

Screening for High Cholesterol in Children

The Pediatric CV Risk Reduction Initiative now recommends **universal screening for high cholesterol in all children between 9 to 11 years of age** and for high-risk children 2 to 9 years of age:

- Parent, grandparent, sibling, aunt, uncle < 55 years (male) or <65 (female) with: Coronary artery disease by angiography, Myocardial Infarction, Angina, Peripheral Vascular Disease, Stroke, Sudden Cardiac Death
- Parent with: Tchol > 240 mg/dl
- No Family History available, especially if child smokes, has high blood pressure, obesity, poor diet
- Child has diabetes, hypertension, BMI > 95th%ile or smokes cigarettes
- Child has a high risk medical condition (chronic renal disease, transplant recipient, Kawasaki with aneurysms)

Screening should start with: a non-fasting non-HDL-Cholesterol = Total Cholesterol – HDL-Cholesterol

- < 120 mg/dl is ideal
- 120 to 144 mg/dl requires a repeat in a few weeks
- 145 mg/dl requires a fasting complete lipid profile
- However, if only non-fasting Tchol is available, >200 mg/dl should prompt fasting lipid panel

Tips on obtaining an accurate Fasting Complete Lipid Profile:

- Draw after a 12-hour fast.
- Do not obtain during acute illness.
- Most labs calculate LDL = TChol - HDL - (TG/5).
- LDL is not accurate if TG > 300-400 mg/dl. A direct LDL test must be requested.

Evaluation & Therapy based on fasting lipid levels:

- Healthy diet and exercise for all children regardless of lipid levels
- Evaluate for secondary causes (thorough history, physical, usually no advanced labs needed) if:

Lipid	Single Fasting Level	Average of Multiple Fasting Levels
TChol	>240	>200
LDL	>160	>130
HDL	<30	<35
TG	>250	>100 (<10 yrs) or >130 (over 10 yrs)

- After 6 months, if lifestyle changes are ineffective, drug therapy for children over 10 years of age for:
 - LDL > 190
 - LDL >160 & positive Family History of early CAD or >2 other CV risk factors in the child.
 - LDL > 130 with Diabetes, Chronic Kidney Disease, Heart Transplant, Post-Kawasaki's Syndrome with coronary aneurysm.
 - TG > 200-499 mg/dL

The CCHMC Lipid Center can:

Rule out secondary dyslipidemia and perform advanced lipid testing.

Evaluate diet with computer analysis of 3-day diet records.

Initiate Therapeutic Lifestyle Changes including consultation with dietitians, behavioral psychologists with expertise in therapeutic lifestyle changes and exercise physiologists.

Cincinnati Children's Hospital Lipid Clinic Referral Number: 513-636-0135