# Pediatric Cardiology Referral Guidelines

## Table of Contents:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Heart Murmur</td>
<td>2</td>
</tr>
<tr>
<td>B. Palpitations</td>
<td>2</td>
</tr>
<tr>
<td>C. Arrhythmia</td>
<td>2</td>
</tr>
<tr>
<td>D. Abnormal ECG</td>
<td>2</td>
</tr>
<tr>
<td>E. Chest Pain</td>
<td>3</td>
</tr>
<tr>
<td>F. Syncope</td>
<td>3</td>
</tr>
<tr>
<td>G. Hypertension</td>
<td>4</td>
</tr>
<tr>
<td>H. Attention Deficit Disorder (ADD)</td>
<td>4</td>
</tr>
<tr>
<td>I. Kawasaki Disease</td>
<td>4</td>
</tr>
<tr>
<td><strong>Genetic Disorders:</strong></td>
<td></td>
</tr>
<tr>
<td>J. Marfan</td>
<td>5</td>
</tr>
<tr>
<td>K. Turner</td>
<td>5</td>
</tr>
<tr>
<td>L. Downs</td>
<td>5</td>
</tr>
<tr>
<td>M. DiGeorge</td>
<td>5</td>
</tr>
<tr>
<td>N. Noonan</td>
<td>5</td>
</tr>
<tr>
<td>O. Muscular Dystrophy</td>
<td>5</td>
</tr>
<tr>
<td>P. Premature Term Infants with:</td>
<td>5</td>
</tr>
<tr>
<td>Q. Patent Ductus Arteriosus (PDA)</td>
<td>5</td>
</tr>
<tr>
<td>R. Atrial Septal Defect (ASD)</td>
<td>5</td>
</tr>
<tr>
<td>S. Small Ventricular Septal Defect (VSD)</td>
<td>5</td>
</tr>
<tr>
<td><strong>T. Hyperlipidemia</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

For appointments, please call the Patient Access Center at: 888-770-2462 (888-770-CHOC)
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Fax the Referral Request Form along with ALL pertinent medical records to: 855-246-2329 (855-CHOC-FAX)
To speak with a CHOC Children’s Specialist in Cardiology, please call: 714-509-3939

Website: [http://www.choc.org/specialists/cardiology](http://www.choc.org/specialists/cardiology)
A. Heart Murmur [ICD-9 Code: 785.2] [ICD-10 Code: R01.1, R01.0]

<table>
<thead>
<tr>
<th>Refer to Cardiology</th>
<th>Timeframe</th>
<th>Pre-Referral Workup</th>
<th>Pre-Authorization</th>
<th>Further Testing May Include</th>
</tr>
</thead>
<tbody>
<tr>
<td>• &lt; 1 month or any age with symptoms: (Failure to thrive/poor feeding, cyanosis, decreased pulses, respiratory distress)</td>
<td>Please call Cardiology for immediate consultation 714-509-3939</td>
<td>None</td>
<td>Consult; Pulse oximetry; ECG; Echocardiogram; Chest X-ray</td>
<td>Cardiac catheterization; Chest CT with angiogram; Cardiac MRI</td>
</tr>
<tr>
<td>• 1 to 6 months AND asymptomatic</td>
<td>Within two weeks</td>
<td>None</td>
<td>Consult; Pulse oximetry; ECG; Echocardiogram; Chest X-ray</td>
<td>Cardiac catheterization; Chest CT with angiogram; Cardiac MRI</td>
</tr>
<tr>
<td>• &gt; 6 months AND asymptomatic</td>
<td>First Available</td>
<td>None</td>
<td>Consult; Pulse oximetry; ECG; Echocardiogram</td>
<td>Cardiac catheterization; Chest CT with angiogram; Cardiac MRI</td>
</tr>
</tbody>
</table>

B. Palpitations [ICD-9 Code: 785.1] [ICD-10 Code: R00.2]

C. Arrhythmia [ICD-9 Code: 427.9] [ICD-10 Code: I49.9]

D. Abnormal ECG [ICD-9 Code: 794.31] [ICD-10 Code: R94.31]

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## Pediatric Cardiology Referral Guidelines

### E. Chest Pain  [ICD-9 Code: 786.5*]  [ICD-10 Code: R07.*]

**Refer to Cardiology**
- Exertional
- Nonexertional

**Timeframe**
- Within one week or call Cardiology for immediate consultation 714-509-3939
- First available

**Pre-Referral Workup**
- None-Recommend activity restriction until cardiology visit
- None

**Pre-Authorization**
- Consult; ECG; Echocardiogram; Exercise stress test w/ pulmonary function test
- Consult; ECG; Echocardiogram

**Further Testing May Include:**
- 30-day event monitor; Exercise stress test; Cardiac catheterization with electrophysiology study; Cardiac MRI

### F. Syncope  [ICD-9 Code: 780.2]  [ICD-10 Code: R55]

**Refer to Cardiology**
- Exertional
- Nonexertional

**Timeframe**
- Within one week or call Cardiology for immediate consultation 714-509-3939
- First available

**Pre-Referral Workup**
- None-Recommend activity restriction until cardiology visit
- None

**Pre-Authorization**
- Consult; ECG; Echocardiogram; Exercise stress test w/ pulmonary function test
- Consult; ECG; Echocardiogram

**Further Testing May Include:**
- 30-day event monitor; Exercise stress test; Cardiac catheterization with electrophysiology study; Cardiac MRI

### G. Hypertension  [ICD-9 Code: 401.9]  [ICD-10 Code: I10]

**Refer to Cardiology**
- Average SBP/DBP ≥ 90th % with comorbid factors over 3 visits or ≥ 95th % for age/sex/height

**Timeframe**
- First available

**Pre-Referral Workup**
- Basic metabolic panel, CBC, Thyroid function tests based on history:
- +/- HgbA1C, Cholesterol panel, Renal workup

**Pre-Authorization**
- Consult; ECG; Echocardiogram

**Further Testing May Include:**
- Cardiac catheterization; Chest CT with angiogram

**Reference:**

Diagnosis, management and treatment of high blood pressure in children and adolescents (2004)
Tables 3 and 4-Blood pressure levels for boys and girls by age and height percentile
### H. Attention Deficit Hyperactivity Disorder (ADHD)  [ICD-9 Code: 314.01] [ICD-10 Code: F90.*]

<table>
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<tr>
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<th>Further Testing May Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal ECG</td>
<td>First available</td>
<td>None</td>
<td>Consult; ECG; Echocardiogram; 24-hour Holter monitor</td>
<td>Exercise stress test</td>
</tr>
</tbody>
</table>

Reference:

AHA scientific statement for cardiovascular monitoring of children receiving medications for ADHD (2008)
http://circ.ahajournals.org/content/117/18/2407.full.pdf

Table 3-Cardiac effects of medications used to treat ADHD
Table 4-ECG findings and referral recommendations

### I. Kawasaki Disease  [ICD-9 Code: 446.1] [ICD-10 Code: M30.3]

<table>
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<th>Further Testing May Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncomplicated (No or transient coronary artery ectasia/minimal cardiac involvement)</td>
<td>2 weeks and 6-8 weeks post onset of illness</td>
<td>None</td>
<td>Follow up visit; ECG; Echocardiogram</td>
<td>None</td>
</tr>
</tbody>
</table>

• Complicated
  - To be determined based on inpatient cardiology consult
  - None
  - Follow up visit; ECG; Echocardiogram
  - Chest CT with angiogram; Cardiac catheterization

Reference:

Diagnosis, treatment, and long term management of Kawasaki Disease (2004)
http://circ.ahajournals.org/content/110/17/2747.full.pdf

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Pediatric Cardiology Referral Guidelines

### Genetic Disorders:

<table>
<thead>
<tr>
<th>Name</th>
<th>ICD-9 Code</th>
<th>ICD-10 Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Marfan</td>
<td>759.82</td>
<td>Q87.4*</td>
</tr>
<tr>
<td>K. Turner</td>
<td>758.6</td>
<td>Q96.*</td>
</tr>
<tr>
<td>L. Downs</td>
<td>758.0</td>
<td>Q90.*</td>
</tr>
<tr>
<td>M. DiGeorge</td>
<td>279.11</td>
<td>D82.1</td>
</tr>
<tr>
<td>N. Noonan</td>
<td>759.89</td>
<td>Q87.89</td>
</tr>
<tr>
<td>O. Muscular Dystrophy</td>
<td>359.*</td>
<td>G71.*</td>
</tr>
</tbody>
</table>

Refer to Cardiology

- When suspected

### Timeframe

- First available

### Pre-Referral Workup

- None

### Pre-Authorization

- Consult; Pulse oximetry; ECG; Echocardiogram; Chest X-ray

Further Testing May Include:

- Chest CT with angiogram; Cardiac catheterization

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### P. Premature

[ICD-9 Code: V21.3*] [ICD-10 Code: P07.0*, P07.1*, P07.3*]

Or Term Infants with:

- Q. Patent Ductus Arteriosus (PDA) [ICD-9 Code: 747.0] [ICD-10 Code: Q25.0]
- R. Atrial Septal Defect (ASD) [ICD-9 Code: 745.5] [ICD-10 Code: Q21.1]
- S. Small Ventricular Septal Defect (VSD) [ICD-9 Code: 745.4] [ICD-10 Code: Q21.0]

Refer to Cardiology

- Asymptomatic

<table>
<thead>
<tr>
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<th>Pre-Referral Workup</th>
<th>Pre-Authorization</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 - 2 months post discharge</td>
<td>None</td>
<td>Consult; Pulse oximetry; ECG; Echocardiogram; Chest X-ray</td>
<td>None</td>
</tr>
</tbody>
</table>

- Symptomatic

<table>
<thead>
<tr>
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<th>Pre-Authorization</th>
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</tr>
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<tbody>
<tr>
<td>To be determined based on inpatient cardiology consult</td>
<td>None</td>
<td>Follow up visit; Pulse oximetry; ECG; Echocardiogram; Chest X-ray</td>
<td>None</td>
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T. Hyperlipidemia \[ICD-9 \text{ Code: 272.4} \text{[ICD-10 \text{ Code: E78.4, E78.5}]}

**Screen Patients**

- Age 2 - 10 yrs. if family history of dyslipidemia or early cardiovascular disease (< 55 yrs. for men/ < 65 yrs. for women)
- Patient overweight (body mass index 85 - 95\textsuperscript{th} %) or obese (BMI > 95\textsuperscript{th} %)
- Systemic hypertension (SBP/DBP ≥ 95\textsuperscript{th} %)
- Diabetes mellitus

**Refer to Cardiology**

- Triglyceride level >300
- Patients with BMI ≥ 90\textsuperscript{th} % and elevated triglycerides (<500mg/dl) refer patient to a weight management program and demonstrate participation for 6 months without affect on triglyceride levels before referring to the lipid disorders clinic
- LDL > 160 and no family history of CVD
- LDL > 130 with family history of premature CVD or cerebrovascular disease.

**Workup**

- Fasting lipid profile

**Timeframe**

- First available
- Priority scheduling for TG ≥ 500
- Please call Dr. Muhonen for consult on TG ≥ 1000
  - 714-509-3939

**Pre-Referral Workup**

- Hepatic and thyroid function panel; fasting insulin and glucose levels; Urinalysis
- Consult Referral to:
  - PODER (Prevention of Obesity and Diabetes through Education and Resources) for all ages
    - 714-509-7323
  - N.E.W. You Nutrition Class for adolescents
    - 714-509-8455

**Pre-Authorization**

- Consult; ECG; Echocardiogram

**Further Testing:**

- None

Reference:
Lipid screening and cardiovascular health in childhood (2008)
http://pediatrics.aappublications.org/content/122/1/198.full.pdf

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