Connecticut Children's CLASP Guideline

Heart Murmur

INTRODUCTION

Heart murmur is a common issue in pediatric patients, but the presence of a murmur does not always indicate the presence of heart disease. Pathologic murmurs include those louder than grade 3, all diastolic murmurs, unusually harsh systolic murmurs, and murmurs associated with clicks or abnormal splitting of S2. A murmur that increases in intensity with standing could indicate hypertrophic cardiomyopathy. Murmurs associated with dysmorphic features should be referred as there is a higher risk of congenital heart disease in syndromic patients. A number of innocent murmurs exist which are described below, and which, in the asymptomatic patient, do not require further evaluation by a pediatric cardiologist. The most common **innocent** murmurs are described in the table below:

Type of Innocent Murmur	Typical Age Range	Key Features	Outcome(s)
PERIPHERAL PULMONIC STENOSIS	Infants 1-3 months	High-pitched, systolic, heard at left upper sternal area and on back or in axillae	Unless infant is dysmorphic, or symptomatic, watchful waiting is appropriate – will go away within a few months
STILL'S VIBRATORY MURMUR	Pre-schoolers and school age children; Occasionally heard in newborns	Low-pitched "twang"; best heard with the bell at lower-left sternal border when patient supine. Gets louder with increased cardiac output (fever, anemia, etc.)	Can come and go depending on state of the child, can enhance the murmur with brief exercise. Usually resolves by adolescence
VENOUS HUM	Pre-school and young school-age	Continuous "windy" noise heard near the clavicles in a sitting patient Goes away with head turned to the side, with gentle pressure over the jugular vein, or when patient is supine	Disappears before adolescence
PULMONARY FLOW MURMUR	Older school-age children and teens	Soft systolic "flow" murmur best heard at left upper sternal border, may get louder with anemia, exercise, fever	May be difficult to distinguish from an ASD or mild pulmonary valve stenosis. Refer if there is wide, fixed split S2, if a click is heard, or if murmur is harsh sounding

INITIAL EVALUATION AND MANAGEMENT

INITIAL EVALUATION:

- Obtain patient and family history
  - Evaluate for RED FLAGS:
    - Chest pain (especially with exercise), syncope or respiratory symptoms.
    - In infants, look for fatigue and diaphoresis while feeding, cyanosis, poor weight gain.
- Obtain targeted physical exam
  - Check femoral pulses and obtain blood pressure
  - Categorize murmur using above chart

INITIAL MANAGEMENT:

- If applicable, explain diagnosis of innocent murmur to patient/family
- Provide reassurance
- Re-evaluate at next well child visit
- If murmur does not easily fall into one of the innocent categories above, consider referral to Cardiology (see below)

WHEN TO REFER

URGENT REFERRAL:

- Asymptomatic babies less than 2 months of age will be seen by Cardiology in a timely manner.
- If any symptoms are present in a newborn, contact Cardiologists immediately via One Call to determine the most appropriate triage. The risk of finding a critical ductal dependent lesion is greatest in the first 2 weeks.
- Any patient with RED FLAGS (chest pain, palpitations, exercise intolerance, syncope).
    - If symptoms are particularly concerning and a more emergent referral needed, please contact a cardiologist directly via One Call.

ROUTINE REFERRAL:

- Any asymptomatic child >2 months whose murmur does not fit one of the "innocent" categories above
- Any syndromic/dysmorphic patient (Down's, Marfan's, Fetal Alcohol, DiGeorge, etc.)
- Any child for which parent anxiety persists despite reassurance
- If primary care provider is unsure that murmur is innocent

HOW TO REFER

Referral to Cardiology via CT Children's One Call Access Center
Phone: 833.733.7669 **Fax:** 833.226.2329

Information to be included with the referral:

- Relevant findings on history and physical exam, including timing of onset of murmur
- Growth chart, labs if any were done
- Please DO NOT obtain echo prior to consultation. Studies done in an adult echo lab are not designed to look for congenital defects, and will often miss things like patent ductus, coarctation, or anomalous pulmonary veins. Cardiologist will determine if echo is warranted at time of initial consult.

WHAT TO EXPECT

What to expect from CT Children's Visit:

- Meet with cardiologist to review patient and family history
- Physical exam
- EKG – done for all routine visits
- Please tell families they will receive a cardiology consultation, and if the cardiologist determines that an echocardiogram is warranted, it will be arranged in a timely manner