

FACTS ABOUT LEAD POISONING



Lead poisoning is not just a health problem of the poverty-stricken. It crosses all income, race and gender boundaries. The Centers for Disease Control (CDC) in Atlanta, Georgia estimate that up to 10% of our children may have an unacceptably high level of lead in their blood. Each year, 10,000 more children are poisoned. Adults in the same environment are also at risk. According to the Department of Housing and Urban Development (HUD), 3.8 million families with young children live in homes containing lead hazards. The Environmental Protection Agency (EPA) estimates that perhaps 75% of our homes contain lead paint. Most homes built before 1978 contain some or a lot of lead-based paint. Even if it has been painted over, it still poses a threat. Victims can suffer from either acute or low-level poisoning.

How are people poisoned?

By house dust containing lead

The most deadly source when it contains crumbled lead-based paint from window-sills, doorjambs and doors, or plaster from walls. Young children get the dust on their hands and then place their hands in their mouths. The lead compound in paint tastes sweet, encouraging children to lick it or chew on it.

By yard dirt containing lead

Young children often like to eat soil from the garden, or may do so unintentionally. Children will play on grass instead but some games require dirt. Try to bring in clean sand for them to dig in or to make the roads for their toy trucks to travel. Put a cover over the sand when not in use to discourage neighborhood cats from using it as a toilet area. Sand, after all, is a natural attraction to a fastidious cat.

By airborne lead

The tinier particles of dust are absorbed by the lungs in adults and children. Lead vapors are created from burning old lead-based paint or wood coated with lead paint, from soldering and melting lead used in hobbies. These, too, are inhaled. If you are an adult, your lungs will absorb 1/3 to 1/2 of the lead you breathe. Children breathe in more air relative to their size and weight than adults do. The result is that they absorb 2 to 3 times as much lead as adults. Workers in many industries are exposed to lead in various forms. Unleaded gasoline has finally removed a significant concentration of airborne lead, but soil alongside highways may be heavily contaminated from the passage of thousands of vehicles whose exhaust fumes once contained lead.

By lead in old water pipes and old water coolers

Pipes coming from the street into the home may still be of lead. Newer copper pipes inside a home may have lead soldered joints. Some of the older water coolers may have been manufactured with lead-lined tanks or tin-lead solder joints.

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By ceramics

Some mugs or dishes may have been decorated with lead-based paint, especially those imported from China or Mexico or Third World countries. Hot foods or liquids leach the lead into the food or beverage heated in them.

By food canned with lead soldered seams

Safely canned food containers have welded seams that lie flat. Almost all cans with lead soldered seams are imported. Any age can be poisoned by the food or beverages inside, but adults are most susceptible.

By calcium supplements

Current controversy surrounds calcium supplements, especially those constituted from oyster or other seashell. Calcium carbonate that has been refined is probably safe to ingest but other manufacturers claim the lead content in oyster shell, for example, is so low that it presents no risk. Other experts state there is no safe level of lead for the blood. Some persons may be severely allergic to oyster shell.

By imported mini blinds

Vinyl mini blinds made in some other countries have lead in the paint to stabilize it. But exposure to sunlight breaks down the surface of the mini blinds, creating a fine dust. Small children can inhale this dust or get it on their hands, which then go into their mouths.

By hobby materials

These range from lead weights and lead shot used in fishing and hunting, which

also poisons the environment, to lead solder that is heated, putting out lead vapors that are inhaled. Older toys in grandparents' attics may be all lead (as in toy soldiers) or be decorated with lead-based paint. Though plastic is used extensively now, modern model kits should be checked for lead content.

Where are people poisoned?

Children and adults are most often poisoned in their own homes. But the homes of relatives or other baby-sitters, daycare centers, playgrounds, and elementary, middle or high schools may contain serious hazards. If you discover your child has been poisoned, please let other parents know so their children can be tested and can receive prompt medical care. Your Public Health department will probably send inspectors out to public areas, if no lead is found in your home.

Adults may also be subjected to lead poisoning in industry and other work places.

What are the symptoms of lead poisoning?

Symptoms can be similar to those caused by some other illnesses, so testing is critical. The brain and kidneys appear to be critically affected by chronic low-level lead absorption.

A young child may show irritability and hyperactivity, or Attention Deficit Disorder or Syndrome. He may be unable to concentrate, is easily distracted or unable to control an impulse to do something.

Acute lead poisoning can be reflected by headaches, or by stomachaches, cramps, vomiting, tiredness, clumsiness or no

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interest in toys or games. Severe poisoning will result in seizures or coma.

How is lead poisoning diagnosed?

Blood testing is the only way to detect lead poisoning in time to prevent or limit permanent damage. Even an elevated blood lead level can be brought down; Even acute lead poisoning can be treated, although actual damage from acute poisoning cannot be reversed.

In a child less than a year old, blood may be drawn from pricking the heel, rather than a finger. If blood lead level is elevated (more than 10 micrograms per deciliter), a second blood sample must be drawn from a vein. This requires special skill because a young child's veins are tiny.

Who should be tested?

A woman who has been exposed to lead would be prudent to get tested before becoming pregnant. Generally, children between 6 months and 6 years should be tested. Other members of the family, as well as visitors or playmates at a daycare center, should be tested if a child's blood lead levels are elevated.

Where can testing be obtained?

- ◆ Ask if local hospitals or clinics run a low-cost lead poisoning program.
- ◆ Private labs perform tests at much higher cost.
- ◆ HMO's usually cover the cost.
- ◆ Private insurance may or may not cover the cost.
- ◆ Special free clinics may be offered locally.

- ◆ Head Start, WIC (Women, Infants and Children) and other public assistance programs may provide free screening.

What are the effects of lead poisoning?

A pregnant woman exposed to low levels of lead poisoning will pass the toxin to the fetus because they share the same blood supply. The baby may have a low birth weight or size. There may be hearing loss or delayed physical development, such as in standing, walking or talking.

Lead poisoning in early childhood affects the IQ but this can be counteracted in some degree by cultural conditioning. That is, by playing with and talking to your child, providing books and toys.

There may be anemia, kidney damage, damage to teeth and bone formation. Mental retardation may range from mild to severe. Seizures and coma from acute poisoning may result in irreversible brain damage or death.

How is lead poisoning treated?

- ◆ If poisoning is acute, it is a medical emergency.
- ◆ Remove the child from lead exposure immediately.
- ◆ Get child to clinic or hospital experienced in chelation therapy.
- ◆ Work with professionals to identify and remove the source of the child's poisoning.
- ◆ Do not return the child to the source of poisoning.
- ◆ Everyone else exposed to lead poisoning agents should be tested, including adults and visitors.

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What is chelation therapy?

Chelation (kee-LAY-shun) therapy means the binding of a metallic element to another substance so it can be removed from the bloodstream. It may require an initial 28-day stay in the hospital and may have to be repeated in a few weeks. Physicians will ask about allergies before selecting a chelation agent. The therapy lowers the level of lead, preventing further damage to the body. But it does not reverse damage that has already occurred.

Are there other problems from lead poisoning?

Many social problems can be traced back to diminished capacity for learning and self-control. Jobs become difficult to keep, if found. When people cannot earn what they need, they tend to take it by force, thus pushing up the crime rate. In the meantime, yet another generation of lead-poisoned youngsters is growing up in the same contaminated housing.

What can be done to prevent or reduce exposure to lead?

Hygiene

- ◆ Wash your hands before preparing food.
- ◆ Wash your child's hands before serving food.
- ◆ Wash bottle nipples and pacifiers frequently.
- ◆ Wash toys frequently.
- ◆ Stomp your feet to clean soil from shoes before entering the home.
- ◆ Wash your hands and change clothes before going home if you work in construction or around car batteries or radiators.

Diet

- ◆ Foods high in iron and calcium slow the absorption of lead—raisin bran cereal, Ovaltine chocolate drink, peanut butter, apples, chicken and turkey, baked potatoes, hot chocolate, ice milk, pudding.
- ◆ *Calcium supplements may contain lead.* Wait for coming consumer label warnings.
- ◆ Vitamin C enhances the absorption of iron—is found in potatoes, green peppers, tomatoes, cantaloupe, strawberries, cabbage and citrus fruits.
- ◆ Avoid fried and fatty foods since fats help the body retain lead.
- ◆ Have child eat often. Food in the stomach helps retard lead absorption.
- ◆ Use bottled water unless cold tap water tests OK. Never use hot water from the tap for formula or food for infants or toddlers.
- ◆ Do not use lead crystal, or old or imported ceramics to store food or beverages.

Household Cleaning

- ◆ Damp mop frequently along baseboards, under windowsills and around doorframes. Thoroughly wet clean radiators.
- ◆ Damp mop before vacuuming. Vacuum cleaners blow lead dust into the air.
- ◆ Wash windowsills and window wells.

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- ◆ A phosphate detergent will bind and remove lead particles. Read labels since many are phosphate-free due to other environmental concerns. An automatic dishwasher detergent (2 teaspoons to a gallon of warm water) often works well.

Lead abatement

- ◆ Have plumber check water pipe coming into the house from the street.
- ◆ Check copper pipes for lead joint sealants.
- ◆ Ask your supplier or the manufacturer of your water cooler about lead-lined tanks or tin-lead solder joints.
- ◆ Replace old mini blinds in households with children under six years of age.
- ◆ Have a lead abatement certified contractor remove crumbling, flaking lead paint. It must be done with extreme care, otherwise acute lead poisoning replaces low level poisoning. Move the children and pregnant women out of the home until the work is done and clean up is thoroughly completed.
- ◆ Replacement of doorframes or putting on vinyl siding is often a far safer solution than trying to remove the lead-based paint. Or contain-ment by installing sheetrock over interior walls is safe. Lead-based paint should never be burned off.

solder, *but none of them detect low levels. Also, they cannot tell you how much lead is present.*

Lead check Swabs from HybriVet Systems, Inc. (800) 262-5323

Frandon Lead Alert Kit from Frandon Enterprises (800) 359-9000

Lead Inspector Kit from Michigan Ceramic Supply, Inc. (313) 281-2300

The Lead Detective from Innovative Synthesis Corp. (617) 244-9078

Additional Resources

Alliance to End Childhood Lead Poisoning
227 Massachusetts Avenue NE,
Suite 200
Washington, DC 20002
(202) 543-1147

Centers for Disease Control and Prevention
Lead Poisoning Prevention Branch
4770 Buford Highway NE
Building 101, mail drop 742
Atlanta, GA 30341

National Lead Information Center
(General Information for the Public)
(800) LEAD-FYI [(800) 532-3394]
District of Columbia only:
(202) 833-4726

Home Lead Test Kits (Priced from about \$18 to \$30, plus shipping)

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All of these products can be used to detect high levels of lead in ceramics, paint and

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Additional Resources (continued)

Department of Housing and Urban
Development
Office of Lead Poisoning Prevention
Attn: Office of Lead Based Paint
Abatement & Poison Prevention
451 7th Street SW, Room B-133
Washington, DC 20410
(800) 245-2691

Consumer Product Safety Commission
(800) 638-CPSC [(800) 638-2772]
Toys recalled for lead-in-paint violations
and other safety alerts.

EPA's Safe Drinking Water Hotline
(800) 426-4791



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Topaz Cove Literary Services
West Hills, CA 91304

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