Revising screening recommendations

Changes in the risk for lead exposure.
Change in the condition of older housing stock in a recommendation area is a reason to revisit a screening recommendation. Such housing may deteriorate or improve, creating a change in the potential risk for exposure to lead.

Additional information for making decisions.
Additional BLL data may become available, making it possible to generate better estimates of elevated BLL prevalence and to use these estimates to refine recommendations, including the recommended personal-risk questionnaire. Better tools for analyzing and presenting data will also be developed, allowing better prediction of risks for lead exposure.

Local input.
Local medical groups and managed-care organizations may perform blood lead surveys of their patient populations. Data from such surveys should be carefully evaluated, since these data can enhance the local decision-making process.
References


Roles of Child Health-Care Providers in Childhood Lead Poisoning Prevention

Roles of Child Health-Care Providers

1. Use and disseminate information from state and local public health agencies.

2. Give anticipatory guidance.

3. Perform routine blood lead screening, as recommended.

4. Provide family lead education.

5. Provide diagnostic and follow-up testing for children with elevated BLLs.

6. Provide clinical management for children when appropriate.

7. Participate in a follow-up team.

8. Collaborate with public health agencies.
In addition to routine screening and follow-up care, child health-care providers should perform blood lead testing when children have unexplained symptoms or signs that are consistent with lead poisoning.

Children with lead poisoning can present with seizures, other neurological symptoms, abdominal pain, developmental delay, attention deficit, hyperactivity, other behavior disorders, school problems, hearing loss, or anemia.
Editor’s Note: In the following discussion of the roles of the child health-care provider, we provide the roles on left hand pages, and discussion on the facing right hand pages.
Chapter 4: Roles of Child Health-Care Providers

1. **Use and disseminate information from state and local public health agencies.**

Utilize information supplied by public health agencies on:

- Recommended screening.
- Educating families about lead.
- Follow-up care.
- Referral sources.
Information from public health agencies

Public health agencies will make recommendations about screening. These recommendations will be based on local risk for exposure to lead.

Screening policy should be based on data that are representative of the entire population, and not limited to a provider practice. Children should be screened according to state and local policy.

In the absence of a statewide plan or other formal guidance from health officials, universal screening for virtually all young children, as called for in the 1991 edition of *Preventing Lead Poisoning in Young Children* (CDC, 1991), should be carried out.

Public health agencies will supply:
- Lead-education materials that reflect local policies and exposure sources.
- Protocols for follow-up care for children with elevated BLLs. Comprehensive follow-up includes in-home assessment, education, environmental investigation, and reduction of lead exposure; supports clinical management; and is discussed in detail in Section 7.
- Referrals to local experts in the treatment of lead-poisoned children, and referrals to additional supportive services for families.
2. Give anticipatory guidance.

During prenatal care and during preventive care at 3-6 months and again at 12 months, provide information about:

- Hazards of deteriorating lead-based paint in older housing.
- Methods of controlling lead hazards safely.
- Hazards associated with repainting and renovation of homes built prior to 1978.
- Other exposure sources, such as traditional remedies.
Anticipatory guidance

Anticipatory guidance should be provided prenatally, when children are 3-6 months of age, and again when they are 12 months of age, because parental guidance at these times might prevent some lead exposure and the resulting increase in BLLs that often occurs during a child’s second year of life.

When children are 1-2 years of age, parental guidance should be provided at well-child visits and when the personal-risk questionnaire is administered. (See Section 3.3 below.)
3. **Perform routine blood lead screening as recommended.**

3.1. **Sampling method.**
Screening should be done by a blood lead measurement of either a venous or capillary (fingerstick) blood specimen.

3.2 **Recommended screening.**
Follow health-department recommendations on screening. In the absence of recommendations from the health department, screen all children at ages 1 and 2 and children 36-72 months of age who have not been previously screened.
Choice of sample collection method
The choice of a sample-collection method (venipuncture or fingerstick) should be determined by the accuracy of test results, the availability of trained personnel, convenience, and cost. If children’s fingers are cleaned carefully, capillary (fingerstick) sampling can perform well as a screening tool.

Screening recommendations
Universal screening will be recommended where the risk for lead exposure is widespread.

A sample universal screening recommendation:
Using a blood lead test, screen all children at ages 1 and 2 and all children 36-72 months of age who have not been previously screened.

Targeted screening will be recommended where risk is less or is confined to specific geographic areas or to certain subpopulations.

A sample targeted-screening recommendation:
Using a blood lead test, screen children at ages 1 and 2, and children 36-72 months of age who have not previously been screened, if they meet one of the following health-department criteria:
• Residence in a geographic area (e.g., a specified zip code).
• Membership in a high-risk group (e.g., Medicaid recipients).
• Answers to a personal-risk questionnaire indicating risk.
3.3. The personal-risk questionnaire.

In places with targeted screening, the health department may recommend routine use of a questionnaire to help identify children who should receive BLL screening.

Such a questionnaire should also be used at times other than the routine screening schedule if it is suspected that a child faces increased risk for lead exposure (e.g., because the family has moved to an older house).
The personal-risk questionnaire

A basic personal-risk questionnaire:

1. Does your child live in or regularly visit a house that was built before 1950? This question could apply to a facility such as a home day-care center or the home of a babysitter or relative.

2. Does your child live in or regularly visit a house built before 1978 with recent or ongoing renovations or remodeling (within the last 6 months)?

3. Does your child have a sibling or playmate who has or did have lead poisoning?

The health department may recommend additional or different questions for soliciting information about local sources of exposure.
3.4. Additional BLL screening.

In addition to recommended routine screening, BLL screening is also indicated when:

- A child’s likelihood of exposure has increased.
- An older child has excessive mouthing behavior or an exposure to lead.
- Parents have knowledge of a child’s lead exposure and request screening.
Indications for additional screening

**Increased likelihood of exposure.** Children’s risk for lead exposure may increase, for example, because the family has moved to older housing or to a geographic area with a higher prevalence of older housing, or because the child lives in an older home that has recently been repaired or renovated.

**Parental request.** Parents may express concern about their children’s potential lead exposure because of residence in older housing, nearby construction or renovation, an elevated BLL in a neighbor’s child, or unusual household exposures. Such information may be valuable in highlighting potential exposure. A BLL test should be performed if there is reason to suspect that lead exposure has occurred.
4. **Provide family lead education.**

Provide families of children with capillary or venous BLLs $\geq 10 \mu g/dL$ with prompt and individualized education about the following:

- Their child’s BLL, and what it means.

- Potential adverse health effects of the elevated BLL.

- Sources of lead exposure and suggestions on how to reduce exposure.

- Importance of wet cleaning to remove lead dust on floors, window sills, and other surfaces; the ineffectiveness of dry methods of cleaning, such as sweeping.

- Importance of good nutrition in reducing the absorption and effects of lead. If there are poor nutritional patterns, discuss adequate intake of calcium and iron and encourage regular meals.

- Need for follow-up BLL testing to monitor the child’s BLL, as appropriate.

- Results of environmental inspection, if applicable.

- Hazards of improper removal of lead-based paint. Particularly hazardous are open-flame burning, power sanding, water blasting, methylene chloride-based stripping, and dry sanding and scraping.
Family lead education

Education should be reinforced during follow-up visits, as needed.

Health departments can often furnish educational materials to the health-care provider, including print materials in various languages.
5. Provide diagnostic and follow-up testing for children with elevated BLLs.

5.1 Diagnostic testing.
The following schedule is recommended.

Table 4.1. Schedule for diagnostic testing of a child with an elevated BLL on a screening test

<table>
<thead>
<tr>
<th>If result of screening test (µg/dL) is:</th>
<th>Perform diagnostic test on venous blood within:</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>3 months</td>
</tr>
<tr>
<td>20-44</td>
<td>1 month-1 week*</td>
</tr>
<tr>
<td>45-59</td>
<td>48 hours</td>
</tr>
<tr>
<td>60-69</td>
<td>24 hours</td>
</tr>
<tr>
<td>70 or higher</td>
<td>Immediately as an emergency lab test</td>
</tr>
</tbody>
</table>

* The higher the screening BLL, the more urgent the need for a diagnostic test.