Pediatric Cardiology Management and Referral Guidelines

Provided by

[Logos of Children’s Cardiology Associates and Dell Children’s Medical Center of Central Texas]
# Hyperlipidemia (E78.0-78.2)

## Diagnoses: ICD-10

Hypercholesterolemia: E78.0  
Hypertriglyceridemia: E78.1  
Mixed hyperlipidemia: E78.2

## Target Population

Risk based screening was found to miss 30-60% of children with dyslipidemia.  
Universal lipid screening is recommended for children aged:
- 9-11
- 17-21 (after puberty is complete)
- Or earlier, if:
  - Family history of dyslipidemia
  - Family history of early onset coronary artery disease
  - Child has additional cardiovascular risk factors.

Pediatricians play an important role in preventing adult coronary artery disease by screening.

## Clinical Findings

- High childhood cholesterol predicts earlier adult atherosclerosis, and decreasing lipids over a lifetime decreases atherosclerosis.
- Most mild lipid abnormalities can be addressed by lifestyle changes such as increased exercise, weight loss and dietary changes. Specific guidelines have been established to help guide initiation of pharmacologic therapy.

## Evaluation Recommendations

- Screening can be performed with a non-fasting lipid panel or fasting lipid panel.
  - A non-fasting lipid panel can be used to calculate Non-HDL cholesterol (Non-HDL = total cholesterol – HD; abnormal > 140 mg/dL).
  - If Non-HDL cholesterol is abnormal a fasting lipid panel should be obtained.
  - Child has additional cardiovascular risk factors.
- Thyroid dysfunction and nephrotic syndrome may be occult causes of dyslipidemia and should be screened if dyslipidemia found.
- Initial treatment of dyslipidemia requires diet changes and implementation of heart healthy lifestyle. A decrease in weight and simple carbohydrate intake, increase in exercise
and omega-3-fatty acid intake are mainstays of treatment for hypertriglyceridemia

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<th>A child with LDL &gt; 190 mg/dL or fasting triglycerides &gt; 500 mg/dL may represent a metabolic/genetic abnormality and should be sent to a lipid specialist.</th>
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| Treatment Recommendations  | A child with LDL > 160 mg/dL or fasting triglycerides > 500 mg/dL should be sent to a lipid specialist.  

- Statins are the most effective medications to treat hypercholesterolemia. Studies have suggested that statins are safe after 10 years of age. After 6 months of lifestyle changes, the threshold for initiating statins depends on risk factors:  
  - LDL > 190 mg/dL after trial of lifestyle changes  
  - LDL > 160 mg/dL if risk factors (1 high level risk factor or 2 moderate risk factors), family history  
  - LDL > 130 mg/dL in children with diabetes.  

- Fish oil contains essential omega-3 fatty acids EPA and DHA which has been shown to lower triglycerides. Extrapolation from adult studies suggests that 1000 – 4000 mg of EPA and DHA may be necessary to decrease triglycerides. |
| Ancillary Documentation Needed | All lipid panels with documentation as to whether fasting or not, thyroid and urinalysis should be available for review.  
  - Since hypertriglyceridemia can cause fatty liver and transaminitis, liver function tests should be available for review. |
| Additional Information     | Up-to-date website: Dyslipidemia in Children, updated August 2016. |

If at any time patient develops signs/symptoms that make more urgent evaluation important, please alert the Dell Children’s Regional Heart Center (512-454-1110) to this change in status or go to the Emergency Department.

These recommendations are designed to be used by primary care physicians wishing to refer children with an abnormal lipid profile for additional evaluation and care. They are recommendations and are based on best evidence and expert consensus.