Evaluation of Heart Murmurs in Children

A heart rhythm has characteristic sounds: “lub-dub...lub-dub...lub-dub....”

These sounds can be heard with a stethoscope and correspond to the normal closure of heart valves as blood flows through the heart. Occasionally, extra sounds caused by fast or choppy blood flow can be heard and are known as heart murmurs.

Heart murmurs are common in children. In fact, they are the most common reason for referral to a pediatric cardiologist. Murmurs can be present at birth or develop later in life. Most murmurs, so-called innocent, are not associated with any heart problems. Around one-third to three-quarters of children will have an innocent murmur at some time between age 1 and 14 years. Sometimes, however, murmurs may be the only sign of a heart condition and are referred to as pathologic murmurs.

Pediatric clinicians during routine well checks will collect a complete medical history for your child. They will assess pregnancy-related factors, such as exposures and maternal health conditions. They will ask about your child’s health, including growth, development, and symptoms with physical activity. They will want to know about the family history of medical conditions, including congenital heart disease, abnormal heart rhythms, sudden cardiac death, and genetic disorders. Vital signs, including blood pressure, heart rate, respiratory rate, and oxygen level, will be checked. A full physical examination will be done to look for important findings, such as signs of heart failure or features suggestive of a genetic syndrome. Specific qualities of a murmur, such as its harshness and location, can also provide insight about the risk of heart disease.

If there is suspicion for a pathologic murmur, your child will be referred to a pediatric cardiologist. Even after referral to a pediatric cardiologist, roughly two-thirds of children are found to have an innocent murmur. Pediatric cardiologists will ask more about your child’s medical history and perform a detailed physical examination. Depending on their findings, they may order tests, including an electrocardiogram to evaluate the electrical activity of the heart and an echocardiogram, or heart ultrasound, to see the heart’s structure, function, and blood flow. Echocardiography offers a sure diagnosis. In one research study at a single children’s hospital, only one-fifth of children with murmur evaluated by echocardiogram had heart disease. Sometimes, young children need medicine to keep them calm for echocardiograms to be sure the images are adequate for diagnosis. Pediatric cardiologists will interpret these tests and create a plan of care based on the results of the full evaluation.

The treatment and follow-up for your child will depend on the results of the full evaluation. If the murmur is found to be innocent, there will be no need for treatment or follow-up, although some family histories may require periodic reevaluation. If the evaluation is abnormal, your child’s pediatric cardiologist will work with you to plan the best next steps in management.

FOR MORE INFORMATION
https://www.healthychildren.org/English/health-issues/conditions/heart/Pages/Heart-Murmur.aspx
https://www.healthychildren.org/English/health-issues/conditions/heart/Pages/Common-Heart-Defects.aspx

Author: Daniel O’Meara, MD
Author Affiliations: Boston Combined Residency Program at Boston Children’s Hospital and Boston Medical Center, Boston, Massachusetts, Department of Pediatrics, Harvard Medical School, Boston, Massachusetts.
Conflict of Interest Disclosures: None reported.