

Madigan Army Medical Center

Referral Guidelines

Murmurs

Diagnosis/Definition

- A murmur is a series of audible vibrations produced by turbulence of circulating blood.
- Murmurs are very common and can occur in virtually all normal people under certain circumstances. Also, murmurs can be a sign of serious disease.
- It is therefore important to be able to distinguish between an innocent murmur and one that reflects an underlying heart problem.

Initial Diagnosis and Management

- Characterize the murmur using the following:
 - Intensity: (with stethoscope to chest) 1 - audible with concentration, 2 - faint but readily heard, 3 - prominent but not loud, 4 - loud, 5 - very loud, usually with a thrill, 6 - very loud (heard without touching stethoscope to chest).
 - Timing: In relation to heart sounds, systolic, diastolic, continuous, and early, middle, late, or holosystolic.
 - Location: Where murmur is the loudest, where it radiates.
 - Pitch: High or low.
 - Shape: Change in intensity throughout cycle (crescendo, decrescendo, constant).
 - Quality: Nature of the sound; harsh, blowing, cooing, rumbling, musical.
 - Effect by maneuvers: Such as standing, squatting, Valsalva, isometric handgrip and respiration.
- General heart exam listening for quality of heart sounds S1-S4.
- Exam of lungs, venous and arterial pulsations.
- History relating to presence of murmurs noted in the past, during childhood, h/o rheumatic fever or frequent strep throat infections, symptoms of cardiac disease, exercise intolerance.
- Symptoms to suggest non-cardiac causes of murmurs such as anemia, thyrotoxicosis, fever.
- 12 lead electrocardiogram and CXR can be useful in some patients.
- Innocent murmurs are very common in children and young adults and are related to vibration of blood across the pulmonic valve. Generally they are grade 1-2, early or mid-systolic, have a high-pitched - sometimes musical quality, crescendo-decrescendo shape early peaking and are best heard at the left sternal border.
- Uncertain murmurs need echocardiogram.

Ongoing Management and Objectives

- Patients with innocent murmurs should be reassured and followed by their primary care manager. It is helpful to clearly document the murmur's characteristics to help other providers who hear it in the future for comparison.
- Patients with a new systolic murmur, loud murmur (grade 3 or more), a change in intensity, or a soft murmur associated with left ventricular hypertrophy or cardiomegaly should be evaluated with an echocardiogram.
- Any type of diastolic murmur deserves evaluation with an echocardiogram.

- Valvular heart disease that is mild or moderate does normally not cause symptoms (see valvular heart disease) and normally a referral is not needed.

Indications for Specialty Care Referral

- Murmurs that are loud and on echocardiography are moderate to severe or severe should be referred.
- Patients found to have valvular lesions on echocardiography and have any symptoms or evidence of progressive cardiomegaly should be referred to the cardiology service (see referral guideline on valvular heart disease).

Criteria for Return to Primary Care

Depending on etiology of murmur, the patient may be referred back to primary care or followed intermittently by cardiology service.

Last Review for this Guideline: **January 2010**

Referral Guidelines require review every three years.

Maintained by the Madigan Army Medical Center - Quality Services Division
Clinical Practice and Referral Guidelines Administrator