

Assessing Risk:

Selective Cholesterol Screening Ages 2 to 18 Years

The following screening is recommended for children and adolescents (over age 2 years) of a parent with an elevated blood cholesterol level (240 mg/dl or higher):

- **initial screen - total blood cholesterol**
- **if the total cholesterol is higher than 200 mg/dL -**
obtain fasting lipoprotein analysis for HDL and LDL cholesterol levels
- **if the total cholesterol is borderline (170-199 mg/dL) -**
a second measurement should be obtained and averaged with the first result. If the average is borderline or high, a fasting lipoprotein analysis should be obtained.

The following screening is recommended for children and adolescents (over age 2 years) whose parents or grandparents, at ≤ 55 years of age,

- **underwent diagnostic coronary angiography and were found to have coronary atherosclerosis**
This includes those who have undergone balloon angioplasty or coronary artery bypass surgery.
- **had a documented myocardial infarction, angina pectoris, peripheral vascular disease, cerebrovascular disease, or sudden cardiac death**
- **The initial test for these children should be a lipoprotein analysis**
This test requires a 12-hour fast to obtain accurate triglyceride levels, which are necessary for the computation of LDL-cholesterol levels. Because there is considerable variability in some children, once a lipoprotein analysis is obtained, it should be repeated so that an average LDL-cholesterol level can be calculated.

For children and adolescents whose parental history cannot be obtained, particularly for those with other risk factors, physicians may choose to measure cholesterol levels to identify those in need of nutritional and medical advice.

Optional cholesterol testing may be appropriate for children who are judged to be at higher risk for coronary heart disease, independent of family history. For example, adolescents who smoke, consume excessive amounts of saturated fats and cholesterol, or are overweight may also be tested at the discretion of their physician.

Other Risk Factors That Contribute to Earlier Onset of Coronary Heart Disease

- **family history of premature coronary heart disease, cerebrovascular disease, or occlusive peripheral vascular disease**
(definite onset before the age of 55 years in siblings, parent or sibling of parent)
- **cigarette smoking**
- **elevated blood pressure**
- **low HDL-cholesterol concentration** (less than 35 mg/dL)
- **severe obesity** (at or above 95th percentile weight for height)
- **diabetes mellitus**
- **physical inactivity**

For parents who do not know their cholesterol levels, physicians should strongly encourage them to have their levels measured.

Source:

Committee on Nutrition, American Academy of Pediatrics. Cholesterol in Childhood. *Pediatrics*. 1998;101(1):141-147, at 143-144.