Complete Summary

GUIDELINE TITLE

Interpreting and managing blood lead levels <10 micrograms/dL in children and reducing childhood exposures to lead: recommendations of CDC's Advisory Committee on childhood lead poisoning prevention.

BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention (CDC) Advisory Committee on Childhood. Interpreting and managing blood lead levels < 10 microg/dL in children and reducing childhood exposures to lead: recommendations of CDC's advisory committee on childhood lead poisoning prevention. MMWR Recomm Rep 2007 Nov 2;56(RR-8):1-16. [128 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Exposure to lead

GUIDELINE CATEGORY

Evaluation
Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Family Practice
Pediatrics

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide information to help clinicians understand blood lead levels (BLLs) <10 micrograms/dL, identify gaps in knowledge concerning lead levels in this range, and outline strategies to reduce childhood exposures to lead

TARGET POPULATION

Children at risk for exposure to lead

INTERVENTIONS AND PRACTICES CONSIDERED

1. Anticipatory guidance to parents regarding sources of lead, identification of lead hazards, and reduction of potential exposure
2. Environmental and family occupational history
3. Assessment for developmental and behavior status, with further evaluation and therapy as necessary
4. Promotion of strategies for optimum development, including early enrichment programs
5. Review of office procedures concerning risk assessment and screening
6. Diagnostic blood tests on all children suspected of having lead exposure

MAJOR OUTCOMES CONSIDERED

- Blood lead levels (BLL)
- Adverse health outcomes associated with lead exposure

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) provides advice and guidance to the U.S. Department of Health and Human Services and the Centers for Disease Control and Prevention (CDC) regarding new scientific knowledge and technologic developments and their practical implications for preventing childhood lead poisoning, and recommends improvements, as needed. ACCLPP members are selected on the basis of their expertise in childhood lead poisoning prevention, blood lead screening, diagnosis, and medical management. ACCLPP liaisons represent federal agencies and organizations with particular interest and expertise in childhood lead poisoning prevention.

In October 2003, ACCLPP formed another workgroup comprising three pediatricians and a CDC health scientist to review the scientific literature regarding clinical management options for blood lead levels (BLLs) <10 micrograms/dL and to outline recommendations for clinical care providers. On the basis of its analysis, the workgroup developed draft recommendations that were reviewed and later adopted by Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) in February 2006.

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

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

On the basis of the workgroup's analysis, the workgroup developed draft recommendations that were reviewed and later adopted by Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) in February 2006.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Summary of Recommendations

Recommendations for clinicians are given below (refer to the original guideline document for recommendations for government agencies).

For Clinicians

- Provide anticipatory guidance to parents of all young children regarding sources of lead and help them identify sources of lead in their child's environment. Obtain an environmental and family occupational history and educate parents about the most common sources of childhood lead exposure for their child and in their community. Encourage parents to identify lead hazards and sources in their homes and reduce their child's potential for exposure to lead, including the safe implementation of control measures before blood lead levels (BLLs) increase. Warn parents about the dangers poised by unsafe renovation methods and to be cognizant of the possibility of new and reemerging sources of lead in children's environments. Direct parents to local, state, and federal agencies and organizations for information, particularly concerning methods to identify and safely repair lead hazards (See the Appendix in the original guideline document).
- Help parents to understand the uncertainty of a blood lead value and potential reasons for its fluctuation, including error introduced by the sampling methods and laboratory-, age-, and season-related exposures.
- Assess all children for developmental and behavior status and seek further evaluation and therapy to reduce developmental or behavioral problems, as necessary. Consider the potential influences of lead when conducting developmental screening. For children with multiple developmental risk factors, which might include lead exposures, consider more frequent developmental surveillance or conduct more extensive developmental evaluations.
- Discuss with parents the potential impact of lead on child development and promote strategies that foster optimum development, including encouraging parents to influence their child's development positively by providing nurturing and enriching experiences. For all children from economically and socially low-resource families living in areas where exposure to lead is likely, promote participation in early enrichment programs regardless of the child's BLL.

- Whenever possible, utilize laboratories that can achieve routine performance of ± 2 micrograms/dL for blood lead analysis. Evaluate laboratory performance by reviewing the laboratory's quality control chart or statistical quality control summary.
- Review office procedures and policies to ensure that lead exposure risk assessment or blood lead screening is performed on all children as required by state or local health officials or as recommended by Centers for Disease Control (CDC). Consider the child's age, season of testing, and exposure history when deciding when to obtain follow-up blood lead tests. For a child whose BLL is approaching 10 micrograms/dL, more frequent blood lead screening (i.e., more than annually) might be appropriate, particularly if the child is aged <2 years old, was tested at the start of warm weather when BLLs tend to increase, or is at high risk for lead exposures.
- Perform a diagnostic blood lead test on all children suspected of having lead exposure or an elevated BLL and institute the recommended management guidelines if a child's BLL increases to >10 micrograms/dL.
- Become informed about lead exposure prevention strategies of local or state health departments and partner with public health agencies, community groups, and parents to work toward establishing lead-safe environments in homes and schools for all children and the reduction of exposure to lead from all sources. Advocate for the expansion of services that foster lead poisoning primary prevention.

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 for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Because no safe blood lead levels (BLL) has been defined, small reductions in population-level exposures to lead will likely affect substantial numbers of children, and can be expected to reduce the number of children affected by adverse health outcomes associated with lead exposure.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

References to non-Centers for Disease Control (CDC) sites on the Internet are provided as a service to Morbidity and Mortality Weekly Report (*MMWR*) readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. Uniform resource locator (URL) addresses listed in *MMWR* were current as of the date of publication.

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

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Centers for Disease Control and Prevention (CDC) Advisory Committee on Childhood. Interpreting and managing blood lead levels < 10 microg/dL in children and reducing childhood exposures to lead: recommendations of CDC's advisory committee on childhood lead poisoning prevention. MMWR Recomm Rep 2007 Nov 2;56(RR-8):1-16. [128 references] PubMed

ADAPTATION

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

DATE RELEASED

2007 Nov

GUIDELINE DEVELOPER(S)

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

SOURCE(S) OF FUNDING

United States Government

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GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Centers for Disease Control and Prevention (CDC) Web site in:

- HTML format
- PDF format

Print copies: Available from the Centers for Disease Control and Prevention, MMWR, Atlanta, GA 30333. Additional copies can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; (202) 783-3238.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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