

SYNOVIAL FLUID CRYSTALS
Synonyms: Gout Crystals, Monosodium Urate
CHCS IEN: 2160
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s):
Synovial Fluid
Body Fluid
Bursa Fluid
Volume:
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: See appropriate clinical procedures for procedure being performed
Specimen Processing:
Special Instructions:
Transport/Storage Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **SYNOVIAL FLUID CRYSTALS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Order entry: Indicate site and source of specimen on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Exam for crystals in fluid.

T3 FREE TRACER DIAL Q P
Synonyms:
CHCS IEN: 6307
Test Code: 36598
Components: Free T_3, T_3 Total
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.
Rejection Criteria: Moderate Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Equilibrium Dialysis by Radioimmunoassay (RIA), Immunochemiluminescence Assay (ICMA)
Order Method: CHCS order entry under: **Q T3 FREE RIA TRACER DIALYSIS**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri a.m.; Report available: 5 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:

Clinical Significance: T_3 measurements are used to diagnose hyperthyroidism. This test can also be used to clarify thyroid status in the presence of possible protein-binding abnormalities.

T3 FREE (FT3)

Synonyms:
CHCS IEN: 4299
Test Code: 34429
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **TRIIODOTHYRONINE FREE**. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues-Sat a.m.; Report available: 3 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significanc: This test is used to diagnose hyperthyroidism and to clarify thyroid status in the presence of a possible protein binding abnormality.

T3, REVERSE

Synonyms:
CHCS IEN: 2139
Test Code: 859
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. on cold packs. Specimen stability: 16 hours at room temperature; 5 days at 2-8 ºC; 1 year frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Radioimmunoassay (RIA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 11-32 ng/dL
Critical Value:

Clinical Significance: Reverse T_3 (rT_3) has limited application. The assay may be useful in the diagnosis of nonthyroidal illness (NTI). Patients with NTI have low T_3 concentrations and increased concentrations of rT_3. RT_3 may be useful in neonates to distinguish euthyroid sick syndrome from central hypothyroidism.

T3, TOTAL Q
Synonyms:
CHCS IEN: 118
Test Code: 859
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **TRIIODOTHYRONINE** . MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues-Sat (Day shift); Report available: 3 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Total T_3 measurements are used to diagnose and monitor treatment of hyperthyroidism and are essential for recognizing T_3 toxicosis.

T4 FREE
Synonyms: Thyroxine; Free Thyroxine
CHCS IEN: 3973
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (clot activator and gel separator); 2 Amber-Top Microtainer Tubes for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Deliver to laboratory. Allow to Clot, Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Chemistry/ImmunoChemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **T4 FREE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0.58	1.64			ng/dL

Critical Value:

Clinical Significance: For diagnosis of hypothyroidism and hyperthyroidism.

T4 FREE, DIRECT ANALYSIS AND T4 TOTAL Q

Synonyms:
CHCS IEN: 3697
Test Code: 36725
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.7 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 10 days at 2-8 ºC; 6 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Direct Equilibrium Dialysis, Radioimmunoassay (RIA), Chemiluminescence (CL)
Order Method: CHCS order entry under: **Q T4 FREE & TOT DIRECT DIALYSIS.** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Free T_4 by equilibrium dialysis is the most accurate measure of Free T_4. Results are independent of the concentration of the T_4-binding proteins, the presence of molecular variants of these proteins, or circulating autoantibodies. Free T_4 is useful in distinguishing euthyroidism from thyroid disease.

T4 FREE, DIRECT DIALYSIS Q

Synonyms:
CHCS IEN: 3698
Test Code: 35167
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 28 days frozen.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Direct Equilibrium Dialysis, Immunoassay
Order Method: CHCS order entry under: **T4 FREE DIRECT DIALYSIS** . MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri, Sun a.m.; Report available: 5 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Free T_4 by equilibrium dialysis is the most accurate measure of Free T_4. Results are independent of

the concentration of the T_4-binding proteins, the presence of molecular variants of these proteins, or circulating autoantibodies. Free T_4 is useful in distinguishing euthyroidism from thyroid disease.

T-4 TOTAL

Synonyms:
CHCS IEN: 2139
Test Code: 867
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions: Note: Free T_4 Index (T7) will only be calculated and reported if test code 861 (T_3 Uptake) is ordered as well.
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 72 days at room temperature; 7 days at 2-8 ºC; 1 month frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: T_4 (Thyroxine) Total 4.5-12.0 µg/dL; Free T_4 Index (T_7) 1.4-3.8
Critical Value:
Clinical Significance: For diagnosis of hypothyroidism and hyperthyroidism. Nonthyroidal chronic diseases, nicotinic acid and nutrition may decrease results. Thyrotoxicosis may not always cause abnormal results. Binding protein variations may cause variations in results. Increases may be associated with pregnancy or oral contraceptive use.

T-CELL RECEPTOR (TCR) GENE REARRANGEMENT, QUALITATIVE, PCR, CELL-BASED

Synonyms:
CHCS IEN: 2139
Test Code: 15930
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (EDTA)
Specimen and Volume Required
Type(s):
Blood/Whole
Bone Marrow
Tissue, Fresh
Volume: 2.1 mL Bone Marrow
Minimum volume:)1 mL
Instructions
Patient Preparation: None
Collection:
Whole blood and bone marrow: For whole blood and bone marrow, collect sample in an EDTA tube. Note draw date and time.
Tissue: The preferred collection process for tissue is to collect sample into sterile container and stored and shipped frozen. Alternative process is to place fresh tissue samples in RPMI media and ship refrigerated. Tissue samples in Formalin only or embedded in paraffin blocks are acceptable and can be shipped at room temperature. Stability of tissue samples is approximately 1 year. Samples collected in RPMI may be stable for only 1 month.
Specimen Processing: After collection of the sample, draw date and time must be written onto the tube and included as requested information. Ship sample immediately. If the stability of the sample can not be determined, delay in result or cancellation of test may occur. Draw date and time is required to perform.
Special Instructions:
Transport/Storage Temperature: Ship at 2-8 °C on cold packs. Blood and Bone Marrow Specimen Stability: 1 week at

Room Temperature; 2 weeks Refrigerated 2-8 ºC. Frozen specimen is acceptable. Fresh Tissue Specimen Stability:Unacceptable at room temperature, Unacceptable Refrigerated at 2-8 ºC, 1 year Frozen at -70 ºC.

Rejection Criteria: Gross hemolyis, Clotted blood, Fresh tissue received room temperature or refrigerated, Frozen whole blood or bone marrow

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Capillary Electrophoresis, Polymerase Chain Reaction (PCR)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Sat-Fri
TAT: Routine
Other:

Interpretive

Reference Range: Negative
Critical Value:
Clinical Significance This assay is useful for establishing clonality of T-cell Receptor Gene Rearrangement for the diagnosis of T-cell lymphoid neoplasms and identification of minimal residual disease or early recurrence in patients with previous diagnosis of T-cell neoplasm.

TACROLIMUS BY LC-MS/MS UW

Synonyms:
CHCS IEN: 2139
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K3EDTA) or Lavendar-TopTube (K2EDTA)

Specimen and Volume Required

Type(s): Blood/Whole
Volume: 7 mL
Minimum volume: 1.5 mL whole blood (K3EDTA); 0.5 mL whole blood (K2EDTA)

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Trough specimen preferred.
Specimen Processing: Do not freeze-thaw cycle specimen
Special Instructions:
Transport/Storage Temperature: Store and Ship at 2-8 °C. Specimen is stable 2 days at Room Temperature; 5 days Refrigerated. Frozen specimen is acceptable.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing done at University of Washington / Liquid Chromatography-Tandem MS
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week..
TAT: Routine: Specimen to UW General Chemistry lab by 1:00pm results by 04:30pm
Other: Does not require budget paperwork to order.

Interpretive

Reference Range: Whole Blood Trough – No reference range
Critical Value:
Clinical Significance: A broad consensus therapeutic range for 12 hour trough Tacrolimus concentrations is 5-20 ng/mL. Other target ranges may be specified by various protocols depending on type of transplant, time since transplant, concomitant immunosuppressive therapy and sampling time..

TEGRETOL TG

Synonyms: TG Carbamazepine
CHCS IEN: 2243
Components:
Container (Preferred/Alternate): Gold-Top Tube (SST) or Red-Top Tube (Plain)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 7 mL
Minimum Volume: 1 mL Serum

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge to separate Serum from cells.

Special Instructions: Ship 1 mL serum to TG Laboratory.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Testing done at Tacoma General Hospital
Order method: CHCS order entry under: **TG TEGRETOL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	8	12			µg/mL

Critical Values:
Clinical Significance:

TESTOSTERONE

Synonyms:
CHCS IEN: 4605
Components:
Container (Preferred/Alternate): Gold-Top Tube (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 6 mL
Minimum volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube to mix blood with additive. Allow to clot. Spin to separate Serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature.

Rejection Criteria:

Admin Notes

Test methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order method: CHCS order entry under: **TESTOSTERONE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	1.75	7.81			ng/dL
Female					
All	0.1	0.75			ng/dL

Critical Value:
Clinical Significance: Testosterone circulates almost entirely bound to transport proteins**.** Normally less than 1 % is free. Testosterone measurements are used to assess erectile dysfunction, infertility, gynecomastia, osteoporosis, and hormone replacement therapy.

TESTOSTERONE, FREE AND TOTAL, LC/MS/MS Q P

Synonyms:
CHCS IEN: 6472
Test Code: 36170
Components:
Testosterone Total LCMS
Testosterone Free LCMS
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.4 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 2 years frozen.

Rejection Criteria: SST

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Calculation (CALC), Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Tracer Equilibrium Dialysis
Order Method: CHCS order entry under: **Q TESTOSTERONE TOTAL+FREE LCMS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Helpful in assessing testicular function in males and managing hirsutism, virilization in females.

TESTOSTERONE, FREE, BIOAVAILABLE AND TOTAL, LC/MS/MS

Synonyms:
CHCS IEN: 6474
Test Code: 14966
Components:
Testosterone Total LCMS
Testosterone Free
Testosterone Bioavailable
Sex Hormone Binding Globulin
Albumin

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS), Calculation, Spectrophotometry (SP), Immunochemiluminescent Assay
Order Method: CHCS order entry under: **TESTOSTERONE TOT/FREE/BIOAVAIL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Helpful in assessing testicular function in males and managing hirsutism, virilization in females.

TESTOSTERONE, TOTAL, LC/MS

Synonyms:
CHCS IEN: 4651
Test Code: 15983
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 2 years frozen.

Rejection Criteria: Serum Separator Tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **TESTOSTERONE TOTAL LCMS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Helpful in assessing testicular function in males and managing hirsutism, virilization in females.

TETANUS ANTITOXOID Q

Synonyms:
CHCS IEN: 4235
Test Code: 4862
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen at -20 ºC, Indefinite at -70 ºC.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Enzyme Immunoassay (EIA)
Order Method: CHCS order entry under: **TESTANUS AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tue, Thurs
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Tetanus is caused by *Clostridium tetani*. Immunization with Tetanus Antitoxoid is effective with boosters. This test assesses Tetanus Antitoxoid Antibody following booster immunization. Immunization supports an intact humoral antibody response.

THC (CANNABINOIDS) *See:* **DRUG SCREEN-UR (MAMC)** in this laboratory test information guide.

THEOPHYLLINE

Synonyms: Aminophylline
CHCS IEN: 211
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. **IV Peak**: 4 to 6 hours post beginning infusion. **IV Though:** Immediately prior to infusion. **Oral Peak**: 2 hours post rapid release; 4 hours post sustained release. **Oral Though:** Immediately prior to dose. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube to mix blood with additive. Allow to clot. Spin to separate Serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC
Order Method: CHCS order entry under: ***THEOPHYLLINE***; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
		Serum			
Bronchodilator	5	15		21	µg/mL
Premature Apnea	6	13		14	µg/mL

Critical Value: > 20 µg/mL
Clinical Significance: Used to monitor therapeutic drug level; detection of noncompliance and of subtherapeutic levels; attempt to predict Theophylline toxicity.

THIOTHIXENE (CIS ISOMER) Q

Synonyms:
CHCS IEN: 2139
Test Code: 34520
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tubes or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL Serum
Minimum volume: 2.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Serum separator tube (SST ®) or PST

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Gas Chromatography (GC)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Thurs
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

THISTLE RUSSIAN IGE *See:* **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

THROAT CULTURE

Order Note: Submit a second additional swab and order: **STREP GP A SCREEN**, if a rapid test is also desired. For immunocompromised patients order upper respiratory culture to culture for pathogens other than Group A Strep. For suspected Gonococcal infections order GC culture and specify throat specimen.
Synonyms: Throat Culture, Group A Strep

CHCS IEN: 1405
Components:
Container (Preferred/Alternate): Culturette Swab
Specimen and Volume Required
Type(s): Throat Swab
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: Obtain and submit throat swab using cluturette. Crush ampule on bottom of culturette. Submit second swab and order: **STREP GP A SCREEN**, if a rapid strep screen test is also desired. See appropriate clinical procedures for procedure being performed
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **THROAT CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Identify upper respiratory pathogen from the throat.

THROMBIN TIME *See:* **PATIENT THROMBIN TIME** in this laboratory test information guide

THYROGLOBULIN
Synonyms:
CHCS IEN: 4639
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube to mix blood with additive. Allow to clot. Spin to separate Serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry/Immunochemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **THYROGLOBULIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday
TAT: Notify and Routine, Routine
Interpretive: Presence of serum autoantibodies to thyroglobulin can interfere with assay. Therefore, sera which contain thyroglobulin antibodies should not be tested for thyroglobulin.
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex All	1.15	35.00			ng/mL

Critical Value:
Clinical Significance:

THYROGLOBULIN AB
Synonyms: Thyroglobulin Antibody
CHCS IEN: 4390
Components:

Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube to mix blood with additive. Allow to clot. Spin to separate Serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry/Immunochemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **THYROGLOBULIN AB**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday
TAT: Notify and Routine, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0.9	3.9			IU/mL

Critical Value:
Clinical Significance: Useful in the diagnosis and management of a variety of thyroid disorders including Hashimoto's thyroiditis, Graves Disease and certain types of goiter.

THYROGLOBULIN, QNT PANEL P

Order Note: This test panel provides a quantitation of the Thyroglobulin as well as a Thyroglobulin Antibody result. If only a qualitative Thyroglobulin result is required, the **THYROGLOBULIN AB** test should be ordered instead.
Synonyms: Thyroglobulin Antigen; Thyroglobulin Quant
CHCS IEN: 4389
Components:
Thyroglobulin, Quant
Thyroglobulin Antibody
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture
Specimen Processing: Gently invert tube to mix blood with additive. Allow to clot. Spin to separate Serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature. Store at 2-8 °C.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry/Immunochemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **THYROGLOBULIN, QNT PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday only
TAT: Notify and Routine, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Thyroglobulin (TG) is a secretory product only of the thyroid gland. The major clinical use of serum TG measurement is to monitor, but not to diagnonse, patients with well-differentiated thyroid cancers. The measurement of thyroglobulin, after thyroidectomy and ablation of the thyroid gland, is userful to determinee metastaisis. Deficient TG synthesis is observed in infants with goitrous hypo-thyroidism. Most patients with thyroid automimmune disease have thyroglobulin antibody. The antiperoxidase antibody (anti-tpo) provides additional specificity. Approximately 95% of patients with diffuse goiter, hypothyrodism, or both have anti-tpo. Anti-tpo is especially useful with patients with subclinical hypothyroidism (elevated TSH and normal free T4 concentrations). Many of these patients will develop hypothyroidism. With Immunometric assays (sandwitch assays), TGAB interference typically produces inappropriately low TG results, most likely caused by endogenous TG immune complexes that block one or more of the reagent antibodies from binding endogenous TG.

THYROID PEROXIDASE ANTIBODIES (TPO) Q
Synonyms:
CHCS IEN: 4344
Test Code: 5081
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 14 days at 2-8 ºC; 1 year frozen.
Rejection Criteria: Gross hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Immunoassay
Order Method: CHCS order entry under: **THYROID PEROXIDASE ANTIBODIES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon, Wed, Fri (Day shift); Report available: 4 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Assists in the diagnosis of thyroid diseases such as endemic goiter, Graves Disease, autoimmune thyroiditis, Addison's Disease, insulin-dependent diabetes mellitus, Hashimoto's Disease and polyendocrine auto-immunopathies.

THYROID STIMULATING HORMONE *See:* **TSH, SENSITIVE** in this laboratory test information guide.

THYROTROPIN-BINDING INHIBITORY IMMUNOGLOBULIN (TBII) Q
Synonyms:
CHCS IEN: 2139
Test Code: 5738
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C on cold packs. Specimen stability: 2 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Moderate or gross lipemia, Moderate or gross icterus specimens
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Radioreceptor Assay (RRA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon a.m.; Wed, Fri p.m.; Report available: 3 days
TAT: Routine
Interpretive
Reference Range: ≤16% Inhibition

Critical Value:
Clinical Significance: Measurement of TBII is used to diagnose and manage Graves'disease, neonatal hypothyroidism, and postpartum thyroid dysfunction.

THYROXINE BINDING GLOBULIN (TBG) Q
Synonyms:
CHCS IEN: 3100
Test Code: 870
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Chemiluminescence
Order Method: CHCS order entry under: **THYROXINE BINDING GLOBULIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Thurs p.m., Sat a.m.; Report available: 3 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnistics established ranges
Critical Value:
Clinical Significance: The measurement of TBG can be used to establish the presence of TBG deficiency or excess suggested by abnormal Total serum T_4 and T_3 concentrations in the presence of normal free levels of these hormones. Definitive documentation of a TBG derangement may avoid unnecessary diagnostic procedures and therapy in individuals with harmless congenital TBG anomalies, and in their relatives.

TIMOTHY GRASS (G6) IGE Q
Synonyms:
CHCS IEN: 6047
Test Code: 2306
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **TIMOTHY GRASS IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance:

TIMOTHY IGE *See:* **NORTHWEST RAST PANEL (MAMC)** in this laboratory test information guide.

TISSUE EXAM
Order Note: For Rush Processing or Special Stain requests, please call the Anatomic Pathology Section at (253) 968-1697.
Synonyms: Surgical Pathology; Surg Path
CHCS IEN: 3992
Components:
Container (Preferred/Alternate): Sterile Container. See Chart Below for Additional Information Pertaining to Specimen Submission requirements.
Specimen and Volume Required
Type(s): Tissue
Volume:
Minimum Volume:
Instructions
Patient Preparation:
Collection:
Specimen Processing:
Special Instructions: Indicate Date/Time in formalin on all fixed breast tissue. It is imperative that the date and time the breast tissue is placed in formalin is entered in the order data. Please use the following format: YYMMDD@HH:MM. This is not a requirement for breast tissue submitted fresh.
Transport Temperature:
Rejection Criteria
Admin Notes
Testing Location/Methodology: Surgical Pathology, MAMC
Order Method: All Outpatient Anatomic Pathology Surgical Requests should be entered directly into CHCS, with the exception of Frozen Sections. Typing "AP" will provide a picklist from which Surgical Pathology may be selected. Frozen sections may be coordinated in advance by calling 968-1697. After specimen(s) has been collected for frozen section, call the following pager numbers: 596-9936 for the resident pathologist and 596-9938 for the staff pathologist. The pathologist will fill out MAMC Form 1644-L (Frozen Section Examination) to accompany the specimen(s) being submitted for frozen section. A print out of the Patient Order List must accompany all surgical specimens that have been ordered/entered in CHCS. For the wards/clinics unable to enter requests in CHCS, or when the computer system is down, the specimen must by accompanied by MAMC Form 1645-L (Surgical Tissue Examination Requisition).
Availability: Upon completion and signing out of the case, the report will be available in CHCS.
TAT: ASAP: 2 hours; Routine: 4 to 48 hours
Other: Call Anatomic Pathology Surgical Section: (253) 968-1697 for questions, rush and special stain requests.

Breast Biopsy	***Container:*** Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Submit FRESH specimen for all lumpectomy, mastectomy and needle localization biopsy specimens. Submit specimen in FORMALIN for Core needle biopsies procured by mammotome procedure. ***Specimen Processing:*** Needle localization biopsy specimens must be submitted with a specimen mammogram. All must have a completed MAMC Form 1645-L (Surgical Tissue Examination Request) ***TAT:*** Routinely performed during regular duty hours. Completed in approximately 3 working days. ***Other:*** Questions as to significance of findings or interpretation, may be directed to the staff and resident pathologist reporting the case. The surgical pathology report will identify and classify lesions present. Ancillary studies such as ER/PR will be performed at the pathologist's discretion.
Electron Microscopy	***Order Note:*** This test no longer performed in-house at MAMC. Please contact Anatomic Pathology for updated specimen submission requirements prior to submission and send-out. Commercial Send-out Test includes: Preparation of "thick" sections with selection of appropriate tissue fragments for "thin" sectioning. "Thin" sections are stained and viewed under the electron microscope with appropriate areas photographed. Black and white photographic prints are made of representative areas. A report for electron microscopy is produced, usually as part of the surgical pathology report for the case. This is an expensive

	test and is normally done where the teaching or diagnostic result indicated a definite benefit. ***Container:*** ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** The best specimen depends on the clinical circumstances. General guidelines include avoiding necrotic areas and sampling areas with different gross appearances. In most circumstances, the pathologist will select and collect the sample from a larger surgical specimen.. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens must be minced into 1mm cubes and rapidly put into appropriate fixative (Karnovsky's Fixative preferred). Fixed specimens require refrigeration. Clinical specimens submitted directly for electron microscopy, must be coordinated with the pathologist covering the service. A completed Electron Microscopy Submission Form must accompany each case requested. ***TAT:*** Monday thru Friday, 0800-1630 hours, by consultation with a pathologist. Variable depending upon the urgency of the case. Allow approximately 2 weeks until a report can be finalized.
Histopathology Report Review via Digital Phones	***Order Note:*** The Enterprise Express Voice System dication system is used by Anatomic Pathology Service and may be accessed by physicians throughout MAMC with digital telephones. Results obtained by accessing the dictation system should be regarded as Preliminary. Definitive care must be supported by signed, Final surgical pathology reports. ***System Access and Usage:*** To obtain physician access codes, call Denise Beegle, Supervisor, Medical Transcription at 968-1313. To utilize the system dial: 968-1276 and follow the voice prompts. An electronic system usage brochure which provides telephone keypad commands, codes and other system usage instructions may be obtained from the Supervisor, Medical Transpcription. ***Availability:*** Central Medical Transcription Service: Monday through Friday, 0600 to 1600 hours for new account access.
Immunohistology	***Order Note:*** If an immunological stain is thought to be needed, discuss it with the pathologist(s) handling the case. Tests are only available by consultation with a pathologist. These tests are normally ordered by pathologists during the course of the case work up. ***Container:*** Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue. ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Fixative required depends on the kinds of immunological test needed. The pathologist handling the case will select appropriate fixatives. ***TAT:*** Approximately 3 working days***.*** ***Other:*** Questions as to significance of findings or interpretation may be directed to the staff and resident pathologist. The expected result depends on the stain used, the clinical setting and the type of tissue. A detailed written report is normally included as part of the surgical report for the case.
Immunofluorescence	***Order Note:*** Skin immunofluorescence specimens are sent to Walter Reed Army Medical Center (WRAMC). The expected result depends on the appropriate fluorescence antisera used and the characteristic pattern of deposits. ***Container:*** ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Submit specimen in the Fresh state (Skin), wrapped in saline moistened gauze to avoid dehydration. For optimum results, lesional skin with a portion of adjoined normal skin should be biopsied. Identify enclosed tissue on container submitted. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Deliver to Histology Section, MAMC (G-35-16) immediately. ***TAT:*** Monday through Friday, 0800-1630 hours. Completed in 3 working days.
Lymph Node Biopsy	***Order Note:*** Many times fungal, mycobacteriological, or bacterial etiologies are part of the differential diagnosis. Cultures should be collected prior to delivery of the specimen to anatomic pathology. Anatomic Pathology is not equipped to handle sterile specimens, exposing the specimens to the possibility of contamination. Please indicate on the container: For cultures and Anatomic Pathology. ***Container:*** Submit specimen UNFIXED wrapped in saline moistened gauze. Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue. ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed.

	Collection: In general, inguinal lymph nodes should be avoided because they frequently show hyperplasia secondary to small wounds of the lower extremities. However, if the inguinal lymph nodes are the best specimen obtained, they certainly can be submitted. Consider the possibility of infectious etioligies and submit appropriate cultures to microbiology. Larger lymph nodes are better than smaller nodes, unless there is extensive necrosis. Specific protocol examinations include lymph node dissections for non-hematopoetic malignancies. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** The usual procedure for evaluating lymph nodes suspicious for non-Hodgkin's Lymphoma includes: specimens for flow cytometry, air-dried imprint preparations, B-5 fixed material, formalin fixed material and tissue frozen for electron microscopy. The pathologist will select the most appropriate fixatives. The surgical pathology report will identify and classify lesions present. A complete clinical history is critical in evaluating lymph node pathology. ***TAT:*** Routinely performed during regular duty hours. May be performed after hours if warranted due to clinical circumstances (prior consultation with the pathologist on call is needed. Preliminary examination with cytology preparations can be completed within approximately 20 minutes. Routine microscopy requires approximately 2 working days; special procedures require more than 2 days. ***Other:*** Questions as to significance of findings or interpretation may be directed to the staff and resident pathologist.
Muscle Biopsy	***Order Note:*** Coordination with pathologist should be accomplished at least 24 hours prior to the biopsy. ***Container:*** Specimens must be submitted immediately without fixative to the pathologist covering the service. Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue. ***Volume:*** A piece of muscle about the diameter of a pencil (0.8cm) and 2-3 cm in length is usually satisfactory to represent large muscles in adults. Small muscles and biopsies from children may have to be smaller. If in doubt as to how to do the biopsy, please discuss it with the pathologist responsible for reporting the case. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** In general, muscles showing evidence of clinical functional deficiency are preferable. Severely atrophic muscles are best avoided. Muscle clamps are no longe***r*** recommended. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** A complete clinical history is essential in evaluating these specimens. A special muscle biopsy form must be completed for cases requiring consultation with AFIP. The expected result depends on the muscle biopsied and the clinical setting. ***TAT:*** Routinely performed during regular duty hours. Routine microscopy is completed in 2 working days. Special studies requiring consultation with the Armed Forces Institute of Pathology (AFIP) are completed in approximately 3 weeks ***Other:*** A muscle biopsy history form must be completed for each case and is available from the Anatomic Pathology Section. Questions as to significance of findings or interpretation may be directed to the staff and resident patholo
Nerve Biopsy	***Order Note:*** Selection of the particular nerve to be biopsied should be with the consultation of the surgeaon, pathologist, and primary care physician. ***Container:*** Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue. ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** The orientation of the specimen (i.e., which end is proximal and which end is distal) must be maintained. In general, nervis associated with clinical deficits are preferred. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Specimens must be submitted immediately, without Fixative to the pathologist covering the service. The nerve biopsy history form (available from Anatomic Pathology) must be completed for each case. ***TAT:*** Routinely performed during regular duty hours. Since the pathologist must be available to assist in handling these specimens, coordination with pathology should be completed at least 24 hours prior to the biopsy. Routine microscopy is completed in 2 working days. Consultation with the Armed Forces Institute of Pathology (AFIP), requires approximately 3 weeks. ***Other:*** Questions as to significance of findings or interpretation, may be directed to the staff and resident pathologist reporting the case. A complete clinical history, physical examination findings and the clinical differential diagnosis are all critical ingredients in assessing a diagnostic nerve biopsy. A special nerve biopsy form must be completed for cases requiring

	consultation with AFIP.
Renal Biopsy	***Order Note:*** Scheduling with pathologist responsible for renal biopsies and nephrology service is done during regular duty hours. Coordination with these two services is essential and should be accomplished at least 24 hours prior to the time selected for biopsy. Emergent requests should be coordinated with the pathologist responsible for renal biopsies or with LOD. ***Container:*** Container, non-breakable sealed container ensuring that the container not the lid is labeled. Containers should be 10 times larger in volume than the specimen. The label must contain patient's full name, FMP, sponsor's SSN and identification of the enclosed tissue. ***Volume:*** Optimal specimens are of sufficient volume to allow all required ancillary studies. 3 specimens are collected: #1- Submit wrapped in saline moistened gauze or placed in Michel's Transport Medium (Buffer) for immunofluorescence studies. #2 – Submit fixed in Karnovsky's Fixative (or gluteraldehyde) for Electron Microscopy study. #3 – Submit fixed in 10% Neutral Buffered Formalin (NBF) for light microscopy study. ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Normally, three specimens are collected under Radiologic guidance by the nephrology Service with Pathology assistance.. Cores of renal tissue, including cortex and medulla, are best. In general, light microscopic tissue should contain at least 10-12 glomeruli. See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** The specimen(s) will be reviewed, divided and placed as appropriate, in three solutions for studies, by the pathologist. ***TAT:*** Light microscopic samples are prepared on the first duty day following the biopsy with electron microscopy and immunofluorescence following. ***Other:*** Testing includes examination of the gross specimen under the dissecting microscope with assessment for adequacy. Portions of the specimen are routinely fixed for light microscopy and for electron microscopy, with some frozen for immunostaining/immunofluorescence. Light microscopic samples are prepared on the first duty day following the biopsy with electron microscopy and immunofluorescence following. Questions as to significance of findings or interpretation may be directed to the staff and resident pathologist
Review of Outside Slides	***Order Note:*** Requests are entered into CHCS by the transcription staff of the Anatomic Pathology Service. Deliver the material for review directly to the transcription staff in AP for accessioning. Test includes: Review of microscopic slides and other pathologic material electron micrographs, paraffin blocks, formalin fixed tissue, etc. sent from another institution. Production of additional pathologic preparations as needed. Preparation of a detailed report outlining diagnostic opinion. ***Container:*** Normally microscopic slides are available for review. In difficult or unusual cases, fixed tissue, paraffin blocks or other ancillary material may be needed. ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** The material submitted for review MUST be accompanied by the Tissue/Cytology Report from the outside institution. The ouside report is the only way the pathology material can be reliably linked to a specific patient. Also, the report may contain valuable clinical information or operative findings. ***TAT:*** Monday through Friday, 0800-1630 hours. Routine cases completed in 2 working days. ***Other:*** Informal review (i.e., no formal report generated) of material from other institutions is strongly discouraged. If the diagnostic opinion is to be used in treating or managing the patient, there should be a written record.

TISSUE TRANSGLUTAMINASE IGA *See:* **CELIAC DISEASE PANEL (MAMC)** , **CELIAC DISASE IGA PANEL (MAMC)** and/or **GLIADIN DISEASE PANEL (MAMC)** in this laboratory test information guide.
Synonyms: TTG IGA
CHCS IEN: 4619
Interpretive
Reference Range: TTG IgA: Negative: <7 ELiA U/mL; Equivocal: 7-10 ELiA U/mL ; Positive: >10 ELiA U/mL
Critical Value:
Clinical Significance: Tissue Transglutaminase IgA is useful in diagnosing gluten-sensitive enteropathies, such as Celiac Sprue Disease, and an associated skin condition, dermatitis herpetiformis.

TISSUE TRANSGLUTAMINASE IGG *See:* **CELIAC DISEASE PANEL (MAMC)** , **CELIAC DISASE IGG PANEL (MAMC)** and/or **GLIADIN DISEASE PANEL (MAMC)** in this laboratory test information guide.
Synonyms: TTG IGG
CHCS IEN: 4620
Interpretive

Reference Range: TTG IgG: Negative: <7 ELiA U/mL; Equivocal: 7-10 ELiA U/mL ; Positive: >10 ELiA U/mL
Critical Value:
Clinical Significance: Tissue Trasnglutaminase Antibody, IgG, is useful in diagnosing gluten-sensitive enteropathies, such as Celiac Sprue Disease, and an associated skin condition, dermatitis herpetiformis in patients whoare IgA-deficient.

TISSUE TRANSGLUTAMINASE (TTG) ANTIBODIES (IGG, IGA) Q P

Synonyms:
CHCS IEN: 4432
Test Code: 11073
Components:
Tissue Transglutaminase IgA
Tissue Transflutaminase IgG
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **TISSUE TRANSGLUTAMINASE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Wed; Report available: 7 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Tissue Transglutaminase Antibody, IgA, is useful in diagnosing gluten-sensitive enteropathies, such as Celiac Sprue Disease, and an associated skin condition, dermatitis herpetiformis. The IgG test is useful in patients who are IgA-deficient. The IgG test also provides support for gluten-sensitive enteropathies beyond the IgA test.

TOBRAMYCIN,TROUGH TG

Synonyms: Trough Tobramycin
CHCS IEN: 370
Components:
Container (Preferred/Alternate): Red-Top Tube (Plain)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 7 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge to separate Serum from cells.
Special Instructions:.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Tacoma General Hospital
Order method: CHCS order entry under: **TG TOBRAMYCIN, TROUGH (SHIPPING)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					

	All	0	2	2	mcg/mL

Critical Values:
Clinical Significance:

TOBRAMYCIN,PEAK TG
Synonyms: Peak Tobramycin
CHCS IEN: 1352
Components:
Container (Preferred/Alternate): Red-Top Tube (Plain)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 7 mL
Minimum Volume: 2 mL Serum
Instructions
Patient Preparation: None.
Collection: Routine Venipuncture
Specimen Processing: Centrifuge to separate Serum from cells.
Special Instructions:.
Transport/StorageTemperature: Transport, Store and Ship at Room Temperture
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Testing done at Tacoma General Hospital
Order method: CHCS order entry under: **TG TOBRAMYCIN, PEAK (SHIPPING)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	3	10		10	mcg/mL

Critical Values:
Clinical Significance:

TOMATO (F25) IGE Q
Synonyms:
CHCS IEN: 6047
Test Code: 2306
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **TOMATO IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

TOPIRAMATE Q
Synonyms:
CHCS IEN: 4864
Test Code: 30965
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation: Draw at peak (2-4 hours after dose) or trough (0.5-1 hour before dose) at steady state.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Hyperlipemia, Serum separator tube (SST®)
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **TOPIRAMATE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat a.m.; Report available: 3 days
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Topiramate is used as an adjunctive treatment of partial-onset epilepsy and Lennox-Gastaut syndrome in children. Therapeutic drug monitoring is useful to optimize dose and avoid toxicity.

TOTAL HEMOGLOBIN *Not orderable as a single test. See:* **BLOOD GAS (MAMC)** P in this laboratory test information guide.
Synonyms: T Hb
CHCS IEN: 2489
Components:
Container (Preferred/Alternate): Syringe (Dry Lithium Heparin)
Specimen and Volume Required
Type(s):
Blood/Arterial
Blood/Venous
Blood/Cord, Arterial
Blood/Cord, Venous
Volume: 1 mL required for a 5 mL syringe
Minimum Volume: 0.5 mL for a 1 mL syring
Instructions
Patient Preparation: Patient should be supine and relaxed
Collection: Do not draw above intravenous infusion. Collection performed by respiratory therapy or other qualified personnel using established clinical procedures. Laboratory personnel do not collect blood gas samples. Specimen (syringe) must be labeled. Labeling bag of ice that contains specimen is not adequate identification of the specimen.
Specimen Processing: Remove needle and cap syring. Secure cap in place with small length of tape. Place specimen on ice and Transport to laboratory immediately
Special Instructions:
Transport/StorageTemperature: Place on ice immediately after drawing and capping. Transport on ice to Laboratory immediately.
Rejection Criteria: Specimen not on ice; collected in improper tube; quantity not sufficient; specimen clotted; specimen improperly labeled. Needle still attached to the syringe.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Bayer HealthCare Rapid Lab 1265
Order method: CHCS order entry under: **BLOOD GAS (MAMC)** **.** Please indicate source (Blood Arterial, Blood Venous, Arterial Cord Blood, Venous Cord Blood) in Order Comment. ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive **Blood and Blood/Arterial**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	12	18			g/dL

Critical Value:
Clinical Significance:

TOTAL PROTEIN 24 HR URINE *See:* **PROTEIN, 24 HOUR URINE** in this laboratory test information guide.

TOTAL PROTEIN URINE (RANDOM) *See*: **PROTEIN, HOUR (RANDOM)** in this laboratory test information guide.

TOTAL VOLUME
Synonyms: TV; Urine Volume
CHCS IEN: 1990
Components:
Container (Preferred/Alternate): Sterile Container(s) with Screw-Top Lid
Specimen and Volume Required
Type(s): Urine, 24 Hour
Volume:
Minimum Volume:
Instructions
Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.
Collection: See urine collection procedures contained in the appendices of this guide. 24-Hour Urine: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Aliquote 100 mL to plastic screw cap container.
Special Instructions:
Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator 2-8 °C.or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Aliquote is stored and shipped Frozen at -20°C .
Rejection Criteria: Room Temperature
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Volumetric measuremet
Order Method: CHCS order entry under: **TOTAL VOLUME**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

TOXOPLASMA ANTIBODY (IGG) Q
Synonyms:
CHCS IEN: 3668
Test Code: 3679
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 4 days at room temperature;

7days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **TOXOPLASMA GONII IGG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Other: During reactivation, an IgM response may not occur, or be present at levels to low to be detected.
Interpretive
Reference Range: ≤0.90 Negative; 0.91-1.09 Equivocal; ≥1.10 Positive
Critical Value:
Clinical Significance: Toxoplasmosis is a parasitic infection caused by the protozoan *Toxoplasma gondii*. Approximately 23% of the immunocompetent population are asymptomatic carriers of the parasite. High titers of IgG antibodies to *Toxoplasma gondii* can persist for years. Rising IgG titers after birth, in the absence of a placental leak, are consistent with neonatal infection. A positive result indicates infection with *Toxoplasma gondii* at some time. IgG-specific antibodies peak in concentration 1-2 months after infection and remain positive indefinitely. If more precise knowledge of the time of infection is necessary, an IgM assay should be performed. An equivocal result should be followed by repeat testing in 2-4 weeks to evaluate any rise in antibody level, if present. A negative result indicates no detectable antibody to *Toxoplasma gondii*. This individual is presumed to be uninfected with Toxoplasma gondii, and to be susceptible to primary infection. Individuals with HIV infection have variable titers of IgG to *Toxoplasma*.

TOXOPLASMA DNA PCR Q
Synonyms:
CHCS IEN: 2139
Test Code: 19725
Components:
Container (Preferred/Alternate): Sterile Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s):
Preferred: CSF
Alternate: Amniotic Fluid, Whole Blood or Plasma (EDTA Tube)
Volume: 1 mL CSF
Minimum volume: 0.3 mL
Instructions
Patient Preparation:
Collection: See applicable clinical procedure for specimen collection.
Specimen Processing: Tranport to lab immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 48 hours at room temperature; 7 days at 2-8 ºC; 30 days frozen.
Rejection Criteria: Frozen whole blood
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Real-Time Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Daily
TAT: Routine
Interpretive
Reference Range: <100 copies/mL
Critical Value:
Clinical Significance: *Toxoplasma gondii*, an obligate intracellular parasite, is an important opportunistic pathogen of immunosuppressed patients and pregnant women. Real-time PCR methods are useful in quantifying *T. gondii* in clinical specimens of immunosuppressed patients or in the amniotic fluid of mothers thought to be recently infected. The quantitative range of this assay is 100-1,000,000 copies/ml.

TRANSFUSION *See:* **TYPE AND CROSS** in this laboratory test information guide.

TRANSFERRIN
Synonyms:
CHCS IEN: 3253
Components:

Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 2 Red or Amber-Top Microtainer Tubes for pediatric draws.

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 1 mL serum

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gently invert tube to mix blood with additive immediately after drawing. Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Gross Hemolysis, Plasma

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **TRANSFERRIN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Monday thru Friday
TAT: Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	206	381			mg/dL

Critical Value:
Clinical Significance: Transferrin concentration reflects the total iron-binding capacity (TIBC) and is used as an indicator of iron metabolism.

TRANSFERRIN CARBOHYDRATE-DEFIECIENT (ALCOHOL USE) Q

Synonyms:
CHCS IEN: 6391
Test Code: 16985
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Must not contain fibrin after centrifugation.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 48 hours at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, gross lipemia, gross icteric

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Nephelometry
Order Method: CHCS order entry under: **CDT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat
TAT: Routine

Interpretive

Reference Range: CDT 28.1-76.0 mg/L; Transferrin 188-341 mg/dL; %CDT<2.5%
Critical Value:
Clinical Significance: Heavy alcohol use (defined as >4 or 5 beverages per day for two weeks or more) is commonly associated with elevated CDT levels as are certain liver diseases such as primary biliary cirrhosis and chronic active hepatitis and in some patients with genetic D variants of transferrin.

TRICHOMONAS (WET PREP)

See: **VAG WET PREP (MAMC)** in this laboratory test information guide.

TRIGLYCERIDE *Not orderable as a single test. See*: **LIPID PANEL (MAMC ONLY)** panel in this laboratory test information guide.
Synonyms:
CHCS IEN: 205
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tubes for pediatric draws; Sterile Container with Screw-Top Cap for Body Fluid
Specimen and Volume Required
Type(s):
Blood/Serum
Body Fluid
Volume: 5 mL
Minimum Volume: 0.5 mL for Body Fluid
Instructions
Patient Preparation: Fasting is required. Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw
Collection: Routine Venipuncture. Do not draw intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria*:* Gross Hemolysis, Plasma, Viscous Body Fluids
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **TRIGLYCERIDE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range: Normal: <150 mg/dL
Critical Value:
Clinical Significance: Serum triglyceride analysis has proven userful in the diagnosis and treatment of patients with diabetes mellitus, nephrosis, liver obstruction, other diseases involving lipid metabolism, and various endocrine disorders. In conjunction with high density lipoprotein and total serum cholesterol, a triglyceride determineation provides valuable information for the assessment of coronary heart disease risk.

TROPONIN I ASSAY
Order Note: TPN I is the preferred test to access AMI at MAMC. Order every 6 hours up to 3 times.
Synonyms: TPN I; TNI
CHCS IEN: 3846
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tubes for pediatric draws
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Do not draw intravenous infusion.
Specimen Processing: Allow tube to clot then centrifuge. Deliver to laboratory as soon as possible.
Special Instructions:
Transport/Storage Temperature: Deliver at Room Temperature immediately after drawing. Serum must be Refrigerated if testing is to be delayed.
Rejection Criteria*:* Gross Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **TROPONIN I ASSAY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive:
Less Than 0.034 ng/mL Apparently Healthy Individuals
0.034 – 0.119 ng/mL Gray Zone
0.120 ng/mL or greater Consistent with Acute MI

Increased cTnI concentrations may be found in conditions other than AMI that result in myocardial damage. These conditions include, but are not limited to, sepsis, congestive heart failure, hypertension with left ventricular hypertrophy, hemodynamic compromise, myocarditis, mechanical injury including cardiac surgery, defibrillation and cardiac toxins such as anthracyclines.

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	0	0.119			ng/dL

Critical Value:

Clinical Significance: Diagnosis of myocardial infarction. Troponin I is part of a protein complex wich regulates the contraction of striated muscle. In acute coronary syndromes (ACS), it can be detected in blood at 4-8 hours following the onset of chest pains, reaches a peak concentration at 12-16 hours, and remains elevated for 5-9 days. Troponin I has been used as a reliable marker in the diagnois of perioperative myocardial infarction in patients undergoing cardiac surgery. Interval serial testing of Troponin I is suggested in order to corroborate a single Troponin I result. An elevated Troponin alone is not sufficient to make the diagnosis of MI.

TRYPTASE TOTAL Q

Synonyms:

CHCS IEN: 6219

Test Code: 34484

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-cap Vial

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 1 mL Serum

Minimum volume: 0.2 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.

Special Instructions:

Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 48 hours at room temperature; 5 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Fluorenzyme Immunoassay

Order Method: CHCS order entry under: **TRYPTASE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up: Tues a.m.; Report available: 8 days

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Tryptase concentrations are increased with immediate hypersensitivity (anaphylaxis), acute allergen challenge, and mastocytosis.

TSH, SENSITIVE

Order Note: TSH results that are <0.5uIU/mL are automatically reflexed for a Free T4

Synonyms: Thyroid Stimulating Hormone

CHCS IEN: 110

Components:

Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 5 mL

Minimum Volume: 0.5 mL Serum

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Do not draw intravenous infusion.

Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing.

Special Instructions:

Transport Temperature: Room Temperature

Rejection Criteria: Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC /Beckman Coulter DxI Unicel 800

Order Method: CHCS order entry under: **TSH, SENSITIVE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hourss / 7 days a week
TAT: Routine
Other: TSH results that are <0.5uIU/mL are automatically reflexed for a Free T4

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	.34	5.6			uIU/mL

Critical Value:
Clinical Significance: Thyroid function test; investigation of low T4 results; a screening test for thyroid disease.

TSI (THYROID STIMULATING IMMUNOGLOBULIN)

Synonyms:
CHCS IEN: 3746
Test Code: 30551
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: Unacceptable at room temperature; 21 days at 2-8 ºC; 60 days frozen.

Rejection Criteria: Gross hemolysis, Gross lipemia, Sodium heparin (green-top) tube, Received room temperature, Grossly icteric.

Admin Notes

Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **THYROID STIM IMMUNOGLOBULINS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range: TSI<140 % baseline
Critical Value:
Clinical Significance: Thyroid Stimulating Immunoglobulins (TSI) can engage the TSH receptors resulting in hyperthyroidism in Graves' disease patients. TSI levels can be useful in monitoring the clinical outcome of Graves' disease as well as assessing the potential for hyperthyroidism from maternal-fetal transfer. TSI results ≥140% of the reference control are considered positive. A serum TSH level greater than 350 micro-International Units/mL can interfere with the TSI bioassay and potentially give false positive results.

TURKEY MEAT (F284) IGE

Synonyms:
CHCS IEN: 6076
Test Code: 2748
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature;

14 days at 2-8 ºC; 30 days frozen.

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/

Order Method: CHCS order entry under: **TURKEY MEAT IGE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

TYPE AND CROSS (MAMC ONLY) P Order This Test When Requesting: **RBCs, FFP, PLT Apheresis, Cryo** products.

When Requesting RHOGAM (RHIG), please see/order: **RHOGAM (MAMC ONLY)** in CHCS.

Order Note: This test is utilized for ordering the following products: RBC, FFP, PLT, Cryo. For Rhogam please order **RHOGAM (MAMC ONLY)** in CHCS

Synonyms: Type+Cross, Type/Cross, Crossmatch

CHCS IEN: 6514

Components:

ABO/RH Group - CHCS
Antibody Screen – CHCS
Crossmatched Units – CHCS
Blood Bank Comment - CHCS

Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 6 mL

Minimum volume:

Instructions

Patient Preparation: At patient's bedside: 1) patient must be positively identified by bracelet on wrist, 2) after patient verification and blood draw, label tube according to collection instructions, 3) sign form SF518 and have second staff member verify and initial the specimen tube, indicating you are drawing the specimen from the correct identified patient.

Collection: Routine venipuncture. Specimen must be labeled with a Typenex armband labeled with the patient's full name, FMP/Sponsor SSN, date of collection and phlebotomist's signature. Requires verifier's initials on specimen tube.

Specimen Processing:

Special Instructions:

Transport/Storage Temperature: Room Temperature

Rejection Criteria: Mislabeled specimen or SF 518's, grossly hemolyzed specimen, or specimen drawn in a serum separator tube.

Admin Notes

Test methodology:

Order method: Submit one SF 518 (Blood or Blood Component Transfusion) for each unit requested. On the SF 518 annotate: 1) date requested, 2) diagnosis, 3) requesting physician's name, 4) component requested, 5)signature of phlebotomist, 6) date and time verified, 7) anticipated time of need, 8) patient transfusion history. Must mark "T&C" in Section I, if a RBC Crossmatch is required. Remember that the verifier's signature is required on the specimen tube (not required on the SF 518). A SF 518 is not necessary for Rhogam requests.

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine and Notify, Routine

Other: For further information refer to MAMC Memorandum #40-46, Blood Transfusions and Transfusion Reations.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Compatible-donor cells are to be transfused to a patient. If antibody screen result is positive, an antibody identification will automatically be performed. Once a clinically significant antibody has been identified, the units to be crossmatched will be phenotyped. Full pretransfusion testing is performed. This includes ABO group, Rh type, antibody screen, and crossmatch. The crossmatch provides evidence of ABO compatibility. Units crossmatched will be held for up to 3 days if the patient is not being transused. If being transfused, blood will be held for no more than 2 days. No test can give 100% assurance that the donor RBC's will not be destroyed by antibodies in the patient's blood. Most deaths or harmful reactions caused by hemolytic transfusion reactions are due to the improper identity of the patient involving actual patient ID, the patient blood specimen request form, or donor RBC unit. These errors occur when collecting the patients blood for the crossmatch tests, when performing the crossmatch, or when starting the transfusion.

TYPE AND SCREEN (MAMC ONLY) P

Synonyms: Type+Screen; Type and Screen
CHCS IEN: 6461
Components:
ABO/RH GROUP - CHCS
Antibody Screen - CHCS
Container (Preferred/Alternate): Pink-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume:
Instructions
Patient Preparation: At patient's bedside: 1) patient must be positively identified by bracelet on wrist, 2) after patient verification and blood draw, label tube according to collection instructions, 3) sign form SF518 and have second staff member verify and initial the specimen tube, indicating you are drawing the specimen from the correct identified patient.
Collection: Routine venipuncture. Specimen must be labeled with a Typenex armband labeled with the patient's full name, FMP/Sponsor SSN, date of collection and phlebotomist's signature. Requires verifier's initials on specimen tube.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Mislabeled specimen or SF 518, grossly hemolyzed specimen, or specimen drawn in a serum separator tube.
Admin Notes
Testing Location/Methodology: Transfusion Service
Order method: Submit one SF 518 (Blood or Blood Component Transfusion) for each unit requested. On the SF 518 annotate: 1) date requested, 2) diagnosis, 3) requesting physician's name, 4) component requested, 5)signature of phlebotomist, 6) date and time verified, 7) anticipated time of need, 8) patient transfusion history. Must mark "T&C" in Section I, if a RBC Crossmatch is required. Remember that the verifier's signature is required on the specimen tube (not required on the SF 518). A SF 518 is not necessary for Rhogam requests.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: For further information refer to MAMC Memorandum #40-46, Blood Transfusions and Transfusion Reations.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: If antibody screen result is positive; antibody identification will automatically be performed. Once a clinically significant antibody has been identified the T&S will automatically be converted to a Type and Cross and units phenotyped. Used primarily for elective surgical procedures where the probability of transfusing blood is historically low. An ABO/Rh and antibody screen will be performed on the patient. The SF 518 patient specimen will be held in the Blood Bank for 72 hours. In the event blood is requested for the patient, a crossmatch can be performed.

UPPER RESPIRATORY AEROBIC CULT

Synonyms: Culture Upper Respiratory
CHCS IEN: 2381
Components:
Container (Preferred/Alternate): Culturette Swab or Aspirate
Specimen and Volume Required
Type(s):
Throat
Nose
Oral Cavity
Ear
Nasopharyngeal
Sinus
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of individual specimens.
Collection: Specimens may be submitted as Culturette swab or aspirate. Aspirates are submitted in syringe with needle remove before transporting to the laboratory.
Specimen Processing:
Special Instructions: If screening for agents of bioterrorism, please double bag the specimen and hand carry to Microbiology. Do not send to the laboratory through pneumatic tube or cart system.
Transport/Storage Temperature:
Rejection Criteria
Admin Notes

Testing Location/Methodology:
Order Method: CHCS order entry under: **UPPER RESPIRATORY AEROBIC CULT**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. For ear specimens, specify Left or Right and External or Internal source in CHCS Order Comment and on request form.
Availability:
TAT: Notify and Routine, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

UREA NITROGEN
Synonyms: BUN; Blood Urea Nitrogen
CHCS IEN: 174
Components:
Container (Preferred/Alternate): Sterile Container for Fluids; Gold-Top Tube (Clot Activator with Gel for Serum Separation); 1 Red, Green, or Amber-Top Microtainer Tube for pediatric draw.
Specimen and Volume Required
Type(s):
Blood/Serum
Synovial Fluid
Amniotic Fluid
Pericardial Fluid
Peritoneal Fluid
Pleural Fluid
Urine
Body Fluid/Other
Volume: 5 mL
Minimum Volume: 0.5 mL for fluids
Instructions
Patient Preparation: See appropriate clinical procedure for collection of individual specimens.
Collection: Routine Venipuncture. Do not draw intravenous infusion. See appropriate clinical procedure for collection of individual specimens. For Urine specimen collection see instructions found in the appendices of this guide.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria: Hemolysis, Viscous Body Fluid
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Virtros 5600
Order Method: CHCS order entry under: **UREA NITROGEN**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability**.** Specify source of specimen on request form and in CHCS order comment.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum/Plasma**
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/All	9	20	<3	>80	mg/dL
Female/All	7	17	<3	>80	

Critical Value: Serum/Plasma: < 3; > 80 mg/dL
Clinical Significance: Urea nitrogen reflects the ratio between urea production and clearance. Increased BUN may be due to increased or decreased excretion. Primarily used as a test for renal function. A BUN greater than 100 mg/dl has been used in the definition of uremia.

UREA NITROGEN, 24 HOUR URINE P
Synonyms: 24Hr Urea Nitrogen Urine, 24Hr Urine Urea Nitrogen
CHCS IEN: 2435
Components:
Total Volume
Urea Nitrogen
Urea Nitrogen, Urine 24 HR
Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: Submit total volume collected in 24 hours
Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.

Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.

Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.

Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.

Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600

Order Method: CHCS order entry under: **24 HOUR URINE UREA NITROGEN**;MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive

Reference Range: 12 – 20 g/TV

Critical Value:

Clinical Significance: About 80% of urinary nitrogen is in the form of urea which is the major end product of protein metabolism. Urea excreted in the urine is the primary Method of nitrogen elimination; therefore, this test provides an approximate evaluation of nitrogen balance. Conditions associated with increased urine urea nitrogen are hyperthyroidism, high protein diets and post-operative states. Decreased levels are associated with convalescence, liver disease, toxemia and advanced renal disease.

UREA NITROGEN, CONTINUED For additional UREA NITROGEN testing also see the following panels in this laboratory test information guide: **BMP(MAMC), CMP(MAMC)**, and **OB PANEL(MAMC ONLY)**

UREA SOLUBILITY FOR FACT XIII

Order Note: This test is a screening test that will only detect severe deficiency. An abnormal result should be confirmed with a quantitative assay. Please schedule this test with the Coagulation Section prior to ordering at 968-2716.

Synonyms: Factor XIII; Factor 13

CHCS IEN: 1940

Components:

Container (Preferred/Alternate): Two- Light Blue-Top Tubes (Sodium Citrate 3.2%)

Specimen and Volume Required

Type(s): Blood/Plasma

Volume: 4.5 mL x 2

Minimum Volume:

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Allow tubes to fill by vaccum, do not over or underfill tube. Submitted 2 blue-Top Tubes.

Specimen Processing: Gently invert tube 8 times to mix blood with additive immediately after drawing specimen in tube. If testing is to be delayed, separate plasma and quick freeze at -70 °C. Testing must be done of fresh plasma less than 2 hours old.

Special Instructions: Perform PT, PTT prior to freezing plasma.

Transport/Storate Temperature: If testing is to be delayed, separate plasma and quick freeze at -70 °C.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Coagulation Section, MAMC

Order Method: CHCS order entry under: **UREA SOLUBILITY FOR FACT XIII;** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability**.**

Availability: Scheduled though Coagulation Section.

TAT: ASAP, Routine

Other: Include brief clinical history with request form. Call Coagulation Section to schedule this test priot to ordering.

Interpretive

Reference Range:

Critical Value:

Clinical Significance: Low Factor XIII levels may cause a bleeding disorder and levels <2% have been associated with spontaneous intracranial hemorrhage.

UREASE SLIDE TEST (MAMC)
Synonyms: HPFAST; CLOTEST
CHCS IEN: 3952
Components:
Container (Preferred/Alternate): HPFAST Slide (plus Two (2) additional uninoculated slides for quality control purposes)
Specimen and Volume Required
Type(s): Biopsied Tissue
Volume: Place small gastric biopsy specimen directly onto the test slide.
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedure for collection of specimen.
Collection: Place small gastric biopsy specimen directly onto the test slide. See appropriate clinical procedure for collection of specimens. Label slide with patient's name and time of specimen insertion.
Specimen Processing: Two (2) additional uninoculated slides must accompany the specimen to allow for quality control purposes Indicate exact time specimen is placed on test card**.** Critical- Deliver to laboratory immediately!
Special Instructions: First required reading of test card is 15 minutes after collection. If sending from outside MAMC, coordinate transporation before procedure to ensure immediate transport to laboratory.
Transport/Storage Temperature: Room Temperature.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **UREASE SLIDE TEST (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Test kit detects the Urease enzyme for the presumptive identification of Helicobacter Pylori in gastric mucosal. A slightly positive reaction at 24 hours should be interpreted with caution at it probably indicates a negative test. For definitive diagnosis of H. Pylori, histological examination with a suitable stain is required.

URIC ACID*
Synonyms:
CHCS IEN: 182
Components:
Container (Preferred/Alternate):
MAMC Preferred: Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation); 1 Red or Amber-Top Microtainer Tube for pediatric draws. Sterile Container with Screw-Top Lid for Urine
Specimen and Volume Required:
Type(s):
Blood/Serum
Blood/Plasma
Urine, Random
Urine, 24 Hour
Volume: 5 mL
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: Routine Venipuncture. Do not draw above intravenous infusion. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing: Gently invert tube 5 times to mix blood with additive. Spin to separate Serum from cells. Refrigerate
Special Instructions: Keep 24 hour urine containers in the refrigerator or on ice during the collection period. Do Not Freeze the specimen. The specimen should be submitted in the container originally provided. Record date and time that collection was started and finished on the container tag/label.
Transport/Storage Temperature: Store Serum at 2-8 °C. Refrigerate Urine at 2-8 °C. Transport 24 hour urines refrigerated.
Rejection Criteria: Gross Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **URIC ACID*** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/All	3.5	8.5		>13	mg/dL
Female/All	2.5	6.2			mg/dL

Critical Value: > 13 mg/dL

Clinical Significance: Uric acid may be increased with body size, exercise and stress. An increased uric acid level does not necessarily translate to a diagnosis of gout; about 10 to 15 percent of instances of hyperuricemia are caused by gout. Elevations of uric acid occur in renal diseases with renal failure and prerenal azotemia as well as gout. Drugs causing increased uric acid concentration include diuretics, pyrazinamide, thambutol, nicotinic acid, and aspirin in low doses. Low uric acid levels can be seen in two-thirds of Ramsdell's and Kelly's series of hypouricemia patients, drugs apparently bearing a relationship to low serum uric acid levels including high doses of aspirin, X-ray contrast agent and massive doses of vitamin C.

URIC ACID, 24 HOUR URINE P

Synonyms: 24HR Uric Acid Urine

CHCS IEN: 2434

Components:

Total Volume
Uric Acid
Uric Acid, Urine 24HR

Container (Preferred/Alternate): 24 hour urine container(s) with lid, No preservative

Specimen and Volume Required

Type(s): Urine/24 hour

Volume: Submit total volume collected in 24 hours

Minimum volume:

Instructions

Patient Preparation: Unless the physician indicates otherwise, instruct patient to maintain the usual amount of liquid intake, but to avoid alcoholic beverages.

Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label.

Specimen Processing: Laboratory: Measure and record the total volume of urine. Aliquote to plastic screw cap container.

Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.

Transport/Storage Temperature: Patient: Keep specimen container in the refrigerator or on ice during the collection period. DO NOT FREEZE! Specimen container should be transported to the laboratory on ice. Store refrigerated at 2-8 °C

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Chemistry Section/Vitros 5600

Order Method: CHCS order entry under: **24 HOUR URINE URIC ACID**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: ASAP, Routine

Interpretive

Reference Range: 250 – 750 mg/TV

Critical Value:

Clinical Significance: Urine uric acid may supplement serum uric acid testing when trying to identify conditions in which there is alteration of uric acid production or excretion, e.g., gout, leukemia, renal disease. The amount of uric acid excreted may be useful in treating asymptomatic hperuricemia. Measurement of urine uric acid is important in the investigation of urolithiasis.

URIC ACID CRYSTALS *See:* **URINALYSIS (MAMC)** and **URINALYSIS, DIABETES** panels in this laboratory test information guide.

URIC ACID, CONTINUED For additional URIC ACID testing also see the following panel in this laboratory test information guide: **OB PANEL(MAMC).**

URINALYSIS (MAMC,BREM,PSNS,EV) P

Synonyms: *UA*
CHCS IEN: 2395
Components:
Urine-Macro Panel-
Color-Urine
Clarity-Urine
Specific Gravity-Urine
pH-Urine
Protein-Urine
Glucose-Urine
Ketones-Urine
Bilirubin-Urine
Nitrite-Urine
Urobilinogen-Urine
Blood-Urine
Leukocyte Esterase-Urine
Urine-Micro Panel-
RBC/HPF
WBC/HPF
Yeast
Casts (Specific)
Squamous Epithelial Cells
Transitional Epithelial Cells
Renal Epithelial Cells
Mucus-Urine
Crystals (Specific)
Trichomonas Vaginalis
Bacteria-Urine
Epithelial Cells
Container (Preferred/Alternate): Sterile Container for specimens to be cultured; Clean urine collection cup with Screw-Top Cap specimens that are not to be cultured.
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Clean Catch
Volume: 10 mL
Minimum Volume: 10 mL
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of specimen.
Collection: First morning void, clean catch urine is preferred. Random specimens are acceptable. If clean catch midstream procedure is required, males should clean head of penis with soap and rinse. If not circumcised, pull the foreskin back and urinate into toilet. Catch midstream urine in specimen cup. Females should clean labia from front to back with soap. Urinate into toilet and catch urine in midstream in the specimen cup. See Nursing procedure for "catheterized" urine. See Urine collection instruction in the appendices of this guide.
Specimen Processing:
Special Instructions: If unable to bring to laboratory within 1 hour after collection, store refrigerated for no longer than 2 hours before bringing to laboratory
Transport/Storage Temperature: Store refrigerated 2-8 °C.
Rejection Criteria: Specimen older than 2 hours; sample volume quantity not sufficient; improperly labeled or unlabeled specimen.
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC / Iris iQ Elite 200
Order Method: CHCS order entry under: **URINALYSIS (MAMC,BREM,PSNS,EV)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate on slip if specimen is a "clean catch" or "catheterized" urine.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Screen for abnormalities of urine; diagnosis and management of renal diseases, urinary tract infection, urinary tract neoplasm, systemic diseases, and inflammatory or neoplastic diseases adjacent to the urinary tract.

URINALYSIS, DIABETES *P*
Order Note: A microalbumin will be automatically ordered when the protein is negative.
Synonyms: Diabetes UA

CHCS IEN: 4827
Components:
Urine-Macro Diabetes Panel-
Color-Urine
Clarity-Urine
Specific Gravity-Urine
pH-Urine
Protein-Urine (Diab)
Glucose-Urine
Ketones-Urine
Bilirubin-Urine
Nitrite-Urine
Urobilinogen-Urine
Blood-Urine
Leukocyte Esterase-Urine
Urine-Micro Panel- See CHCS for complete list.
RBC/HPF
WBC/HPF
Yeast
Casts (Specific)
Squamous Epithelial Cells
Transitional Epithelial Cells
Renal Epithelial Cells
Mucus-Urine
Crystals (Specific)
Trichomonas Vaginalis
Bacteria-Urine
Epithelial Cells
Container (Preferred/Alternate): Sterile Container for specimens to be cultured; Clean urine collection cup with Screw-Top cap for specimens that are not to be cultured.
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Clean Catch
Volume: 10 mL
Minimum Volume: 10 mL
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of specimen.
Collection: First morning void, clean catch urine is preferred. Random specimens are acceptable. If clean catch midstream procedure is required, males should clean head of penis with soap and rinse. If not circumcised, pull the foreskin back and urinate into toilet. Catch midstream urine in specimen cup. Females should clean labia from front to back with soap. Urinate into toilet and catch urine in midstream in the specimen cup. See Nursing procedure for "catheterized" urine. See Urine collection instruction in the appendices of this guide.
Specimen Processing:
Special Instructions: If unable to bring to laboratory within 1 hour after collection, store refrigerated for no longer than 2 hours before bringing to laboratory
Transport/Storage Temperature: Store refrigerated 2-8 °C.
Rejection Criteria: Specimen older than 2 hours; sample volume quantity not sufficient; improperly labeled or unlabeled specimen.
Admin Notes
Testing Location/Methodology: Hematology/UA Section, MAMC / Iris iQ Elite 200
Order Method: CHCS order entry under: **URINALYSIS, DIABETES**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate on slip if specimen is a "clean catch" or "catheterized" urine.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Dipstick urinalysis is important in accessing the chemical constiuents in the urine and the relationship to various disease states. Microscopic examination helps to detect the presence of cells and other formed elements.

URINE CULTURE
Synonyms: UA Culture; Urine C&S
CHCS IEN: 1403
Components:

Container (Preferred/Alternate): Sterile Container with Screw-Top Lid/Cap
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Clean Catch
Urine, Catheterized
Urine, Bladder Tap
Volume: 5 mL
Minimum Volume: 1 - 2 mL
Instructions
Patient Preparation:. Fluids are forced prior to collection to distend the bladder. Six to ten hours are required for the bladder to fill.
Collection: An early morning specimen yields the highest bacterial counts from overnight incubation in the bladder. Forced fluids for CCMS dilute the urine and may cause reduced colony counts. Avoid normal skin flora contamination. Clean catch midstream procedure is required, males should clean head of penis with soap and rinse. If not circumcised, pull the foreskin back and urinate into toilet. Catch midstream urine in specimen cup. Females should clean labia from front to back with soap. Urinate into toilet and catch urine in midstream in the specimen cup.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Refrigerate the specimen up to 24 hours, if delivery to the laboratory is delayed more than 30 minutes after collection. Refrigeration of specimens only slow the rate of growth, it does not inhibit the growth.
Rejection Criteria: Unrefrigerated specimen older than 30 minutes may be subject to overgrowth and may not yield valid results; improperly labeled specimen.
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **URINE CULTURE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate if specimen is catheterized, clean catch or suprapubic puncture on laboratory request form.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine: 2-3 days
Interpretive
Reference Range: No aerobic growth.
Critical Value:
Clinical Significance: To isolate and identify potentially pathogenic organisms causing tract infection

URINE FOR EOSINOPHILS
Synonyms: UA EOS
CHCS IEN: 2163
Components:
Container (Preferred/Alternate): Sterile Container for specimens to be cultured; Clean urine collection with Screw-Top cap for specimens that are not to be cultured.
Specimen and Volume Required
Type(s):
Urine, Random
Urine, Clean Catch
Volume: 10 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of specimen.
Collection: First morning void, clean catch urine is preferred. Random specimens are acceptable. If clean catch midstream procedure is required, males should clean head of penis with soap and rinse. If not circumcised, pull the foreskin back and urinate into toilet. Catch midstream urine in specimen cup. Females should clean labia from front to back with soap. Urinate into toilet and catch urine in midstream in the specimen cup. See Nursing procedure for "catheterized" urine. See Urine collection instruction in the appendices of this guide.
Specimen Processing:
Special Instructions: If unable to bring to laboratory within 1 hour after collection, store refrigerated for no longer than 2 hours before bringing to laboratory
Transport/Storage Temperature: Store refrigerated 2-8 °C.
Rejection Criteria: Specimen older than 2 hours; sample volume quantity not sufficient; improperly labeled or unlabeled specimen.
Admin Notes
Testing Location/Methodology: Hematology Section, MAMC
Order Method: CHCS order entry under: **URINE FOR EOSINOPHILS**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability. Indicate on slip if specimen is a "clean catch" or "catheterized" urine.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance:

URINE HCG
Synonyms:
CHCS IEN: 2215
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Urine, Random
Volume: 10 mL
Minimum Volume: 5 mL
Instructions
Patient Preparation: Provide collection materials and instructions to patient for proper collection of specimen.
Collection: Descrepant results may be seen with random urine samples. Serum samples provide more realiable results.
Specimen Processing: Refrigerate specimen 2-8 °C. if delivery to laboratory is to be delayed more than 1 hour.
Special Instructions:
Transport/Storage Temperature: Deliver to laboratory at Room Temperature. Store Refrigerated at 2-8 °C if testing to be delayed more than 1 hour.
Rejection Criteria: Urine specimen grossly contaminated with blood or bacteria; improperly labeled specimen.
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter Icon 25 Kit
Order Method: CHCS order entry under: **URINE HCG** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Other: Very dilute urine samples ar indicated by a low specific gravity may not contain representative levels of HCG. If pregnancy is still suspected, a first morning urine sample or preferred serum sample should be collected and retested.
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Diagnosis of pregnancy, screen for women at risk of being pregnant prior to x-ray, sterilization, menstrual regulation and curettage procedures.

URINE LATEX AGGLUTINATION P
Synonyms: Directogen; Bacterial Antigen Latex Urine
CHCS IEN: 1995
Components:
N.Meningitidis GP A,C,W135,Y
Strep GP B Antigen
Strep Pneumoniae Antigen
Haemophilus Influenzae Antigen
Container (Preferred/Alternate): Sterile Container with Screw-Top Lid
Specimen and Volume Required
Type(s):
Urine,Catheterized
Urine, Bladder Tap
Urine, Clean Catch
Volume: 1.5 mL. Specimens of 5.0 mL or greater can be concentrated by the lab before testing, increasing the sensitivity of the assay 20 times.
Minimum Volume: 1 mL
Instructions
Patient Preparation: For clean catch urine collections, provide the patient with materials and instructions for a proper clean catch specimen. See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: If collecting bladder tap, submit either the aspiration syringe with needle removed or inject into a sterile container. See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing: Transport to laboratory promptly. Specimens of 5.0 mL or greater can be concentrated by the lab before testing, increasing the sensitivity of the assay 20 times.
Special Instructions:
Transport/Storage Temperature: Maintain specimen at Room Temperature.

Rejection Criteria
Admin Notes
Testing Location/Methodology: Microbiology Section, MAMC /
Order Method: CHCS order entry under: **URINE LATEX AGGLUTINATION** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: ASAP, Routine: 4 to 24 hours. Test not offered as STAT due to time required to concentrate specimen.
Other: This panel is similar to CSF panel except that N.meningitidis Group B and E. coli antigen latex test are not licensed for use on urine specimens and therefore are not included due to crossreaction with normal fecal flora.
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

URINE LYTES (MAMC)
Order Note: Urine chloride (Cl-) testing is not available at MAMC.
Synonyms: Urine Electrolytes
CHCS IEN: 6139
Components:
Sodium
Potassium
Container (Preferred/Alternate): Urine Container with Screw-Top Lid
Specimen and Volume Required
Type(s): Urine, Random
Volume: 10 mL
Minimum Volume: 1 mL
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Collection: Collect random urine specimen. See appropriate clinical procedures for procedure being performed. See instructions for Urine Collection in the appendices of this manual.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **URINE LYTES (MAMC)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

UROBILINOGEN-URINE *See:* **URINALYSIS (MAMC)** and **URINALYSIS, DIABETES** in this laboratory test information guide.

URORISK® DIAGNOSTIC PROFILE Q P

Synonyms:
CHCS IEN: 6111
Test Code: 15565
Components: Calcium, Oxalate, Uric Acid, Citrate, pH, Sodium, Phosphorus, Magnesium, Potassium, Creatinine, Calcium Oxalate, Brushite, Sodium Urate, Uric Acid, Sulfate, Total Volume
Container (Preferred/Alternate): 24-hour Urine Collection Kit specific for renal stone formation diagnosis.
Specimen and Volume Required
Type(s): Urine/24 Hour
Volume: 60 mL plain urine **and** 60 mL acid urine
Minimum Volume: 30 mL plain urine and 30 mL acid urine
Instructions
Patient Preparation:
Collection:. Use only Quest Diagnostics 24-hour Urine Collection Kits specific for renal stone formation diagnosis. Follow instructions in the kit.. For high urine output: Patient with a high urine output (>3.8 L) will require more than one large container. Collect urine in the first container until it is 3/4 full and then begin filling the second container to complete the 24-hour collection. Carefully follow the specimen processing steps 1-3 for each jug. Do not remove sponge from the orange collection container. Do not remove wool from the white container.
Do not collect the first urination at the beginning of 24-hour collection. During the collection process store large orange container in a cool location.
Specimen Processing: 1) Upon completion of 24-hour collection in the large orange collection container, tighten the cap on the container and mix contents in the container vigorously for one minute. A good mix will ensure accurate test results.
2) Carefully fill the two plastic white vials with urine collected in the large orange container. The two white vials must be filled within two to four hours of completion of 24-hour collection. Fill and cap vials one at a time. Cap both vials tightly, write patient's name on each vial and place in zip-lock bags provided (do not remove absorbent sheets).
3) Complete the patient information section.
Special Instructions: DO NOT MAIL LARGE ORANGE COLLECTION CONTAINER
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen Stability: 10 days at room temperature, 10 days refrigerated at 2-8 c, Unacceptable Frozen.
Rejection Criteria: Received frozen, Orange jug
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Inductively Coupled Plasma Optical, Emission Spectrophotometr, Ion Chromatography, Spectrophotometry (SP), Calculation
Order Method: CHCS order entry under: **URORISK**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: UroRisk ® Diagnostic profile is recommended for initial and recurrent stone formers (excluding patients with Struvite stones) and for monitoring patient progress and compliance to therapy.

VAG WET PREP (MAMC+NHOH) P

Order Note: This test also includes a Gram Stain report. This MAMC test is not for use with "provider performed microscopy" that is available within the clinic. McChord Clinic please see: **KOH/WET PREP (MCCHORD ONLY)** in this laboratory test information guide and in CHCS when ordering.
Synonyms: Wet Prep; Wet Mount
CHCS IEN: 4454
Components:
Squamous Epithelial (Wet Prep)
WBC (Wet Prep)
RBC (Wet Prep)
Yeast (Wet Prep)
Clue Cells (Wet Prep)
Trichomonas (Wet Prep)
Other (Wet Prep)
Interpretation, Vag Wet Prep + GS
Container (Preferred/Alternate): Steile Container
Specimen and Volume Required
Type(s): Vaginal Secretions
Volume:
Minimum Volume:
Instructions
Patient Preparation: See appropriate clinical procedures for procedure being performed

Collection: See appropriate clinical procedures for procedure being performed
Specimen Processing: Specimens must be received in Microbiology Section within 2 hours of collection. Specimens over 2 hours old will be rejected.
Special Instructions:
Transport/Storage Temperature: Maintain at Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under: **VAG WET PREP (MAMC+NHOH)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range: No clue cells. No Trichomonas species seen
Critical Value:
Clinical Significance: Used to establish the presence of fungal elements, Trichomonas and/or clue cells of Garderella vaginalis & WBCs. One negative result does not rule out the possibility of Trichomonas vaginalis infection. The wet prep is negative in 30-50 % of women with Trichomoniasis. A vaginal pH above 5 is suggestive of Trichomonas.

VALPROATE

Synonyms: Sodium Valproate; Valproic Acid; Depakote; Epilim
CHCS IEN: 665
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: None
Collection: Routine Venipuncture. Do not draw above intravenous infusion. Steady state is reached after 2 to 3 days.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:.
Transport/Storage Temperature: Room Temperature

Rejection Criteria: Serum Separator Tube with gel, Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **VALPROATE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range: Minimal: 50 µg/mL; Therapeutic: 50 – 120 µg/mL; Possible Toxic: > 100 µg/mL; Serious Toxic: > 200 µg/mL
Critical Value: > 150 µg/mL
Clinical Significance: Valproic acid is used as an anticonvulsant to treat certain types of seizures, to prevent migranine headaches, and to treat various psychiatric illnesses such as bipolar disorder and aggression. Drugs that compete for protein-binding sites with Valproic Acid, can increase the concentration of Valproic Acid. Therapeutic drug monitoring is useful to optimize dose. Measurement of the free concentration is useful if toxicity is suspected. Therapeutic valproic acid concentrations vary significantly depending on the individual patient. 50 to 100 µg/mL may indicate effective serum concentration for many patients; however, some individuals are best treated at concentrations outside this range. The physician must determinee the appropriate therapeutic range for each patient.

VALPROIC ACID, FREE Q

Synonyms:
CHCS IEN: 2139
Test Code: 3314
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel); Plastic Screw-cap Vial

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 3 mL Serum
Minimum volume: 1 mL

Instructions

Patient Preparation: Collect as Trough just before next dose. Avoid contact with plasticizers, varnishes, paint fumes, and fatty acids.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C. Specimen stability: 48 hours at room temperature; 7 days at 2-8 ºC; 30 days frozen.

Rejection Criteria: Serum separator tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Fluorescence Polarization Immunoassay (FPIA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Valproic acid is a broad spectrum anticonvulsant for the treatment of absence seizures. It is effective in the management of generalized tonic-econic and myoconic seizures, as well as grand mal and petit mal.

VANADIUM, BLOOD Q

Synonyms:
CHCS IEN: 2139
Test Code: 1023
Components:
Container (Preferred/Alternate): Royal Blue-Top Tube (EDTA) Trace Metal Free.

Specimen and Volume Required

Type(s): Bood/Whole
Volume: 1 mL
Minimum Volume: 0.5 mL

Instructions

Patient Preparation:
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at Room Temperature. Specimen Stability: 14 days at room temperature, refrigerated and frozen.

Rejection Criteria: Clotted blood specimens, Sodium heparin (green-top) tube, Lithium heparin (light green-top) tube, Trace metal-free sodium heparin (royal blue-top) tube, Sodium heparin (tan-top) glass tube

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Graphite Furnace Atomic Absorption Spectroscopy (GFAAS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

VANCOMYCIN , PEAK

Synonyms:
CHCS IEN: 1665
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator); 1 Pink-Top Microtainer Tube for pediatric draws.

Specimen and Volume Required

Type(s): Bood/Serum
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine Venipuncture. Collect sample 1.5 to 2.5 hours after completion of 60-minute IV infusion.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: SST, Hemolysis

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **VANCOMYCIN , PEAK**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	30	40	0	40.1	µg/mL

Critical Value: > 40 µg/mL
Clinical Significance: Vancomycin is an antibiotic used in the treatment of serious bacterial infections, especially methicillin-resistant staphylococci. Vancomycin is also used in treatment for penicillin-allergic patients who cannot receive or have failed to respond to other drugs, including the penicillins and/or cephalosporins and for other infections caused by vancomycin-susceptible organisms.

VANCOMYCIN, RANDOM

Synonyms:
CHCS IEN: 2377
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator)

Specimen and Volume Required

Type(s): Bood/Serum
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion.
Collection: Routine Venipuncture.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: SST

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **VANCOMYCIN, RANDOM**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	5	40		40	µg/mL

Critical Value:
Clinical Significance: Vancomycin is an antibiotic used in the treatment of serious bacterial infections, especially methicillin-resistant staphylococci. Vancomycin is also used in treatment for penicillin-allergic patients who cannot receive or have failed to respond to other drugs, including the penicillins and/or cephalosporins and for other infections caused by vancomycin-susceptible organisms.

VANCOMYCIN, TROUGH

Synonyms:
CHCS IEN: 385
Components:
Container (Preferred/Alternate): Red-Top Tube (Clot Activator)

Specimen and Volume Required

Type(s): Bood/Serum
Volume: 6 mL
Minimum Volume:

Instructions

Patient Preparation: Do not draw above intravenous infusion.

Collection: Routine Venipuncture. IV Trough: Draw immediately prior to dose.
Specimen Processing: Gently invert tube 5 time to mix blood with additive immediately after drawing.
Special Instructions:
Transport/Storage Temperature: Room Temperature

Rejection Criteria: SST

Admin Notes

Testing Location/Methodology: Chemistry Section, MAMC / Vitros 5600
Order Method: CHCS order entry under: **VANCOMYCIN, TROUGH**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine

Interpretive **Serum**

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
All / All	5	10		10	µg/mL

Critical Value: > 10 µg/mL
Clinical Significance: Vancomycin is an antibiotic used in the treatment of serious bacterial infections, especially methicillin-resistant staphylococci. Vancomycin is also used in treatment for penicillin-allergic patients who cannot receive or have failed to respond to other drugs, including the penicillins and/or cephalosporins and for other infections caused by vancomycin-susceptible organisms.

VAP CHOLESTEROL TEST Q P

Synonyms:
CHCS IEN: 6368
Test Code: 10270
Components: Total Cholesterol, Direct LDL Cholesterol, HDL Cholesterol, and direct measured Triglycerides, 21 Lipid Subfractions, Lp(a), IDL-C and LDL pattern size, non-HDL cholesterol components: LDL, IDL, Lp(a), and VLDL
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL Serum
Minimum volume: 1.5 mL

Instructions

Patient Preparation: Although 10-12 hour fast (no alcohol for 24 hours) is required for the most accurate triglyceride measurement, all other values of the VAP test are directly measured and fasting does not affect their outcome.
Collection: Routine venipuncture procedures. Allow specimen to clot in an upright position for a minimum of 30 minutes...
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Samples should be centrifuged within 1 hour or kept refrigerated and centrifuged within 3 hours. Refrigerate serum until shipment.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated or frozen. Specimen stability: Unacceptable at Room Temperature; ≤ 7 days Refrigerated at 2-8 ºC; <28 days Frozen at -20 C, < 1 year Frozen at -70 ºC.

Rejection Criteria: Gross hemolysis, Specimen that is warm to the touch upon receipt, Shipment does not contain a pre-frozen cold pack, Whole blood, EDTA plasma, Specimen not labeled

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Density Gradient Ultracentrifugation with Spectrophotometry
Order Method: CHCS order entry under: **CHOLESTEROL VAP**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

VARICELLA VIRUS IGG

Synonyms: Varicella Zoster IGG, VZT, VZV
CHCS IEN: 3388
Components:
Container (Preferred/Alternate): Gold-Top /SST Tube (Clot Activator and Gel Separator)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 2 mL Serum

Instructions

Patient Preparation: None.
Collection: Routine Venipuncture. Do not draw above intravenous infusion.
Specimen Processing: Gentlyl invert tube 5 times to mix blood with additive***.*** Spin to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Store at 4° C .
Stability: 8 hours Room Temperature, 48 hours Refrigerated at 2-8° C, 48 hours at 20° C.

Rejection Criteria: Gross Hemolysis, Icteric or grossly contaminated. Heat-inactivated samples.

Admin Notes

Testing Location/Methodology: Microbiology Section, MAMC
Order Method: CHCS order entry under**: VARICELLA VIRUS IGG,** MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: STAT, ASAP, Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Positive for Varicella Virus IgG is presumed immune to Varicella. Negative for Varicella Virus IgG is presumed non-immune to Varicella.

VARICELLA ZOSTER, PCR

Synonyms: Varicella Zoster by PCR; Varicella Zoster; Chickenpox Virus PCR; Shingles Virus PCR
CHCS IEN: 4768
Components:
Container (Preferred/Alternate): See Chart Below

Specimen and Volume Required

Type(s):
Blood/Plasma
CSF
Pleural Fluid
Bronchial Alveolar Lavage
Body Fluid/Other
Volume:
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for procedure being performed
Collection: See appropriate clinical procedures for procedure being performed
Specimen Processing: Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.
Special Instructions:
Transport/Storate Temperature: Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.

Rejection Criteria

Admin Notes

Testing Location/Methodology: Molecular Diagnostics Section, MAMC / PCR
Order Method: CHCS order entry under: **VZV PCR.** Indicate specimen site and source on request form and in CHCS order comment. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Schedule with Molecular Diagnostics at (253) 968-1743 or 1724.
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Varicella-Zoster Virus (VZV) is a DNA virus of the herpes group which causes chicken pox (varicella) and shingles (zoster). Varicella is the outcome of primary infection while zoster is a result of the reactivation of latent virus. Varicella is characterized by an incubation period of 14-15 days with fever and malaise progressing to the apprearance of macules wich progress to papules and then to visicles. Zoster is characterized by an inflammatory reaction of the posterior nerve root and ganglia accompanied by vesicles over the areas supplied by the sensory nerves.

Blood/Plasma	***Order Note:*** Order only for suspected Chickenpox ***Container:*** Lavendar-Top Tube (K_2EDTA) ***Volume:*** 6 mL ***Minimum Volume:*** 1 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** Routine Venipuncture.

	Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood. Transport at ambient temperature promptly after specimen collection. If transport to be delayed for more than 1 hour, separate the plasma within 1 hour after collection, by centrifuging at 1500 x g for 10 minutes and transferring the plasma to a new labeled tube. Refrigerate the plasma at 4-8 °C if DNA isolation is within 3 days of collection. Freeze plasma at less than or equal to -18 °C if DNA isolation is to be delayed for more than three days. ***Rejection Criteria:*** Heparinized blood (Green-top tube) is NOT acceptable
Body Fluid/Other	***Container:*** Viral Transport Media ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing: :*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.
Bronchial Alveolar Lavage	***Container:*** Viral Transport Media ***Volume:*** 0.5 mL to 1.0 mL of sample ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.
CSF	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.
Pleural Fluid	***Container:*** Sterile Container with Screw-Top Cap ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.
Swab Samples	***Container***: Swab in Viral Transport Media ***Volume:*** 0.5 mL ***Patient Preparation:*** See appropriate clinical procedures for procedure being performed. ***Collection:*** See appropriate clinical procedures for procedure being performed. ***Specimen Processing:*** Transport at ambient temperature promptly after specimen collection. Samples that will take more than one hour to transport should be submitted in a refrigerated condition. Freeze at less than or equal to -18 °C if DNA isolation is to be delayed for more than 3 days.

VARICELLA-ZOSTER VIRUS, RAPID METHOD CULTURE Q

Synonyms:
CHCS IEN: 2139
Test Code: 2691
Components:
Container (Preferred/Alternate): Swab Submitted in V-C-M Medium (green-cap) Tube or equivalent
Specimen and Volume Required

Type(s):
Vesicle lesion swab
CSF (in Plastic Screw-Cap Vial)
Throat
Eye
Tissue
Body Fluids
Volume: 0.3 mL
Minimum Volume:

Instructions

Patient Preparation: See appropriate clinical procedures for collection
Collection: Use Dacron ® or rayon-tipped plastic or metal shaft swabs for specimen collection. Do not use wooden shaft or calcium alginate swabs as they may inhibit recovery of viruses and *Chlamydia*.
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Store refrigerated at 2-8 °C. Specimen Stability: Specimens in V-C-M: Unacceptable at Room temperature; 72 hours Refrigerated; Unacceptable Frozen at -20° C; 30 days Frozen at -70° C. CSF (sterile screw-cap container): Unacceptable at Room temperature; 72 hours Refrigerated; Unacceptable Frozen.

Rejection Criteria: Received room temperature, Dry swabs, Formalin or other fixatives, Gel-based transport systems, Nucleic acid transport systems.

Admin Notes

Testing Location/Methodology: Quest Diagnostics / Centrifugation Enhanced Culture with Immunofluorescence
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sun p.m.
TAT: Routine
Other:

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Varicella-Zoster Virus (VZV) is a member of the herpes virus group that causes varicella (chicken pox) and zoster (shingles). Varicella is the primary infection while zoster is caused by reactivation of the latent virus. HSV and VZV infection may be difficult to distinguish clinically. VZV can be recovered from vesicle fluid usually during the first three days of rash. The incubation period of VZV is 14-15 days and clinical signs of varicella include fever and malaise followed by a rash rapidly progressing to macules to papules to vesicles to crusts over the trunk, neck, face, arms and legs. Zoster is characteriz-ed by an inflammatory reaction of the posterior nerve root and ganglia accompanied by crops of vesicles over the skin.

VDRL CSF

Synonyms:
CHCS IEN: 2416
Components:
Container (Preferred/Alternate): Sterile Container with Screw-Top Cap

Specimen and Volume Required

Type(s): CSF
Volume: 2 mL
Minimum Volume: 0.5 mL

Instructions

Patient Preparation: See appropriate clinical procedures for collection of a CSF specimen.
Collection: See appropriate clinical procedures for CSF specimen collection.
Specimen Processing: Refrigerate specimen if transport/testing is to be delayed
Special Instructions:
Transport/Storage Temperature: Store refrigerated at 2-8 °C.

Rejection Criteria: Hemolysis, Visibly contaminated

Admin Notes

Testing Location/Methodology: Serology Section, MAMC / Agglutination
Order Method: CHCS order entry under: **VDRL CSF**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine: up to 7 days
Other: This test is the only CDC approved test for neurosyphilis***.***

Interpretive

Reference Range:
Critical Value:
Clinical Significance: Positive results are suggestive of neurosyphilis.

VENEREAL DISEASE RESEARCH LABORATORY *See:* **VDRL CSF** in this laboratory test information guide

VERIFY NOW P2Y12 INHIBITION *See:* **P2Y12 PANEL** in this laboratory test information guide

VIRAL CULTURE BODYFLD/TISSUE Q *See:* **CULTURE, VIRAL, BODY FLUIDS, TISSUES** in this guide

VISCOSITY, SERUM Q
Order Note:
Synonyms:
CHCS IEN: 2858
Test Code: 918
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 6 months frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Kinematic Viscometer
Order Method: CHCS order entry under: **VISCOSITY**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues-Fri a.m.; Report available: 5 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: High serum viscosity may be most commonly observed in patients with Waldenström's macroglobulinemia and multiple myeloma. Patients with high viscosity may have capillary occlusion, stasis hypoxia, and acidosis.

VITAMIN A (RETINOL) Q
Synonyms:
CHCS IEN: 2023
Test Code: 921
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Amber Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.7 mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures. Protect sample from light with aluminum foil.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately. Use Amber Screw-Cap vial to protect from light.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 24 hours at room temperature; 7 days at 2-8 ºC; 1 year frozen.
Rejection Criteria: Received room temperature, Received refrigerated but not protected from light
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **VITAMIN A**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri p.m.; Report available: 6 days (Wed-Sun a.m.)
TAT: Routine
Interpretive
Reference Range: 1-6 Years20-43 µg/dL ; 7-12 Years26-49 µg/dL ; 13-19 Years 26-72 µg/dL; Adults38-98 µg/dL
Critical Value:

Clinical Significance: Vitamin A is critical for vision, growth, and many cell functions. High concentrations of vitamin A are seen with renal failure, but this is not associated with toxicity, and excessive ingestion. High concentrations are associated with bone fractures. Low concentrations of vitamin A are consistent with fat malabsorption and rarely due to inadequate diet. Vitamin A, vitamin E, and carotene are always extracted and detected simultaneously. This is a free vitamin A (retinol). Results may be elevated in women on oral contraceptives.

VITAMIN B1 (THYAMIN) PLASMA Q

Synonyms:
CHCS IEN: 6229
Test Code: 922
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA); Plastic Amber Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 3 mL
Minimum volume: 1.1 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Protect sample from light with aluminum foil.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Use Amber Screw-Cap vial to protect from light. Freeze immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 4 hours at room temperature; 1 day at 2-8 ºC; 30 days frozen.
Rejection Criteria: Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **VITAMIN B1**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon, Wed, Fri afternoon; Report available: 4 days
TAT: Routine
Interpretive
Reference Range: Adults 9-44 nmol/L
Critical Value:
Clinical Significance:

VITAMIN B12

Synonyms: B12
CHCS IEN: 4607
Components:
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: . Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw. Do not draw above intravenous infusion.
Collection: Routine Venipuncture. Do not draw intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing.
Special Instructions: Minimize exposure to light during sample handling and storage.
Transport/Storage Temperature: Room Temperature unless Folate is ordered with this test, otherwise store Refrigerated at 2-8 °C.
Rejection Criteria: Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **VITAMIN B12**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine: 4-24 hours
Interpretive
Reference Range: Normal: 180-914 pg/mL; Indetermineate: 145-180 pg/mL; Deficient: <145 pg/mL
Critical Value:
Clinical Significance: Vitamin B12 is decreased in pernicious anemia, total or partial gastrectomy, malabsorption and

certain congenital and biochemical disorders.

VITAMIN B12/FOLATE PANEL

Synonyms: B12+Folate; Vitamin B12+Folate Panel
CHCS IEN: 4420
Components:
Vitamin B12
Folate
Container (Preferred/Alternate): Gold-Top/SST Tube (Clot Activator and Gel for Serum Separation)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 5 mL
Minimum Volume: 0.5 mL Serum
Instructions
Patient Preparation: . Fasting is defined as no consumption of food or beverage other than water for at least 8 to 12 hours before blood draw.
Collection: Routine Venipuncture. Do not draw intravenous infusion.
Specimen Processing: Gently invert tube 5 times to mix blood with additive immediately after drawing.
Special Instructions: Folate is light sensitive. Minimize exposure to light during sample handling and storage.
Transport/Storage Temperature: Refrigerate at 2-8 °C.
Rejection Criteria: Hemolysis
Admin Notes
Testing Location/Methodology: Chemistry Section, MAMC / Beckman Coulter DxI Unicel 800
Order Method: CHCS order entry under: **VITAMIN B12/FOLATE PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Notify and Routine, Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Vitamin B12 is decreased in pernicious anemia, total or partial gastrectomy, malabsorption and certain congenital and biochemical disorders. Folic acid deficiency is common in pregnant women, alcoholics, patients with diets that do not include raw fruits and vegetables, and people with structural damage to the small intestine. The most reliable and direct Method of diagnosing folate deficiency is the determineation of folate levels in both erythrocytes and serum. Low folic acid levels, however, can also be the result of a primary Vitamin B12 deficiency that decreases the ability of cells to take up Folic acide.

VITAMIN B2 (RIBOFLAVIN) Q

Synonyms:
CHCS IEN:
Test Code: 36399
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA); Plastic Amber Screw-Cap Vial to protect from light
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 2 mL
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures. Protect sample from light with aluminum foil.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Use Amber Screw-Cap vial to protect from light. Freeze immediately.
Special Instructions: Samples received frozen but not protected from light are acceptable. Wrap sample in foil before sending to lab, no disclaimer is required. Samples received refrigerated but not protected from light are unacceptable.
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 4 hours at room temperature; 1 day at 2-8 ºC; 30 days frozen.
Rejection Criteria: Received room temperature, Received refrigerated
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Fluorometric Detection, High Performance Liquid Chromatography (HPLC).
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon, Wed, Fri afternoon; Report available: 4 days
TAT: Routine
Interpretive
Reference Range: 6.2-39.0 nmol/L
Critical Value:
Clinical Significance: Vitamin B_2 is involved in metabolism of fats, carbohydrates, and protein. The clinical manifestations of deficiency are non-specific. Clinical manifestations include mucocutaneous lesions of the mouth and skin, corneal vascularization, anemia, and personality changes.

VITAMIN B6 (PYRIDOXINE) Q

Synonyms:
CHCS IEN: 3790
Test Code: 926
Components:
Container (Preferred/Alternate): 5 mL Lavender-Top Tube (EDTA); Plastic Amber Screw-Cap Vial to Protect from light
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 1 mL
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is required. restricted from alcohol and vitamins for at least 24 hours
Collection: Routine venipuncture procedures. Protect sample from light with aluminum foil.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Centrifuge, separate plasma from cells and freeze immediately.
Special Instructions: If separation of cells can't be performed immediately after collection, keep the whole blood refrigerated and protect from light. The separation of cells must be completed within 6 hours. Separate cells by centrifugation at 2-8° C (2200-2500 rpm, 800-1000 g) for 5-10 minutes. Transfer plasma to dark brown polypropylene or polyethylene transport tubes to protect from light. Alternately, neutral color polypropylene or polyethylene tubes can be used if wrapped in aluminum foil. Freeze the tubes at -10 to -30° C.
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: 6 hours at room temperature; 12 hours at 2-8 ºC; 6 days frozen at -20 ºC, 42 days frozen at -70 ºC.
Rejection Criteria: Hemolysis, Lipemia, Received room temperature, Received refrigerated, Received thawed, Plasma collected in EDTA (royal blue-top), sodium heparin (green-top) or lithium heparin (green-top) tube, Specimens not protected from light
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **VITAMIN B6**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Sun-Thurs (3rd shift); Report available: 8 days

TAT: Routine

Interpretive

Reference Range: 2-17 Years: 3.0-35.0 ng/mL; Adult: 2.1-21.7 ng/mL

Critical Value:

Clinical Significance: Vitamin B_6 is a cofactor in many metabolic pathways including heme synthesis. Vitamin B_6 deficiency may be observed in patients with metabolic disorders, secondary to therapeutic drug use, or alcoholism. Deficiency affects the function of the immune system

VITAMIN B7 (BIOTIN) Q

Synonyms:

CHCS IEN: 2139

Test Code: 391

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 2 mL Serum

Minimum volume: 0.2 mL

Instructions

Patient Preparation:

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Allow sample to clot for 30 minutes. Spin at 3,000 rpm for 10 minutes and transfer serum to plastic, amber vial. If amber vial is not available. wrap tube in aluminum foil to protect from light. Freeze within 30 minutes.

Special Instructions:

Transport/Storage Temperature: Ship to Quest frozen. Specimen stability: Unacceptable at room temperature; Unacceptable at 2-8 ºC; 30 days frozen.

Rejection Criteria: Gross hemolysis, Lipemia, Received room temperature, Received refrigerated, Samples not protected from light, Samples other than serum

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Bioassay

Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: Set up: Fri (bi-weekly); Report available: 15 days

TAT: Routine

Interpretive

Reference Range:

Critical Value:

Clinical Significance:

VITAMIN C Q

Synonyms:

CHCS IEN: 2259

Test Code: 929

Components:

Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Amber Screw-Cap Vial protected from light

Specimen and Volume Required

Type(s): Blood/Serum

Volume: 2 mL Serum

Minimum volume: 1 mL

Instructions

Patient Preparation: Overnight fasting is preferred. Patient should refrain from taking vitamin C supplements or fruits 24 hours prior to sample collection

Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Allow to clot at room temperature (20-25° C) for 20-30 minutes. Centrifuge at 1000 g (2000-2200 rpm) and at 2-8° C for 8-10 minutes. Pour the supernatant into an amber polypropylene or polyethylene tube to protect sample from light. Alternatively, neutral color polypropylene or polyethylene tube wrapped in aluminum foil can be used. Neutral color tubes must be wrapped in aluminum foil. Cap securely. Tranport to lab immediately.

Special Instructions:

Transport/Storage Temperature: Serum or plasma must be prepared and stored in dry ice within 3 hours of sample collection. Do not thaw. Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; Unacceptable at 2-8 ºC; 28 days frozen at -70 ºC.

Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Capillary Electrophoresis
Order Method: CHCS order entry under: **VITAMIN C**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Thurs a.m.; Report available: 4 days
TAT: Routine
Interpretive
Reference Range: 0.20-1.90 mg/dL
Critical Value:
Clinical Significance: Vitamin C is an antioxidant involved in connective tissue metabolism, drug-metabolizing systems, and mixed-function oxidase systems to list a few. Vitamin C deficiency causes scurvy; manifestations include impaired formation of mature connective tissue, bleeding into the skin, weakness, fatigue, and depression.

VITAMIN D, 1,25-DIHYDROXY LC/MS/MS Q P
Order Note: Do not order **1,25-DIHYDROXY VITAMIN D** to determinee Vitamin D status. It is a poor indicator of vitamin D status due to its short half-life and the regulatory influence of parathormone, calcium and phosphate. **25-HYDROXY VITAMIN D** is the correct choice for determineing Vitamin D status as it has a 15 day half life and reflects Vitamin D availability.
Synonyms: A
CHCS IEN: 2279
Test Code: 16558
Components: Vitamin D,1,25 (OH)2,Total; Vitamin D_3, 1,25 (OH)2; Vitamin D_2, 1,25 (OH)2
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation), Red or Amber-Top Microtainer Tube for pediatric draw. Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 2 mL serum
Minimum volume: 1 mL serum
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells.
Special Instructions:
Transport/Storage Temperature: Transport and ship at room temperature. Specimen Stability: 28 days at room temperature, 28 days 2-8 °C, 28 days Frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **1,25-DIHYDROXY VITAMIN D**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: This test is used to measure the bio-active form of Vitamin D. This test is also used in the differential diagnosis of hypocalcemia and to monitor patients with renal osteodystrophy or chronic renal failure.

VITAMIN D, 25-HYDROXY
Order Note: **25-HYDROXY VITAMIN D** is the correct choice for determineing Vitamin D status as it has a 15 day half life and reflects Vitamin d availability. Do not order **1,25-DIHYDROXY VITAMIN D** to determine Vitamin D status. It is a poor indicator of vitamin D status due to its short half-life and the regulatory influence of parathormone, calcium and phosphate.
Synonyms: Vitamin D, 25-Hydroxy
CHCS IEN: 3737
Container (Preferred/Alternate): Gold-Top/SST Tube (clot activator and gel for serum separation). Ship serum in Plastic screw-cap vial.
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Fasting preferred.
Collection: Routine venipuncture procedures.

Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge to separate serum from cells immediately. Must separated from Serum Separator Tube (SST ®) gel or clot within 48 hours.
Special Instructions:
Transport/Storage Temperature: Transport refrigerated. Ship serum on cold packs at 2-8 °C . Specimen Stability: 7 days at 2-8 °C, 1 year Frozen at -20 C.

Rejection Criteria: Gross hemolysis, Gross lipemia, Heparinized or EDTA plasma, Serum not separated from Serum Separator Tube (SST ®) gel or clot within 48 hours

Admin Notes

Testing Location/Methodology: Special Chemistry Section, MAMC
Order Method: CHCS order entry under: **25-HYDROXY, VITAMIN D**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24/7
TAT: Routine

Interpretive

Reference Range: Endocrine Society consensus guidelines for Vitamin D status- Sufficiency: Greater than or equal to 30 ng/mL; Insufficiency: 10-29 ng/mL; Deficiency: Less than 10 ng/mL; Potential Toxicity: Greater than 100 ng/mL .J Clin Endocrinol metab. 2011; 96(7): 1911-1930.
Critical Value:
Clinical Significance: Measurement of serum 25-OH vitamin D concentrations provide a good index of circulating vitamin D activity in patients not suffering from renal disease. Lower than normal 25-OH vitamin D levels can result from a dietary deficiency, poor absorption of the vitamin or impaired metabolism of the sterol in the liver. A 25-OH vitamin D deficiency can lead to bone diseases such as rickets and osteomalacia. Above normal levels can lead to hypercalcemia. This assay employs liquid chromatography tandem mass spectrometry to independently measure and report the two common forms of 25-hydroxy vitamin D: 25OHD $_3$ the endogenous form of the vitamin and 25OHD $_2$ - the analog form used to treat 25OH vitamin D $_3$ deficiency.

VITAMIN E (TOCOPHEROL) Q

Synonyms:
CHCS IEN: 4440
Test Code: 931
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Amber Screw-Cap Vial protected from light

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 0.7 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately and transfer in an amber tube. If amber tube is not available, wrap tube in aluminum foil to protect from light.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 1 day at room temperature; 7 days at 2-8 ºC; 1 year frozen.

Rejection Criteria: Received room temperature, Received refrigerated but not protected from light

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **Q VITAMIN E PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Sun, Mon, Wed-Fri p.m.; Report available: 4 days
TAT: Routine

Interpretive

Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Deficiency of vitamin E may cause extensive neuropathy in young children and, in addition, is suspect as a possible cause of motor and sensory neuropathy in older children and in adults. One likely cause of vitamin E deficiency is intestinal malabsorption, resulting from bowel disease, pancreatic disease, or chronic cholestasis. Other causes of malabsorption of vitamin E include celiac disease, cystic fibrosis, and intestinal lymphangiectasia.

VITAMIN K, PLASMA Q

Synonyms:

CHCS IEN: 6148
Test Code: 36585
Components:
Container (Preferred/Alternate): 5 mL Green-Top Tube (Sodium Heparin); Plastic Amber Screw-Cap Vial protected from light
Specimen and Volume Required
Type(s): Blood/Plasma
Volume: 4 mL Plasma
Minimum volume: 2mL
Instructions
Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately and transfer in an amber tube. If amber tube is not available, wrap tube in aluminum foil to protect from light. Freeze immediately.
Special Instructions: Samples received frozen but not protected from light are acceptable. Samples received refrigerated but not protected from light are unaccpetable and should be rejected.
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptalbe at room temperature; Unacceptable days at 2-8 ºC; 3 months frozen.
Rejection Criteria: Received room temperature, Received refrigerated, Serum
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **VITAMIN K**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues p.m.; Report available: 9 days
TAT: Routine
Interpretive
Reference Range: 80-1160 pg/mL
Critical Value:
Clinical Significance: Vitamin K is a required co-factor for the synthesis of factors 2, 7, 9, and 10 and proteins C and S. Deficiencies of vitamin K lead to bleeding. Coumadin® (warfarin) acts as an anticoagulant because it is a vitamin K antagonist.

VMA (VANILLYLMANDELIC ACID), 24-HOUR URINE WITHOUT CREATININE

Synonyms:
CHCS IEN: 2588
Test Code: 934
Components:
VMA 24 HR
Total Volume
Container (Preferred/Alternate): 24 hour urine container(s) with 6N HCL preservative.
Specimen and Volume Required
Type(s): Urine/24 hour
Volume: 10 mL aliquot from 24 hour urine specimen
Minimum volume: 5 mL aliquot from 24 hour urine specimen
Instructions
Patient Preparation: It is preferable for the patient to be off medications for three days prior to collection. However, common antihypertensives (diuretics, ACE inhibitors, calcium channel blockers, alpha and beta blockers) cause minimal or no interference. Patient should avoid alcohol, coffee, tea, tobacco (including use of nicotine patch), bananas, citrus fruits and strenuous exercise prior to collection.
Collection: 1st day upon arising, patient should discharge the first morning urine into the toilet (Do Not add this to the container). Note this time and date on the attached container tag/label. Collect and save all urine in the large container for the next 24 hours to include the first void of the second morning, which will be the last collection. Note this time and date on the container tag/label. Urine without preservative is acceptable if pH is below 6 and the sample is shipped frozen.
Specimen Processing: **Laboratory:** Measure and record the total volume of urine. Mix well and aliquote 10 mL to plastic screw cap container.
Special Instructions: Ensure that on the 1st day that the first morning urine sample is discarded and not added to the container. Ensure that on the 2nd day that the first morning void urine sample is added to the container; contributing to the total volume of the 24 hour urine sample.
Transport/Storage Temperature: Keep specimen container in the refrigerator or on ice during the collection period. Specimen container should be transported to the lab on ice. Store refrigerated or frozen. Preserved specimen ships to Quest at room temperature or refrigerated. Unpreserved specimens are shipped frozen.Preserved Specimen stability: 10 days at room temperature; 14 days at 2-8 ºC; 1 year frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC), Electrochemical

Detection
Order Method: CHCS order entry under: **Q VANILLYLMANDELIC ACID URINE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat a.m.
TAT: Routine

Interpretive
Reference Range: 3-8 Years: ≤2.3 mg/24 h; 9-12 Years: ≤3.4 mg/24 h; 13-17 Years: ≤3.9 mg/24 h; >17 Years: ≤6.0 mg/24 h
Critical Value:
Clinical Significance: Urinary vanillylmandelic acid is useful in diagnosing neuroblastoma, one of the most common tumors in the pediatric population. Requires accurate 24-hour urine collection.

VMA (VANILLYLMANDELIC ACID), RANDOM URINE Q

Synonyms:
CHCS IEN: 2139
Test Code: 1710
Components:
Container (Preferred/Alternate): Plastic Screw-Cap Vial with 6N HCL preservative.
Specimen and Volume Required
Type(s): Urine/Random
Volume: 10 mL aliquot from urine specimen
Minimum volume: 5 mL aliquot from 24 hour urine specimen

Instructions
Patient Preparation: It is preferable for the patient to be off medications for three days prior to collection. However, common antihypertensives (diuretics, ACE inhibitors, calcium channel blockers, alpha and beta blockers) cause minimal or no interference. Patient should avoid alcohol, coffee, tea, tobacco (including use of nicotine patch), bananas, citrus fruits and strenuous exercise prior to collection.
Collection: See specimen collection procedures for urine located in the appendices of this guide.
Specimen Processing: **Laboratory:** Adjusted pH to <3.0 using 6N HCl . Mix well and aliquote 10 mL to plastic screw cap container.
Special Instructions:
Transport/Storage Temperature: Store refrigerated or frozen. Preserved specimen ships to Quest at room temperature or refrigerated. Unpreserved specimens are shipped frozen. Preserved Specimen stability: 10 days at room temperature; 14 days at 2-8 ºC; 1 year frozen.

Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC), Electrochemical Detection
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sat a.m.
TAT: Routine

Interpretive
Reference Range:
Critical Value:
Clinical Significance: Urinary vanillylmandelic acid is useful in diagnosing neuroblastoma, one of the most common tumors in the pediatric population.

VOLATILES Q

Synonyms:
CHCS IEN: 2139
Test Code: 7240
Components:
Container (Preferred/Alternate): 5 mL Gray-Top Tube (Fluoride Oxalate)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 1 mL Whole Blood
Minimum volume: 0.5 mL

Instructions
Patient Preparation: Do not use alcohol solutions as a skin preparation for drawing specimens. Use non-alcohol solutions such as Betadine ® or Zephiran ®.
Collection: Routine venipuncture procedures. Keep specimen tightly capped. Prevent exposure to atmosphere.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Keep specimen

tightly capped.
Special Instructions: Prevent exposure to atmosphere.
Transport/Storage Temperature: Ship unopened tube to Quest at Refrigerated. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC (preferred).

Rejection Criteria:

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Chromatography
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri (Day shift)
TAT: Routine

Interpretive

Reference Range: None detected
Critical Value:
Clinical Significance: The assay is used to determine concentration and potential toxicity of these substances

VON WILLEBRAND FACTOR ANTIGEN

Synonyms:
CHCS IEN: 3533
Test Code: 4919
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 2mL Platetet Poor Plasma
Minimum volume: 1 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Centrifuge light blue-top tube for 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/mcl). Freeze immediately.
Special Instructions: Storage of whole blood at refrigerated temperatures prior to processing may lead to cryoprecipitate formation and falsely low factor viii and von willebrand factor studies.
Transport/Storage Temperature: Ship Frozen on dry ice. Specimen Stability: 8 hours at room temperature, 24 hours refrigerated at 2-8 ºC, 30 days Frozen.

Rejection Criteria: Hemolysis, Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Immunoturbidimetric Assay
Order Method: CHCS order entry under: **VON WILLEBRAND FACTOR AG**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Fri a.m.; Report available: 5 days
TAT: Routine

Interpretive

Reference Range: 50-217 %
Critical Value:
Clinical Significance: von Willebrand Disease is the most common hereditary bleeding disorder; it may also be acquired. von Willebrand Factor is necessary for platelet adhesion to injured endothelium. von Willebrand Factor Antigen is useful in assessing the quantity of von Willebrand Factor. When combined with other tests, results are useful in categorizing the type of von Willebrand Disease.

VON WILLEBRAND, MULTIMERIC ANALYSIS

Synonyms:
CHCS IEN: 2139
Test Code: 5168
Components:
Container (Preferred/Alternate): Light Blue-Top Tube (3.2% Sodium Citrate); Plastic Screw-Cap Vial

Specimen and Volume Required

Type(s): Blood/Plasma
Volume: 2mL Platetet Poor Plasma
Minimum volume: 1 mL

Instructions

Patient Preparation: Overnight fasting is preferred.
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix additive with blood. Tranport to lab immediately. Centrifuge and separate plasma from cells immediately. Centrifuge light blue-top tube for 15 minutes at approximately 1500 g within 60 minutes of collection. Using a plastic pipette, remove plasma, taking care to avoid the WBC/platelet buffy layer and place into a plastic vial. Centrifuge a second time and transfer platelet poor plasma into a new plastic vial. Plasma must be free of platelets (<10,000/mcl). Freeze immediately.
Special Instructions: Storage of whole blood at refrigerated temperatures prior to processing may lead to cryoprecipitate formation and falsely low factor viii and von willebrand factor studies.
Transport/Storage Temperature: Ship Frozen on dry ice. Specimen Stability: Unacceptable at room temperature, Unacceptable refrigerated at 2-8 ºC, 6 months Frozen at -70 ºC.

Rejection Criteria: Gross Hemolysis, Received thawed, Received room temperature, Received refrigerated

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ Electrophoresis
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Thurs a.m.
TAT: Routine

Interpretive

Reference Range: Normal
Critical Value:
Clinical Significance: von Willebrand Disease is the most common hereditary bleeding disorder; it may also be acquired. von Willebrand Factor is necessary for platelet adhesion to injured endothelium. von Willebrand Factor Antigen, Multimeric Analysis is useful when type 2 disease is suspected and to further categorize disease.

VORICONAZOLE LEVEL

Synonyms:
CHCS IEN: 2139
Test Code: 19574
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel)

Specimen and Volume Required

Type(s): Blood/Serum
Volume: 2 mL Serum
Minimum volume: 1 mL

Instructions

Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge, separate serum from cells and immediately Freeze.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; Unacceptable at 2-8 ºC; 14 days frozen.

Rejection Criteria: Received room temperature, Received refrigerated, Serum Separator Tube (SST ®)

Admin Notes

Testing Location/Methodology: Quest Diagnostics/ High Performance Liquid Chromatography (HPLC)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine

Interpretive

Reference Range:
Critical Value:
Clinical Significance:

WALNUT (F256), IGE IMCAP

Synonyms:
CHCS IEN: 2139
Test Code: 3489
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)

Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WATERMELON (RF329) IGE Q
Synonyms:
CHCS IEN: 2139
Test Code: 30755
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WBC
Synonyms:
CHCS IEN: 2398
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) 3 mL ; EDTA Microtainer for pediatric draw.
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL

Minimum Volume: 250 µL for Microtainer draw

Instructions

Patient Preparation: None

Collection: Routine Venipuncture. Collect whole blood in 3 mL EDTA Lavendar-Top vacutainer. Allow blood to fill by vacuum to at least ¾ of volume stated on the tube.

Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood. Ensure to mix Microtainer during draw to ensure anticoagulant is effective.

Special Instructions:

Transport/Storage Temperature: Room Temperature

Rejection Criteria

Admin Notes

Testing Location/Methodology: Hematology Section, MAMC

Order Method: CHCS order entry under: **WBC**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.

Availability: 24 hours / 7 days a week

TAT: STAT, ASAP, Routine

Interpretive

Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					x 10^9 /L
Birth 1 Day	9.0	34.0		40	
1 – 7 Days	5.0	21.0		30	
7 - 30 Days	5.0	19.5		30	
1 Month – 1 Year	6.0	17.5		30	
1 – 2 Years	6.0	17.0		30	
2 – 4 Years	5.5	15.5		30	
4 – 6 Years	5.0	14.5		30	
6 – 10 Years	4.5	13.5		30	
10 – 16 Years	4.5	13.0		30	
Adult	3.6	10.0		30	

Critical Value:

Clinical Significance: Most commonly utilized test to monitor characteristic response to infection. Diagnostically useful for diseases such as leukemia, leukocyte disorders, as well as monitoring therapy of these diseases.

WET PREP *See:* **VAG WET PREP (MAMC+NHOH)** in this laboratory test information guide.

WEST NILE VIRUS, ANTIBODIES (IGG,IGM), ELISA Q

Synonyms:
CHCS IEN: 2139
Test Code: 36596
Components: IgG, IgM
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.7 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen -20 ºC, >30 days frozen at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Enzyme Linked Immunosorbent Assay (ELISA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Thurs, Sat a.m.; Report available: 3 days
TAT: Routine
Other: Cross reactivity has been observed between alphavirus group and flavivirus group, e.g., yellow fever or yellow fever vaccination.
Interpretive
Reference Range: West Nile Virus Antibodies: IgG <1.30 Negative; 1.30-1.49 Equivocal; ≥1.50 Positive. West Nile Virus Antibodies IgM: <0.90 Negative; 0.90-1.10 Equivocal; >1.10 Positive
Critical Value:
Clinical Significance:

WEST NILE VIRUS, ANTIBODIES (IGM), ELISA Q

Synonyms:
CHCS IEN: 2139
Test Code: 16012
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Refrigerated at 2-8 ºC on cold packs. Specimen stability: 4 days at room temperature; 7 days at 2-8 ºC; 30 days frozen -20 ºC, >30 days frozen at -70 ºC.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range: 0.90 Negative; 0.90-1.10 Equivocal; >1.10 Positive
Critical Value:
Clinical Significance:

WEST NILE VIRUS, RNA, REAL-TIME PCR

Synonyms:
CHCS IEN: 2139
Test Code: 10992
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.5 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest Frozen. Specimen stability: Unacceptable at room temperature; 7 days at 2-8 ºC; 14 days frozen.
Rejection Criteria: Received room temperature, Specimens collected in heparin tubes
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Real-Time PCR, Reverse Transcriptase Polymerase Chain Reaction (RT-PCR)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Wed; Report available: 8 days
TAT: Routine
Interpretive
Reference Range: Not detected
Critical Value:
Clinical Significance:

WESTERN EQUINE ENCEPHALITIS ANTIBODIES (IGG,IGM), IFA

Synonyms:
CHCS IEN: 2139
Test Code: 37311
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon, Wed, Fri; Report available: 1-4 days
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WHEAT (F4) IGE Q
Order Note:.
Synonyms:
CHCS IEN: 6079
Test Code: 2804
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **WHEAT IGE PANEL** ; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WHEAT IGE Not orderable as a single test. See: **PED FOOD ALLERGY PANEL (MAMC)**

WHITE ASH (T15), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2515
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WHITE BEAN (F15), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 2815
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WHITEFISH (RF384), IGE IMCAP Q

Synonyms:
CHCS IEN: 2139
Test Code: 39499
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

WHITE MULBERRY (T70), IGE IMCAP Q
Synonyms:
CHCS IEN: 2139
Test Code: 2570
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 14 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance:

Y CHROMOSOME MICRODELETION ANALYSIS G
Synonyms:
CHCS IEN: 2139

Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA) or Yellow-Top Tube (ACD-A) 10 mL
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 10 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow blood to fill by vacuum at least 2/3 volume stated on the tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood. Do not centrifuge.
Special Instructions:
Transport/Storage Temperature: Ship Room Temperature or Refrigerated.
Rejection Criteria
Admin Notes
Testing Location/Methodology: Genzyme Genetics
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability:
TAT: Routine: 10 to 12 days from time received at Genzyme Genetics
Other: Clinical indication required
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Microdeletions in the azoospermatic factor (AZF) region of the Y chromosome account for 10-15 percent of azoospermia and 5-10 percent of oligospermia in men. Our Y chromosome microdeletion analysis examines four regions of the Y chromosome – AZFa, AZFb, AZFc and AZFd – to help identify causes of infertility in males.

YERSINIA ENTEROCOLITICA ANTIBODIES 9IGG,IGA) Q

Synonyms:
CHCS IEN: 2139
Test Code: 16662
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST)
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1 mL Serum
Minimum volume: 0.2 mL
Instructions
Patient Preparation:
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 30 days frozen.
Rejection Criteria:
Admin Notes
Testing Location/Methodology: Quest Diagnostics/Immunoassay
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Batched 1x per week
TAT: Routine
Interpretive
Reference Range: Interpretive Criteria: <0.90 Antibody not detected; 0.90-1.10 Equivocal; >1.10 Antibody detected
Critical Value:
Clinical Significance: *Y. enterocolitica* is associated with a wide spectrum of clinical manifestations, including enteritis, colitis, and reactive arthritis. Specific IgG and IgA antibodies are typically present following acute infection.

YO ANTIBODY SCREEN WITH REFLEX TO TITER AND WESTERN BLOT Q

Synonyms: Purkinje Cell (Yo) AB
CHCS IEN: 6206

Test Code: 90119
Components:
Yo Antibody Screen, IFA is positive, Yo Antibody, Western Blot will be performed at an additional charge.
If Yo Antibody, Western Blot is positive, Yo Antibody Titer will be performed at an additional charge.
Container (Preferred/Alternate): 5 mL Red-Top Tube or Gold-Top (SST); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum
Volume: 1mL Serum
Minimum volume: 0.3 mL
Instructions
Patient Preparation: Overnight fasting is preferred
Collection: Routine venipuncture procedures.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge and separate serum from cells immediately.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC on cold packs. Specimen stability: 7 days at room temperature; 14 days at 2-8 ºC; 21 months frozen.
Rejection Criteria: Gross hemolysis, Gross lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **PURKINJE CELL AB SCRN PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up Sun, Tues, Thurs
TAT: Routine
Interpretive
Reference Range: See Quest Diagnostics established ranges.
Critical Value:
Clinical Significance: Purkinje Cell (Yo) antibody is found in approximately half of the patients with paraneoplastic cerebellar degeneration and is associated with ovarian, uterine, and small cell lung carcinomas and Hodgkin's lymphoma.

YO ANTIBODY SCREEN WITH REFLEX TO TITER AND WESTERN BLOT,CSF

Synonyms: Purkinje Cell (Yo) AB
CHCS IEN: 6206
Test Code: 90117
If Yo Antibody Screen, IFA, CSF is positive, Yo Antibody, Western Blot, CSF will be performed at an additional charge.
If Yo Antibody, Western Blot, CSF is positive, Yo Antibody, Titer, CSF will be performed at an additional charge.
Container (Preferred/Alternate): Sterile Plastic Screw-Top Vial
Specimen and Volume Required
Type(s): CSF
Volume: 1mL CSF
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Overnight fasting is preferred
Collection:
Specimen Processing:
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated 2-8 ºC on cold packs. Specimen stability: 8 hours at room temperature; 7 days at 2-8 ºC; 6 months frozen.
Rejection Criteria: Room Temperature
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Immunofluorescence Assay (IFA)
Order Method: CHCS order entry under: **PURKINJE CELL AB SCRN PANEL**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability
Availability: Set up Sun, Tues, Thurs
TAT: Routine
Interpretive
Reference Range: See Quest established ranges.
Critical Value:
Clinical Significance: Purkinje Cell (Yo) antibody is found in approximately half of the patients with paraneoplastic cerebellar degeneration and is associated with ovarian, uterine, and small cell lung carcinomas and Hodgkin's lymphoma.

ZAP-70

Synonyms:
CHCS IEN: 2139

Test Code: 16000
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow blood to fill by vacuum at least 2/3 volume stated on the tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood.
Special Instructions:
Transport/Storage Temperature: Ship to Quest at room temperature. Specimen Stability: 72 hours at room temperature, Unacceptable at 2-8 C, Unacceptable Frozen.
Rejection Criteria Gross hemolysis, Received refrigerated, Received frozen
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Flow Cytometry
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Mon-Sun
TAT: Routine
Interpretive
Reference Range: ZAP70+/CD19+ <10 %
Critical Value:
Clinical Significance: Patients with chronic lymphocytic leukemia have variable outcomes; ZAP-70 can predict patients who have aggressive disease and need aggressive therapy

ZINC PROTOPORPHYRIN Q *See:* **PROTOPORPHYRIN, ZINC** in this guide.

ZINC PROTOPORPHYRIN (MAMC ONLY)
Synonyms:
CHCS IEN: 2359
Components:
Container (Preferred/Alternate): Lavendar-Top Tube (K_2EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 3 mL
Minimum Volume:
Instructions
Patient Preparation: None
Collection: Routine Venipuncture. Allow blood to fill by vacuum at least 2/3 volume stated on the tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood.
Special Instructions:
Transport/Storage Temperature: Room Temperature
Rejection Criteria
Admin Notes
Testing Location/Methodology: Special Hematology Section, MAMC
Order Method: CHCS order entry under: **ZINC PROTOPORPHYRIN (MAMC ONLY)**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) (Hematology) for CHCS non-availability.
Availability: 24 hours / 7 days a week
TAT: ASAP, Routine
Interpretive
Reference Range:

Sex/Age Group	Ref Low	Ref High	Panic Low	Panic High	Units
Male/No Sex					
All	30	80			µmo/mohgb

Critical Value:
Clinical Significance: The levels of ZPP in the red cell is a functional indicator of the available iron supply or level of lead intoxication at the time of cell maturation.

ZINC, RBC Q
Synonyms:
CHCS IEN: 2139
Test Code: 6354
Components:
Container (Preferred/Alternate): 5 mL Lavendar-Top Tube (EDTA)
Specimen and Volume Required
Type(s): Blood/Whole
Volume: 6 mL
Minimum Volume: 3 mL
Instructions
Patient Preparation: Collect blood in the a.m. Patient shoud refrain from taking vitamins and mineral supplements. Overnight fasting is preferred.
Collection: Routine Venipuncture. Allow blood to fill by vacuum at least 2/3 volume stated on the tube.
Specimen Processing: Gently invert tube 10 times to mix blood with additive immediately after drawing blood.
Special Instructions:
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 ºC. Specimen Stability: 8 hours at room temperature, 4 days refrigerated at 2-8 ºC, Unacceptable Frozen.
Rejection Criteria Received room temperature, Received frozen, Clotted, Hemolysis
Admin Notes
Testing Location/Methodology: Quest Diagnostics / Flame Atomic Absorption Spectrometry (AAS)
Order Method: CHCS order entry under: **MISCELLANEOUS SHIPPING**; Requires entry of the requested test name (and test code if known) at the "Order Comment" field and also entry into the "Enter Comment for Miscellaneous Referral Test:" when prompted in CHCS. MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues-Fri
TAT: Routine
Interpretive
Reference Range:
Critical Value:
Clinical Significance: Zinc is an essential element involved in a myriad of enzyme systems including wound healing, immune function, and fetal development. Zinc measurements are used to detect and monitor industrial, dietary, and accidental exposure to zinc. Also, zinc measurements may be used to evaluate health and monitor response to treatment.

ZONISAMIDE Q
Synonyms:
CHCS IEN: 5013
Test Code: 37852
Components:
Container (Preferred/Alternate): 5 mL Red-Top Tube (No Gel or Additive) or 5 mL Lavender-top Tube (EDTA); Plastic Screw-Cap Vial
Specimen and Volume Required
Type(s): Blood/Serum or Plasma
Volume: 1 mL
Minimum volume: 0.5 mL
Instructions
Patient Preparation: Draw sample 1/2 to 1 hour before next dose.
Collection: Routine venipuncture procedures. Blood: Collect blood in plain red-top evacuated tube. Plasma: Collect blood in lavender-top evacuated tube.
Specimen Processing: Gently invert tube 5 times to mix clot activator with blood. Tranport to lab immediately. Clotting time required: 30 minutes. Centrifuge at 20-25° C (800-1000 g) for 8-10 minutes to separate cells. Transfer serum to polypropylene or polyethylene tube.. Store frozen**.** Centrifuge at 20-25° C (800-1000 g) for 8-10 minutes. Transfer plasma to polypropylene or polyethylene tube. Ship refrigerated. Store frozen.
Special Instructions: Ship refrigerated at 2-8 C on cold packs.
Transport/Storage Temperature: Ship to Quest refrigerated at 2-8 C. Specimen stability: 1 days at room temperature; 14 days at 2-8 ºC; 45 days frozen.
Rejection Criteria: Received room temperature, Improperly labeled specimen, Hemolysis, Lipemia
Admin Notes
Testing Location/Methodology: Quest Diagnostics/ Liquid Chromatography, Tandem Mass Spectrometry (LC/MS/MS)
Order Method: CHCS order entry under: **ZONISAMIDE**; MAMC Form 1787-L (Clinical Lab Test Procedure Request) for CHCS non-availability.
Availability: Set up: Tues, Fri
TAT: Routine
Interpretive
Reference Range:

Critical Value:
Clinical Significance: Zonisamide is an anticonvulsant, commonly used as an adjunct together with other conventional anticonvulsants. As multiple drugs are administered, it is important to monitor its level to optimize therapeutic effects, to assure compliance, and to avoid toxicity.