



Complete Summary

GUIDELINE TITLE

Lipid screening and cardiovascular health in childhood.

BIBLIOGRAPHIC SOURCE(S)

Daniels SR, Greer FR, Committee on Nutrition. Lipid screening and cardiovascular health in childhood. Pediatrics 2008 Jul;122(1):198-208. [69 references] [PubMed](#)

GUIDELINE STATUS

This is the current release of the guideline.

All clinical reports from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Cardiovascular disease
- Dyslipidemia

GUIDELINE CATEGORY

Counseling
Evaluation
Management
Prevention
Risk Assessment

Screening
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Nutrition
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Dietitians
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To replace the 1998 policy statement from the American Academy of Pediatrics (AAP) on cholesterol in childhood

TARGET POPULATION

Children age 2 years and older

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation and Screening

1. Cholesterol screening with fasting lipid profile
2. Assessment of family history of dyslipidemia or premature cardiovascular disease
3. Assessment of cardiovascular risk status

Management and Treatment

1. Lifestyle interventions
 - Healthful diet, dietary changes, nutritional counseling
 - Increased physical activity
2. Weight management for overweight and obese patients
3. Pharmacologic interventions for dyslipidemias

MAJOR OUTCOMES CONSIDERED

- Blood lipid and lipoprotein concentrations
- Incidence of overweight and obesity
- Incidence of cardiovascular disease and atherosclerosis in adulthood

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Clinical Report, "Lipid Screening and Cardiovascular Health in Childhood" was based on a literature search including new references since the previously published American Academy of Pediatrics statement. Various approaches were used including a PubMed search, reference lists of related studies, reviews, editorials, the use of a recent systematic review from the US Preventive Services Task Force, and from guidelines from other organizations including the American Heart Association and the American Diabetes Association. No specific inclusion/exclusion criteria were used for literature included in the report. Search terms used included: *cholesterol*, *lipids*, *screening treatment*, *children*, *pediatric*, and were generally designed to identify appropriate observational studies, clinical trials, reviews, meta-analyses and systematic reviews.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

1. The population approach to a healthful diet should be recommended to all children older than 2 years according to Dietary Guidelines for Americans. This approach includes the use of low-fat dairy products. For children between 12 months and 2 years of age for whom overweight or obesity is a concern or who have a family history of obesity, dyslipidemia, or cardiovascular disease (CVD), the use of reduced-fat milk would be appropriate.
2. The individual approach for children and adolescents at higher risk for CVD and with a high concentration of low-density lipoprotein (LDL) includes recommended changes in diet with nutritional counseling and other lifestyle interventions such as increased physical activity.
3. The most current recommendation is to screen children and adolescents with a positive family history of dyslipidemia or premature (≤ 55 years of age for men and ≤ 65 years of age for women) CVD or dyslipidemia. It is also recommended that pediatric patients for whom family history is not known or those with other CVD risk factors, such as overweight (BMI ≥ 85 th percentile, < 95 th percentile), obesity (BMI ≥ 95 th percentile), hypertension (blood pressure ≥ 95 th percentile), cigarette smoking, or diabetes mellitus, be screened with a fasting lipid profile.
4. For these children, the first screening should take place after 2 years of age but no later than 10 years of age. Screening before 2 years of age is not recommended.
5. A fasting lipid profile is the recommended approach to screening, because there is no currently available noninvasive method to assess atherosclerotic CVD in children. This screening should occur in the context of well-child and health maintenance visits. If values are within the reference range on initial screening, the patient should be retested in 3 to 5 years.
6. For pediatric patients who are overweight or obese and have a high triglyceride concentration or low high-density lipoprotein (HDL) concentration, weight management is the primary treatment, which includes improvement of diet with nutritional counseling and increased physical activity to produce improved energy balance.

7. For patients 8 years and older with an LDL concentration of ≥ 190 mg/dL (or ≥ 160 mg/dL with a family history of early heart disease or ≥ 2 additional risk factors present or ≥ 130 mg/dL if diabetes mellitus is present), pharmacologic intervention should be considered. The initial goal is to lower LDL concentration to < 160 mg/dL. However, targets as low as 130 mg/dL or even 110 mg/dL may be warranted when there is a strong family history of CVD, especially with other risk factors including obesity, diabetes mellitus, the metabolic syndrome, and other higher-risk situations.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate screening and management of children and adolescents with abnormal lipid and lipoprotein concentrations to lower the lifelong risk of cardiovascular disease

POTENTIAL HARMS

- Potential adverse effects of bile acid sequestrants include gastrointestinal symptoms, constipation, cramping, bloating.
- Potential adverse effects of cholesterol-absorption blockers include gastrointestinal symptoms.
- Potential adverse effects of 3-hydroxy-3-methyl-glutaryl coenzyme A reductase inhibitors (statins) include myopathy, rhabdomyolysis, increased hepatic transaminase levels, teratogenicity.
- Adverse effects of fibrates are similar to those of statins; the risk of myopathy and rhabdomyolysis is markedly increased when fibrates (especially gemfibrozil) are used in combination with statins or in patients with renal insufficiency.

QUALIFYING STATEMENTS

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The guidance in this report does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2008 Jul

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Pediatrics

GUIDELINE COMMITTEE

Committee on Nutrition

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Academy of Pediatrics \(AAP\) Web site](#).

Print copies: Available from American Academy of Pediatrics, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on April 7, 2009. The information was verified by the guideline developer on April 23, 2009.

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Date Modified: 5/18/2009

