

Madigan Army Medical Center

Musculoskeletal Treatment Guidelines

WRIST INJURIES

Diagnosis/Definition

- Significant pain and/or swelling after trauma to the wrist implies a significant injury. Osseous and ligamentous injury that may lead to instability must be carefully investigated and ruled out before the injury is classified as a wrist sprain.

Initial Diagnosis and Management

- History and physical examination.
- Radiography
 - A six view wrist trauma series should be ordered including posteroanterior, lateral, right and left oblique and PA in radial and ulnar deviation with a clenched fist.
- Treatment is based on the specific injury
 - If no gross fx or instability is noted but significant pain and swelling is present, proceed with immobilization and reexamine in 2 weeks.
- Appropriate restrictions of activity.

Ongoing Management and Objectives

- Immobilization should be utilized if needed.
- Ice compression if needed
- Flexibility and strengthening assessments

Indication a profile is needed

- Any limitations that affect strength, range of motion, and general efficiency of upper arms.
- Slightly limited mobility of joints, muscular weakness, or other musculo-skeletal defects that may prevent hand-to-hand fighting and disqualifies for prolonged effort.
- Defects or impairments that require significant restriction of use

Specifications for the profile

- Week 1-4
 - No upper body PT requiring flexion or extension at the wrist
 - No lifting or pushing with affected wrist
 - No low crawl
 - No stretcher duty with affected wrist(s)
 - Motor vehicle driving only with splint and with caution

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Patient/Soldier Education or Self care Information

- See attached sheet
- Demonstrate deficits that exist
 - Describe/show soldier his/her limitations
- Explain injury and treatment methods
 - Use diagram attached to describe injury, location and treatment.
- Instruct and demonstrate rehab techniques
 - Demonstrate rehab exercises as shown in attached guide
 - Warm up before any sports activity
 - Participate in a conditioning program to build muscle strength
 - Do stretching exercises daily
- Ask the patient to demonstrate newly learned techniques and repeat any other instructions.
- Fine tune patient technique
- Correct any incorrect ROM/stretching demonstrations or instructions by repeating and demonstrating information or exercise correctly.
- Encourage questions
 - Ask soldier if he or she has any questions
- Give supplements such as handouts
- Schedule follow up visit
 - If pain persists
 - The pain does not improve as expected
 - Patient is having difficulty after three days of injury
 - Increased pain or swelling after the first three days
 - Patient has any questions regarding care

Indications for referral to Specialty Care

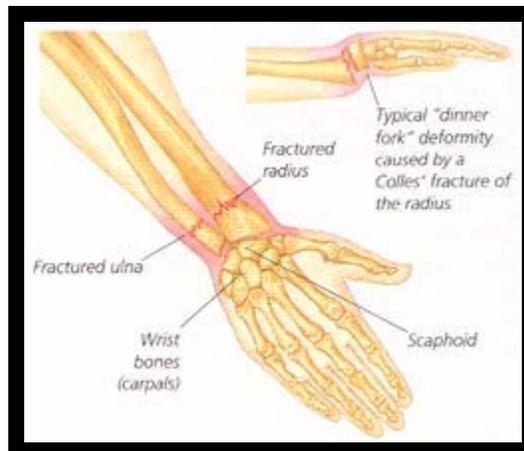
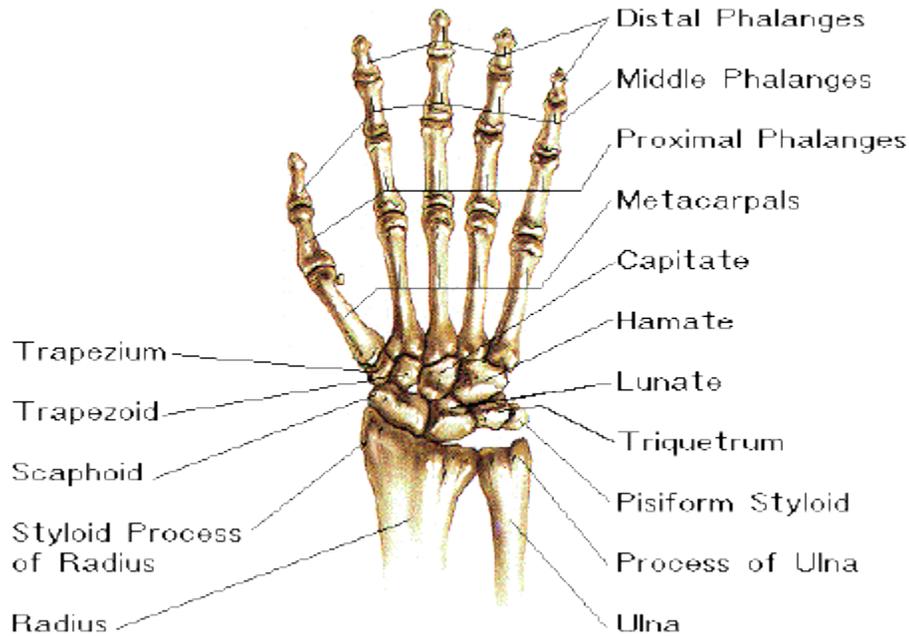
- To Physical Therapy: Routine referral for rehabilitation.

Referral criteria for Return to Primary Care

- Completed specialty care.

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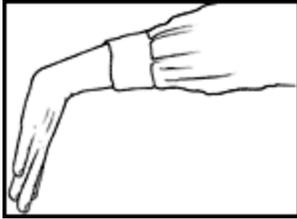
Skeleton of the Hand & Wrist



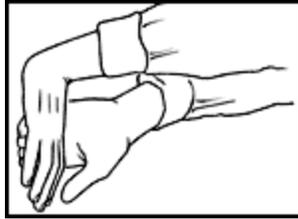
Madigan Army Medical Center Musculoskeletal Treatment Guidelines

Wrist Exercises

Wrist Stretches



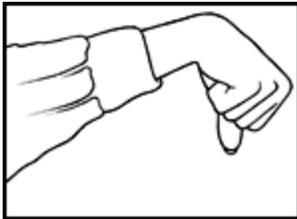
Bend wrist back with
elbow straight



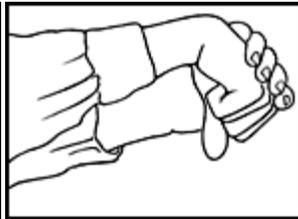
Stretch wrist back



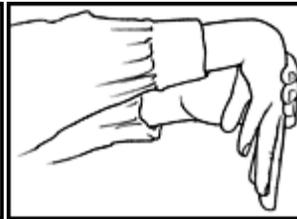
Wrist Exercises



Bend wrist down with
fist & elbow straight



Stretch wrist down

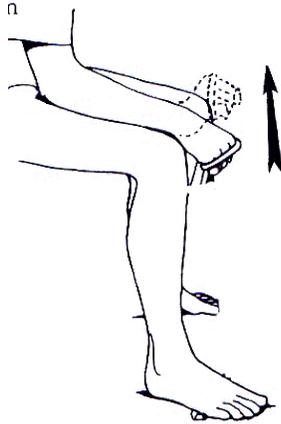


Open hand & stretch
wrist

Wrist Flexion

- Place forearm onto thigh with palm facing up
- Lift hand upward, bending from wrist
- Lower slowly, keeping forearm on thigh
- Use dumbbells, tubing, or manual resistance

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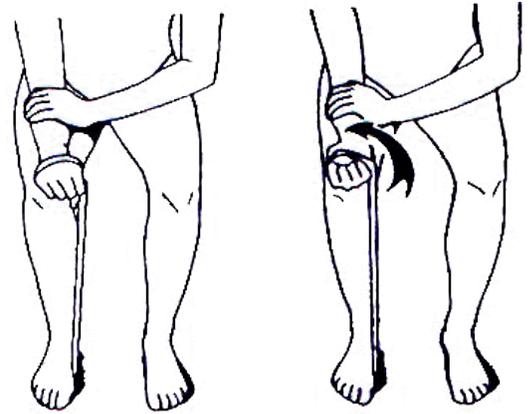


Wrist Extension

- Place forearm onto thigh with palm facing down
- Lift hand upward, bending from wrist
- Lower slowly, keeping forearm on thigh
- Use dumbbells, tubing, or manual resistance

Wrist Pronation/Supination

- Place forearm onto thigh with palm facing sideways
- Stabilize forearm with opposite hand
- Turn palm to face down, then turn to face upward
- Use dumbbells, tubing, or manual resistance
-



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PHYSICAL PROFILE			
For use of this form, see AR 40-501, the proponent agency is the Office of The Surgeon General			
1. MEDICAL CONDITION WRIST INJURIES		2.	
		P	U
		L	H
		E	S
3. ASSIGNMENT LIMITATIONS ARE AS FOLLOWS WEEKS 1 -4, NO UPPER BODY PT REQUIRING FLEXION OR EXTENSION OF THE WRIST, NO LIFTING OR PUSHING WITH AFFECTED WRIST, NO LOW CRAWL, MOTOR VEHICLE DRIVING WITH CAUTION AND ONLY WITH SPLINT.			CODES
4. THIS PROFILE IS <input type="checkbox"/> PERMANENT <input checked="" type="checkbox"/> TEMPORARY EXPIRATION DATE:			
5. THE ABOVE STATED MEDICAL CONDITION SHOULD NOT PREVENT THE INDIVIDUAL FROM DOING THE FOLLOWING ACTIVITIES			
<input checked="" type="checkbox"/> Groin Stretch	<input checked="" type="checkbox"/> Thigh Stretch	<input checked="" type="checkbox"/> Lower Back Stretch	<input checked="" type="checkbox"/> Neck & Shoulder Stretch
<input checked="" type="checkbox"/> Hip Raise	<input checked="" type="checkbox"/> Quads Stretch & Bal.	<input checked="" type="checkbox"/> Single Knee to Chest	<input checked="" type="checkbox"/> Upper Back Stretch
<input checked="" type="checkbox"/> Knee Bender	<input checked="" type="checkbox"/> Calf Stretch	<input checked="" type="checkbox"/> Straight Leg Raise	<input checked="" type="checkbox"/> Chest Stretch
<input checked="" type="checkbox"/> Side-Straddle Hop	<input checked="" type="checkbox"/> Long Sit	<input checked="" type="checkbox"/> Elongation Stretch	<input checked="" type="checkbox"/> One-Arm Side Stretch
<input checked="" type="checkbox"/> High Jump	<input checked="" type="checkbox"/> Hamstring Stretch	<input checked="" type="checkbox"/> Turn and Bounce	<input checked="" type="checkbox"/> Two-Arm Side Stretch
<input checked="" type="checkbox"/> Jogging in Place	<input checked="" type="checkbox"/> Hams. & Calf Stretch	<input checked="" type="checkbox"/> Turn and Bend	<input checked="" type="checkbox"/> Side Bender
			<input type="checkbox"/> Neck Stretch
			<input type="checkbox"/> Ankle Stretch
			<input type="checkbox"/> Hip Stretch
			<input type="checkbox"/> Upper Body Wt Tng
			<input type="checkbox"/> Lower Body Wt Tng
			<input type="checkbox"/> All
6. AEROBIC CONDITIONING EXERCISES		7. FUNCTIONAL ACTIVITIES	
<input checked="" type="checkbox"/> Walk at Own Pace and Distance	<input checked="" type="checkbox"/> Run at Own Pace and Distance	<input checked="" type="checkbox"/> Wear Backpack (40 Lbs.)	<input checked="" type="checkbox"/> Wear Helmet
<input checked="" type="checkbox"/> Bicycle at Own Pace and Distance	<input checked="" type="checkbox"/> Swim at Own Pace and Distance	<input checked="" type="checkbox"/> Carry Rifle	<input checked="" type="checkbox"/> Fire Rifle
<input checked="" type="checkbox"/> Walk or Run in Pool at Own Pace	<input type="checkbox"/> Unlimited Walking	<input type="checkbox"/> KP/Mopping/Mowing Grass	<input type="checkbox"/> All
<input type="checkbox"/> Unlimited Running	<input type="checkbox"/> Unlimited Bicycling	<input type="checkbox"/> Marching Up to <u>2</u> Miles	
<input type="checkbox"/> Unlimited Swimming		<input checked="" type="checkbox"/> Lift Up to <u>15</u> Pounds	
<input type="checkbox"/> Run at Training Heart Rate for ___ Min.	<input type="checkbox"/> Bicycle at Training Heart Rate for ___ Min.	With Hearing Protection	
<input type="checkbox"/> Swim at Training Heart Rate for ___ Min.		<input type="checkbox"/> Physical Fitness Test	
		<input checked="" type="checkbox"/> Two Mile Run	<input checked="" type="checkbox"/> Walk
		<input type="checkbox"/> Push-Ups	<input checked="" type="checkbox"/> Swim
		<input checked="" type="checkbox"/> Sit-Ups	<input checked="" type="checkbox"/> Bicycle
8. TRAINING HEART RATE FORMULA			
		MALES 220	FEMALES 225
		MINUS (-) AGE	
		MINUS (-) RESTING HEART RATE	
		TIMES (X) % INTENSITY	
		PLUS (+) RESTING HEART RATE	

		50% EXTREMELY POOR CONDITION	
		60% HEALTHY, SEDENTARY INDIVIDUAL	
		70% MODERATELY ACTIVE, MAINTENANCE	
		80% WELL TRAINED INDIVIDUAL	
9. OTHER			
TYPED NAME AND GRADE OF PROFILING OFFICER		SIGNATURE	DATE
TYPED NAME AND GRADE OF PROFILING OFFICER		SIGNATURE	DATE
ACTION BY APPROVING AUTHORITY			
PERMANENT CHANGE OF PROFILE <input type="checkbox"/> APPROVED <input type="checkbox"/> NOT APPROVED			
TYPED NAME, GRADE & TITLE OF APPROVING AUTHORITY		SIGNATURE	DATE
ACTION BY UNIT COMMANDER			
THIS PERMANENT CHANGE IN PROFILE SERIAL <input type="checkbox"/> DOES <input type="checkbox"/> DOES NOT REQUIRE A CHANGE IN MEMBER'S			
<input type="checkbox"/> MILITARY OCCUPATIONAL SPECIALTY <input type="checkbox"/> DUTY ASSIGNMENT BECAUSE:			
TYPED NAME AND GRADE OF UNIT COMMANDER		SIGNATURE	DATE
PATIENT'S IDENTIFICATION (For typed or written entries give: Name (last, first, middle); grade; SSN; hospital or medical facility)		UNIT	
		ISSUING CLINIC AND PHONE NUMBER	
		DISTRIBUTION	
		UNIT COMMANDER - ORIGINAL & 1 COPY	
		HEALTH RECORD JACKET - 1 COPY	
		CLINIC FILE - 1 COPY	
		MILPO - 1 COPY	

DA FORM 3349, MAY 86

REPLACES DA FORM 5302-R (TEST) DATED FEB 84 AND DA FORM 3349 DATED 1 JUN 80, WHICH ARE OBSOLETE

USAPP C V1.00

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PATIENT INFORMATION

Do you work with your hands for long periods of time? Do you play golf, tennis, bowl, or weight train? Do you play the piano, knit, or work at a computer keyboard all day? If you answered yes to any of these questions, then you could be at risk for a wrist injury. Types of wrist injuries include sudden, overuse, and repetitive motion injuries.

Sudden wrist injuries are usually caused by accidents and are hard to prevent. They include broken bones, dislocations, and sprains. Sudden injury can occur from trying to break a fall with your hands, or from direct impact to the wrists. A sudden wrist injury that causes instant, severe pain and tenderness with swelling, lack of movement, or crookedness needs medical evaluation quickly. Immobilize it and apply an ice pack on and off for 10 to 30 minute intervals.

Overuse injuries of the wrist include tendonitis, carpal tunnel syndrome and, in children, breaks in the growing part of the bones. These injuries develop over time from constant snap-and-twist motions of the wrist.

Tendonitis results from a sudden twist-and-snap motion. It can be caused by work- or sports-related activities, such as baseball, tennis, golf, bowling, weight lifting, and rowing.

Nerve damage is often caused by external pressure from handles of racquets, sticks, or bats, or by the pressure from leaning on bicycle handlebars.

Growing bone injuries in children may lead to stunted or abnormal growth at the ends of the forearm bones and damage to the joint. Carpal tunnel syndrome is the most common repetitive-motion injury. It is the biggest problem associated with regular use of a computer keyboard. It usually affects your writing hand and begins with pain and tingling or numbness at the base of the thumb. If not treated, the symptoms may progress to a weakened grip, severe pain in the forearm or shoulder, or permanent loss of muscle in the hand.

If you are experiencing the symptoms of carpal tunnel syndrome, follow each work session with an ice massage over painful areas. Give your wrist a couple of weeks of rest. If the problem does not respond, or it gets worse, seek medical care.

Wrist splints may be helpful and are often used as initial treatment and should be ordered by a healthcare provider. Some splints bought at a drug store will not work. If you have continuing pain while using a splint, see your healthcare provider.

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Musculoskeletal Treatment Guidelines

Input was provided by:

- Occupational Therapy Clinic
- Physical Therapy Clinic
- Orthopedic Clinic
- Family Practice Clinic
- Okubo Clinic
- 555 Engineers
- 1st Brigade
- 3rd Brigade
- 62nd Medical Brigade

POC:

- Outcome Management

References:

- Mellion, I., Morris B. (2002). Team Physician's Handbook, 3rd Edition. Hanley & Belfus, Inc: Philadelphia, PA.
- Lillegard, Rucker. (1999). The Handbook of Sports Medicine. A symptom-oriented approach, 2nd Edition. Butterworth-Heinemann Medical: Burlington, MA.
- Baechle, Thomas, Earle, Roger. (2000) Essentials of Strength Training and Conditioning, 2nd Edition. Human Kinetics Pub: Champaign, IL
- Schenck, Robert, Jr. et al. (1999). Athletic Training and Sports Medicine, 3rd Edition. American Academy of Orthopedics: Tucson, AZ.
- http://www.mamc.amedd.army.mil/referral/Index_rg.htm
- <http://www.physsportsmed.com/issues/1998/10Oct/honing.htm>