State of Illinois
Illinois Department of Public Health

Get the Lead Out

Facts About

Lead Poisoning for Health Care Providers

How is lead poisoning defined?

Public health actions begin at 10µg/dL which is the definition of lead poisoning set by the U.S. Centers for Disease Control and Prevention (CDC). Experts agree, however, that adverse health effects can occur at much lower levels. **There is no safe level of lead in the body.**

What health effects are associated with lead poisoning?

Lead harms several body systems, with the nervous system being the most severely affected. Lead-poisoned children may suffer from learning disabilities, lower IQ, impaired hearing, stunted growth and mental retardation. Recent studies suggest a relationship between childhood lead poisoning and behavioral problems later in life. Children with lead poisoning may be or become iron deficient. Despite the seriousness of the problem, lead poisoning often remains undetected because it has no specific symptoms. Children with elevated blood lead levels may have stomachaches, headaches, poor appetites or constipation. Most lead-poisoned children, however, show no symptoms at all.

What are common ways children are exposed to lead?

Children are more likely to ingest paint dust because of their frequent hand-to-mouth and/or pica behaviors and close proximity to the ground where lead dust settles. The largest source of lead exposure is household paint manufactured before 1978 as it starts to chip and peel, creating lead dust. Soil containing lead is also a source of lead poisoning among children.

Other sources may be imported products, certain cosmetics, folk remedies and calcium supplements. Children also can be exposed to lead by parents who participate in occupations or hobbies that involve lead.

How often should children be assessed for lead poisoning?

The American Academy of Pediatricians recommends routine, preferably annual assessment of children 7 years of age and younger for lead poisoning; 1- and 2-year-old children represent the highest priority for screening. According to Illinois law, all children 6 months through 6 years of age must be assessed for lead poisoning before entering day care, preschool or kindergarten. It is important to reassess annually in case a family has relocated to another home.

How can a health care provider determine which children need blood tests?

Children who live in high-risk ZIP code areas are required to have blood lead tests, while those who reside in low-risk ZIP code areas can be assessed for lead exposure using a questionnaire. For those children who reside in low-risk ZIP code areas, a state-developed risk assessment questionnaire should be administered to the caregiver by a health care professional. A “Yes” or “I don’t know” answer to any question suggests that a child is at high risk and should have a blood test. The *Lead Risk Assessment Questionnaire* (LRAQ), the *Guidelines for Blood Lead Screening and Lead Risk Assessment and the High-Risk ZIP Code List* can be accessed at the Illinois Department of Public Health, Lead Program site at http://www.idph.state.il.us/illinoislead.

How should the blood be drawn?

The most reliable measure of a child’s blood lead is a venous test. Capillary draws may be used for screening, with the understanding that a capillary specimen can be contaminated by lead dust from a child’s hands. CDC does not recommend using a filter paper test, as it also can be contaminated by environmental lead. All capillary and filter paper results of ≥10 µg/dL should be repeated using a venous test collected into a lead-free tube.

If a child has an elevated lead level, what should a health care provider do next?

Once a child is found to have a BLL, the health care provider is required to:

- Report the results to the Illinois Department of Public Health, which refers the case to the local health department. The local health department begins public health measures at a BLL ≥10 µg/dL for a child 36 months and younger. A public health nurse may visit the home to teach parents housekeeping and hygiene to prevent further exposure, and a state or local inspector may evaluate the building to identify lead hazards. The physician and local health department personnel may collaborate about medical issues and follow-up activities.
- Conduct medical evaluation including the following:
  - Detailed history of symptoms, existence of pica, siblings with lead poisoning, potential sources of lead and previous blood lead results
  - Description of age and condition of all housing where the child spends time
  - Assess exposures to renovation in housing
  - Occupational histories of adults in the household to determine if the child is exposed to lead brought home from the workplace
  - Physical examination, with special attention to neurologic, psychosocial and language development. Learning or developmental delays should prompt further assessment and referrals to appropriate programs
  - Evaluation of nutritional status, especially of calcium and iron
  - Children with higher BLLs may need chemical treatment. The U.S. Food and Drug Administration approves the use of succimer (Chemet®) for treating children with BLLs greater than 45 µg/dL. These children need to be monitored more closely for at least one year until the BLL decreases. They should be seen by a physician every other week for eight weeks and, then, once a month for six months.
- Educate parents on the meaning of the BLL and potential health effects
- Discuss proper nutrition
- Refer patients to other agencies to provide additional service

When should lead-poisoned children be retested?

Follow-up testing should take place, according to the CDC recommendations. These recommendations may be found in the publication, *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention* on line at:
http://www.cdc.gov/nceh/lead/CaseManagement/caseManage_main.htm

Where can health care providers obtain additional information about lead poisoning?

For additional information, including brochures, copies of the *Guidelines for the Detection and Management of Lead Poisoning for Physicians and Health Care Providers*, the high-risk ZIP codes or the lead risk assessment questionnaire or other information about lead poisoning prevention, please contact the Illinois Department of Public Health at 217-782-3517, 866-909-3572 or TTY (hearing impaired use only) 800-547-0466; or call your local health department.

For more information on lead poisoning, please contact the Illinois Department of Public Health at 217-782-3517, 866-909-3572, or TTY (hearing impaired use only) 800-547-0466; or call your local health department.

The use of brand names is for illustrative purposes and does not constitute endorsement of these products by the Illinois Department of Public Health.

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