



Colorado Department
of Public Health
and Environment

Occupational Lead Exposure: Overview and Health Effects

What is lead?

Lead is a highly toxic metal that serves no known useful function once absorbed by your body. Because of its abundance, low cost, and physical properties, lead and lead compounds have been used in a wide variety of products including paint, ceramics, pipes, solders, gasoline, batteries, and cosmetics. Since 1980, federal and state regulatory standards have helped to minimize or eliminate the amount of lead in consumer products and occupational settings.

How does lead get into the body?

Lead can be inhaled and ingested. Most occupational exposure is from breathing inorganic lead dust and fumes. Eating, drinking and smoking on the work site or handling lead contaminated objects without proper personal protective equipment (PPE) or basic personal hygiene practices can result in unintentional exposure to lead.

What are the symptoms and health effects of lead poisoning?

Exposure to lead can cause lead poisoning. **No level of lead in the body is considered safe.** The health effects depend on how much and how often a person is exposed to lead. There is a wide range of symptoms of lead poisoning, many of which imitate other diseases. Lead can affect the brain, nerves, red blood cells, kidneys and reproductive systems of both men and women. Common symptoms of acute (short-term) lead poisoning are loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty sleeping, fatigue, moodiness, headache, joint or muscle aches, anemia and decreased sexual drive.

Chronic (long-term) overexposure to lead may result in severe damage to the blood-forming, nervous, urinary, and reproductive systems. Chronic poisoning is more common in industrial settings where small amounts of lead can gradually build up in the body and result in temporary or permanent damage. Elevated blood lead levels in workers have been associated with decreased kidney and brain function, reproductive problems, and hypertension.

Symptoms of lead poisoning may not always be visible. **It is important to consult with your doctor if you think you have been exposed to lead or have lead poisoning.**

Who is at risk for occupational lead exposure?

You may be exposed to lead on the job if you:

- Work at a shooting range
- Remove old paint or coatings
- Tear down or remodel houses, buildings, tanks or bridges
- Make or fix batteries or radiators
- Melt, cast or grind lead, brass or bronze
- Make or paint ceramics
- Solder
- Work with scrap metal
- Work with leaded lubricants

There are many other jobs and hobbies that may have lead exposure. If you are unsure if you work with lead, ask your employer.

Workers can also expose their families to harmful levels of lead by bringing lead home on their clothes, skin, hair, tools and in their vehicles. Children under the age of 6 and the unborn child of pregnant women are particularly vulnerable to the harmful effects of lead exposure. Children exposed to low levels of lead may exhibit symptoms of neurological damage, including learning disabilities and short attention spans. Read our brochure titled “Don’t Take Lead Home from Your Job” for tips on preventing lead exposure.

How can I get a blood lead test?

A blood lead test measures the amount of lead in the blood. An elevated blood lead level test indicates that lead is building up in the body faster than it can be eliminated. In general, if a child has a blood lead level of 10 µg/dL or higher, the family should work with a health care provider to get medical care and make changes to prevent further lead exposure.

Scientists and doctors recommend that adults’ blood lead levels be kept below 10 µg/dL, or 5 µg/dL for women who are pregnant or may become pregnant. Contact your health care provider for additional information on having your blood lead level tested. In some cases, your employer may be required to provide blood lead test monitoring for at risk workers.

Does my employer have to protect me from lead exposure?

Yes. Your employer must follow all applicable regulations of the Occupational Safety and Health Administration (OSHA) to prevent lead exposure at work. Find out more online at www.osha.gov.