

# Pediatric Cardiology

## Consult and Referral Guidelines

### Introduction

The Congenital Heart Center specializes in the diagnosis and treatment of cardiac conditions from fetal life to adulthood. We work to provide a seamless transition of care guided by a professional team in one location.

Our comprehensive cardiology services include:

- Diagnostic echocardiography
- Fetal echocardiography
- Transesophageal echocardiography (TEE)
- Electrocardiogram (ECG or EKG) monitoring
- Holter monitoring
- Treadmill exercise studies
- Tilt table
- Cardiac intensive care management
- Cardiac catheterization
- Diagnostic evaluation
- Interventional procedures
- Pulmonary hypertension evaluation and drug therapy
- Heart failure management
- Preventive cardiology/lipid management
- Adult congenital heart management and treatment
- Treatment of pre- and post-operative pediatric cardiac surgery patients

Most common reasons patients are referred include:

- Murmur
- Chest pain
- Palpitations
- Dizziness/syncope
- Cyanosis
- Kawasaki disease
- Connective tissue disease
- Genetic syndrome
- Pulmonary hypertension
- Systemic hypertension
- Hyperlipidemia
- Sports clearance
- Family history of sudden cardiac death
- Family history of cardiomyopathy
- Family history of congenital heart defect
- Arrhythmia
- Congenital heart defect

We want to make referrals easy, fast and efficient for primary care providers. This tool was developed to help create productive visits for you and your patient.

Each guideline includes three sections: suggested workup and initial management, when to refer and information needed. Suggested workups may not apply to all patients, but these are studies we generally consider during office visits.

Feedback regarding these guidelines is encouraged. Please contact HDVCH Direct to share feedback.

For access to all pediatric guidelines, visit [helendevoschildrens.org/guidelines](https://helendevoschildrens.org/guidelines)

**Appointment priority guide**

<b>Immediate</b>	Call HDVCH Direct and/or send to the closest emergency department. Contact HDVCH Direct at 616.391.2345 and ask to speak to the on-call cardiologist.
<b>Urgent</b>	Likely to receive an appointment within 2 days. Call our clinic directly at (616) 267-9150. Please feel free to ask to speak to a cardiologist if there is a question.
<b>Routine</b>	Likely to receive an appointment within 10 days. Send referral via Epic Care Link, fax completed referral form to 616.267.1408 or send referral through Great Lakes Health Connect.

<b>Diagnosis/symptom</b>	<b>Suggested workup/initial management</b>	<b>When to Refer</b>	<b>Information Needed</b>
Murmur	No testing needed prior to visit	Anytime the clinician is concerned  Obtaining an echocardiogram in a patient under 3 years of age can often be difficult, resulting in a non-diagnostic test. We recommend always making a referral to be seen by a cardiologist in this patient population, as opposed to echocardiogram only.	Referral letter to include request for consult, chief concern growth chart, and previous evaluation if pertinent.
Chest pain	No testing needed prior to visit	Anytime the clinician is concerned, especially if there are associated symptoms such as palpitations or chest pain with activity	Referral letter to include request for consult, chief concern and previous evaluation if pertinent
Palpitations	No testing needed prior to visit	Anytime the clinician is concerned, especially if there are associated symptoms such as dizziness or palpitations with activity	Referral letter to include request for consult, chief concern and previous evaluation if pertinent
Dizziness/syncope	No testing needed prior to visit	Anytime the clinician is concerned, especially if there are associated symptoms such as palpitations or dizziness with activity	Referral letter to include request for consult, chief concern and previous evaluation if pertinent

<b>Diagnosis/symptom</b>	<b>Suggested workup/initial management</b>	<b>When to Refer</b>	<b>Information Needed</b>
Cyanosis	Oxygen saturation	Abnormal saturation or saturation differential with concern for cardiac disease	Referral letter to include request for consult chief concern, growth chart and previous evaluation if pertinent
Kawasaki disease	<p>The patient should have an EKG and echocardiogram on presentation, in addition to admission to the hospital for high-dose ASA and IVIG therapy</p> <p>The patient should be discharged home on ASA 5-10 mg/kg PO daily</p> <p>Please refer to updated AHA guidelines published in March 2017:  <a href="http://circ.ahajournals.org/content/early/2017/03/29/CIR.0000000000000484">http://circ.ahajournals.org/content/early/2017/03/29/CIR.0000000000000484</a></p>	All patients diagnosed with Kawasaki disease should have cardiology follow-up with a repeat echocardiogram at 2 weeks and 4-6 weeks after IVIG therapy	Referral letter to include request for consult chief concern and previous evaluation, including date of IVIG therapy, EKG and echocardiogram.
Connective Tissue Disease	Consider consultation with Rheumatology or Genetics, as well as Cardiology	Known or suspected connective tissue disease with possibility of cardiac complications, including Marfan syndrome, Ehlers-Danlos, Loeys-Dietz, etc.	Referral letter to include request for consult, chief concern, growth chart and previous evaluation if pertinent
Genetic Syndrome	<p>No testing needed prior to visit</p> <p>Consider genetic counseling for diagnosis</p>	Cardiac evaluation should be performed in all patients with a genetic syndrome that could have cardiac involvement	Referral letter to include request for consult, chief concern, growth chart and previous evaluation if pertinent
Pulmonary Hypertension	No testing needed prior to visit	Known, or at risk of developing, pulmonary hypertension (e.g., morbid obesity, significant sleep apnea, neonatal)	<p>Referral letter to include request for consult, chief concern, growth chart and previous evaluation or management if pertinent</p> <p>NICU documentation if care received outside of Spectrum Health</p>

<b>Diagnosis/symptom</b>	<b>Suggested workup/initial management</b>	<b>When to Refer</b>	<b>Information Needed</b>
Systemic Hypertension	Consultation with nephrology recommended as first-line evaluation	Cardiac etiology for hypertension or cardiac complication such as left ventricular hypertrophy  Please refer to Nephrology hypertension guidelines located on the pediatric guidelines webpage	Referral letter to include request for consult, chief concern, growth chart and previous evaluation or management if pertinent
Hyperlipidemia	Consultation with endocrinology recommended as first-line evaluation  Fasting lipid	Consider a referral to the Helen DeVos Children's Hospital Hyperlipidemia Clinic	Referral letter to include request for consult, chief concern, growth chart and previous evaluation or management if pertinent
Sports clearance	No testing needed prior to visit  Most recent AHA guidelines do not recommend routine cardiac clearance in all athletes	Referral should be made based on symptoms  Abnormal EKG	Referral letter to include request for consult, chief concern, growth chart and previous evaluation if pertinent
Family history of sudden cardiac death	Detailed family history	Screening recommended in all first-degree relatives  Please refer to AHA guidelines: <a href="http://circ.ahajournals.org/content/early/2011/11/07/CIR.0b013e318223e2bd">http://circ.ahajournals.org/content/early/2011/11/07/CIR.0b013e318223e2bd</a>	Referral letter to include request for consult, chief concern and previous evaluation if pertinent
Family history of cardiomyopathy	Detailed family history	Screening recommended in all first-degree relatives  Please refer to AHA guidelines: <a href="http://circ.ahajournals.org/content/early/2011/11/07/CIR.0b013e318223e2bd">http://circ.ahajournals.org/content/early/2011/11/07/CIR.0b013e318223e2bd</a>	Referral letter to include request for consult, chief concern and previous evaluation if pertinent
Family history of congenital heart defect	No testing needed prior to visit	In the majority of patients, cardiac evaluation is not required in the absence of cardiac symptoms  One case that may be considered is a patient with a family history of bicuspid aortic valve	Referral letter to include request for consult, chief concern and previous evaluation if pertinent

<b>Diagnosis/symptom</b>	<b>Suggested workup/initial management</b>	<b>When to Refer</b>	<b>Information Needed</b>
Arrhythmia	No testing needed prior to visit	We recommend that all patients with any SVT, VT or significant ectopic rhythm be managed by a cardiologist	Referral letter to include request for consult, chief concern and previous evaluation if pertinent (EKG, Holter or event monitor, rhythm strips, etc.)
Congenital heart defect	No testing needed prior to visit	We recommend that all patients with a congenital heart defect be managed by a cardiologist	Referral letter to include request for consult, chief concern, growth chart and previous evaluation if pertinent

### **Diagnostic testing:**

We offer the ability to refer for diagnostic testing only, including echocardiogram and EKG. Please refer to the American Society of Echocardiography guidelines and standards: [http://www.asecho.org/wordpress/wp-content/uploads/2013/05/Pediatric-Echo\\_Pedes.pdf](http://www.asecho.org/wordpress/wp-content/uploads/2013/05/Pediatric-Echo_Pedes.pdf).

Obtaining an echocardiogram in a patient under 3 years of age can often be difficult, resulting in a non-diagnostic test. We recommend a referral to be seen by a cardiologist in this patient population.

### **Adult Congenital Program:**

The Congenital Heart Center specializes in diagnosing and treating all congenital heart conditions regardless of age. In fact, we are one of the few centers in the country offering a seamless transition of care as patients mature into adulthood, and are proud to be one of the 112 self-reported adult congenital heart centers in North America, according to the Adult Congenital Heart Association.

The adult congenital heart disease program was made to meet your special and complex needs through a multidisciplinary team of experts devoted to the lifelong care of individuals with congenital heart disease. Our team members received specialized training to understand and care for your heart and accommodate changes as you grow older. Our goal is to help age-appropriate adolescents (13 years of age or older) as well as adults living with congenital heart disease to understand and successfully manage their own care, including:

- Description of congenital defect and prior surgeries
- Medications and preventing infection (endocarditis)
- Healthy lifestyle and exercise prescription
- Genetics, contraception and pregnancy
- Education and career choices

- Insurance counseling and financial resources
- Support systems available
- Planning advance directives, power of attorney

For a full description of our program as well as information about our outcomes, please visit our website at <https://www.spectrumhealth.org/patient-care/childrens-health/congenital-heart-center>.

**HDVCH Direct phone: 616.391.2345**

**Congenital Heart Center phone: 616.267.9150**

*Helen DeVos Children's Hospital developed these referral guidelines as a general reference to assist referring providers. Pediatric medical needs are complex, and these guidelines may not apply in every case. Helen DeVos Children's Hospital relies on its referring providers to exercise their own professional judgment with regard to the appropriate treatment and management of their patients. Referring providers are solely responsible for confirming accuracy, timeliness, completeness, appropriateness and helpfulness of this material and making all medical, diagnostic and prescription decisions.*