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# Learn about Lead

## General Lead Information

**Prevent Childhood Lead Poisoning**

Exposure to lead can seriously harm a child's health.

Damage to the brain and nervous system

Slowed growth and development

Learning and behavior problems

Hearing and speech problems

**This can cause:**

- Lower IQ
- Decreased ability to pay attention
- Underperformance at school

Lead can be found throughout a child's environment.

The infographic features four circular icons: a brain, a child's silhouette with a growth chart, a child reading a book, and a child's head with sound waves. Below these is a silhouette of four children of different heights. The background is light blue with vertical stripes.

[Read more about lead in this CDC informational graphic](#)

### What is Lead?

Lead is a naturally occurring element found in small amounts in the earth's crust. While it has some beneficial uses, it can be toxic to humans and animals, causing health effects.

### Where is Lead Found?

Lead can be found in all parts of our environment – the air, the soil, the water, and even inside our homes. Much of our exposure comes from human activities including the use of fossil fuels including past use of leaded gasoline, some types of industrial facilities, and past use of lead-based paint in homes. Lead and lead compounds have been used in a wide variety of products found in and around our homes, including paint, ceramics, pipes and plumbing materials, solders, gasoline, batteries, ammunition, and cosmetics.

Lead may enter the environment from these past and current uses. Lead can also be emitted into the environment from industrial sources and contaminated sites, such as former lead smelters. While

natural levels of lead in soil range between 50 and 400 parts per million, mining, smelting, and refining activities have resulted in substantial increases in lead levels in the environment, especially near mining and smelting sites.

When lead is released to the air from industrial sources or spark-ignition engine aircraft, it may travel long distances before settling to the ground, where it usually sticks to soil particles. Lead may move from soil into ground water depending on the type of lead compound and the characteristics of the soil.

Federal and state regulatory standards have helped to reduce the amount of lead in air, drinking water, soil, consumer products, food, and occupational settings.

Learn more about sources of lead exposure:

- [At home](#)
  - [At schools and childcare facilities](#)
  - [In products](#)
  - [In drinking water](#)
  - [In outdoor air](#)
  - [In soil](#)
  - [In dust](#)
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## **Who is at Risk?**

### **Children**

Lead is particularly dangerous to children because their growing bodies absorb more lead than adults do and their brains and nervous systems are more sensitive to the damaging effects of lead. Babies and young children can also be more highly exposed to lead because they often put their hands and other objects that can have lead from dust or soil on them into their mouths. Children may also be exposed to lead by eating and drinking food or water containing lead or from dishes or glasses that contain lead, inhaling lead dust from lead-based paint or lead-contaminated soil or from playing with toys with lead paint.

### **Adults, Including Pregnant Women**

Adults may be exposed to lead by eating and drinking food or water containing lead or from dishes or glasses that contain lead. They may also breathe lead dust by spending time in areas where lead-based paint is deteriorating, and during renovation or repair work that disturbs painted surfaces in older homes and buildings. Working in a job or engaging in hobbies where lead is used, such as making stained glass, can increase exposure as can certain folk remedies containing lead. A pregnant woman's exposure to lead from these sources is of particular concern because it can result in exposure to her developing baby.

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## **Lead Exposure Data**

The U.S. Centers for Disease Control and Prevention's (CDC) [National Center for Health Statistics](#) monitors blood lead levels in the United States. [Get information on the number of children with elevated blood lead levels, and number and percentage of children tested for lead in your area. According to CDC \(PDF\)](#) (2 pp, 291 K, [About PDF](#))

- The most important step parents, doctors, and others can take is to **prevent lead exposure before it occurs**.
- Until recently, children were identified as having a blood lead level of concern if the test result is 10 or more micrograms per deciliter of lead in blood. Experts now use a new level based on the U.S. population of children ages 1-5 years who are in the top 2.5% of children when tested for lead in their blood (when compared to children who are exposed to more lead than most children). Currently that is 5 micrograms per deciliter of lead in blood. The new, lower value means that more children likely will be identified as having lead exposure allowing parents, doctors, public health officials, and communities to take action earlier to reduce the child's future exposure to lead.

EPA uses the CDC data to show [trends on blood lead levels in children](#) in *America's Children and the Environment*.

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### **What are the Health Effects of Lead?**

Lead can affect almost every organ and system in your body. Children six years old and younger are most susceptible to the effects of lead.

#### **Children**

Even low levels of lead in the blood of children can result in:

- Behavior and learning problems
- Lower IQ and Hyperactivity
- Slowed growth
- Hearing Problems
- Anemia

In rare cases, ingestion of lead can cause seizures, coma and even death.

#### **Pregnant Women**

Lead can accumulate in our bodies over time, where it is stored in bones along with calcium. During pregnancy, lead is released from the mother's bones along with calcium and can pass from the mother exposing the fetus or the breastfeeding infant to lead. This can result in serious effects to the developing fetus and infant, including:

- Cause the baby to be born too early or too small;
- Hurt the baby's brain, kidney's, and nervous system;
- Increase the likelihood of learning or behavioral problems; and
- Put the mother at risk for miscarriage.

Find out more about lead's effects on pregnancy and lactating women:

- [Effects of Workplace Hazards on Female Reproductive Health](#), National Institute for Occupational Safety and Health (PDF) (23 pp, 292 KB)
- [Guidelines for the Identification and Management of Lead Exposure in Pregnant and lactating Women](#), National Center for Environmental Health (PDF)(302 pp, 4.2 MB).

## Other Adults

Lead is also harmful to other adults. Adults exposed to lead can suffer from:

- Cardiovascular effects, increased blood pressure and incidence of hypertension
  - Decreased kidney function
  - Reproductive problems (in both men and women)
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## Lower Your Chances of Exposure to Lead

Simple steps like keeping your home clean and well-maintained will go a long way in preventing lead exposure. You can lower the chances of exposure to lead in your home, both now and in the future, by taking these steps:

- Inspect and maintain all painted surfaces to prevent paint deterioration
- Address water damage quickly and completely
- Keep your home clean and dust-free
- Clean around painted areas where friction can generate dust, such as doors, windows, and drawers. Wipe these areas with a wet sponge or rag to remove paint chips or dust
- Use only cold water to prepare food and drinks
- Flush water outlets used for drinking or food preparation
- Clean debris out of outlet screens or faucet aerators on a regular basis
- Wash children's hands, bottles, pacifiers and toys often
- Teach children to wipe and remove their shoes and wash hands after playing outdoors
- Ensure that your family members eat well-balanced meals. Children with healthy diets absorb less lead. See [Lead and a Healthy Diet, What You Can Do to Protect Your Child \(PDF\)](#)
- [If you are having home renovation, repairs, or painting done, make sure your contractor is Lead-Safe Certified](#), and make sure they follow [lead safe work practices \(PDF\)](#)

Determine if your family is at risk for lead poisoning with the [Lead Poisoning Home Checklist \(PDF\)](#).

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## What do I do if I think my child or I have been exposed to lead?

Talk to your pediatrician, general physician, or local health agency about what you can do. Your doctor can do a simple blood test to check you or your child for lead exposure. You may also want to test your home for [sources of lead](#).