



LEAD POISONING

What is LEAD POISONING?

Lead poisoning is a medical condition that occurs when people are exposed to lead compounds through inhalation, swallowing, and rarely, through the skin. Lead is a colorless, tasteless, and odorless metal that may be found in dirt, dust, toys, dishes, and furniture. Lead poisoning usually occurs from repeated exposure to small amounts of lead.

Childhood lead poisoning is a preventable environmental health problem. All children between six months and three years of age should be screened for lead poisoning.

Where is lead found and how is it used?

Until the 1970s, lead was commonly added to gasoline and house paint in the United States. It remains in our environment within: house paint produced before 1978, lead bullets, fishing sinkers, curtain weights, and plumbing pipes and faucets. Lead can contaminate drinking water when lead solder is used to connect a home's plumbing system. Lead is also found in pewter pitchers, dinnerware, toys, storage batteries, and hobbies involving soldering such as stained glass, jewelry making, pottery glazing, paint sets and art supplies, and miniature lead figures.

Lead-based paint enters the atmosphere as a fine dust when painted surfaces are dry scraped, dry sanded, heated, or when there is friction between or impact between lead painted surfaces. The dust settles on household surfaces and objects, and is stirred up when people vacuum, sweep, or walk nearby. Soil closest to houses and highways may contain lead from house paint scrapings and car exhaust fumes, respectively.

How can people be poisoned by lead?

People can be exposed to lead through:

Breathing air containing lead dust from deteriorating lead-based paint;

Drinking water if tap water flows through plumbing fixtures or pipes containing lead or lead solder;

Contact with dust from deteriorating lead-based paint, which often is invisible to the naked eye; playing in lead-contaminated soil; contaminated soil tracked into homes; and using imported cosmetics containing lead.

Eating food without washing hands, which may be contaminated with lead dust. Due to its sweet taste, small children (especially those who are teething) may chew on lead-painted windowsills. Folk remedies such as "greta" and "azarcon," used to treat upset stomachs, contain lead.

How does lead work?

Lead mimics biologically helpful minerals such as calcium, iron, and zinc. Most lead settles in the bone, interfering with the production of red blood cells (leading to anemia). It also interferes with the absorption of calcium, which is required for strong bones, muscles, healthy muscle contraction, and blood vessel function.

How can lead poisoning affect my health?

Children under the age of six, especially unborn babies, are most susceptible to lead poisoning because their brains and central nervous systems are still developing. Childhood lead poisoning causes reduced intelligent quotient (IQ), learning disabilities, attention deficit disorders, behavioral problems, stunted growth, hearing problems, anemia, kidney damage, and stomach pain. High levels can cause mental retardation, coma, and death.

Exposed adults may suffer high blood pressure, fertility problems, nerve disorders, muscle and joint pain, irritability, and memory or concentration problems. Most adults with lead poisoning are exposed through occupations such as house painting, welding, renovation and remodeling activities, smelters, firing ranges, the manufacture and disposal of car batteries, and the maintenance and repair of bridges and water towers.

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What are the symptoms of lead poisoning?

In most cases, lead poisoning has no symptoms. However, if symptoms occur they can include irritability, aggressive behavior, decreased appetite and low energy, difficulty sleeping, headaches, reduced sensations, loss of previous developmental skills (in young children), anemia, and constipation. The first symptoms of a high, toxic dose of lead poisoning are abdominal pain and cramping. These may be followed by vomiting, staggering gait, muscle weakness, seizures, or coma.

What should I do if exposed to lead?

If you get lead on your skin, clean with soap and plenty of water. Avoid the source of exposure.

If you eat or drink lead, call 911 immediately if vomiting and/or seizures occur.

Is there a medical test to show if I've been exposed to lead?

A simple blood test is the screening test for lead poisoning. The current "level of concern" set by the U.S. Centers for Disease Prevention and Control is 10 micrograms per deciliter, though recent studies indicate that there is no safe level of lead in the blood. Preventing lead poisoning before it occurs is paramount.

How is lead poisoning treated?

Treatment depends on how much lead is in the blood. In cases of mild lead poisoning, the source is identified, then removed or minimized. Appropriate nutrition is advised. In cases of severe lead poisoning, with blood lead levels equal to or above 45 micrograms per deciliter, children are admitted for chelation therapy, which are medications that bind to and remove lead from the body.

Emergency medical care is required in severe cases of lead poisoning. Contact your health care provider or Delaware's Division of Public Health at 1-800-464-HELP if you suspect possible low-level lead exposure.

What factors limit use or exposure to lead?

To prevent contaminating family vehicles and/or homes, workers exposed to lead occupationally should wash their hands, facial hair, tools, and clothing prior to leaving work.

If you suspect that your home has lead-based paint, use a wet cloth to wipe dust from windowsills and walls. Do not sand or heat surfaces with lead-based paint. Consult a professional to remove the paint safely. Discard old painted toys if you suspect that they contain lead. Call 1-800-464-HELP for your home to be evaluated for lead-based paint hazards. In the U.S., landlords and those selling pre-1978 houses must inform potential residents or buyers of the existence and location of lead-based paint hazards (*the Lead Disclosure Rule*).

If you have an old plumbing system that may contain lead, let tap water run for a minute before drinking or cooking with it. Install a tap filter or switch to bottled water for drinking and cooking. Avoid canned goods from foreign countries until the ban on lead soldered cans is in effect. If imported wine containers have a lead foil wrapper, wipe the rim and neck of the bottle with a towel moistened with lemon juice, vinegar, or wine before using. Avoid storing wine, spirits, or vinegar-based salad dressings in lead crystal decanters for long periods.

Have children wash their hands before eating and feed them foods containing high levels of iron, calcium, zinc, and Vitamin C to minimize incidences of lead poisoning.

References and Sources

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