



**Mount  
Sinai**

*Selikoff Centers for  
Occupational Health*

# Occupational Lead Exposure and Your Health

## What is lead and where is it found?

Lead is a toxic metal. The general population is exposed to lead in the environment, with children and pregnant women recognized as vulnerable groups. Industrial workers are at particular risk for occupational exposure to lead.

Lead exposure at work is common in construction, mining, and manufacturing industries. Jobs where one might be exposed to lead include construction and demolition work, paint removal from older houses and buildings, auto repair, and car battery reclaiming and manufacturing.

Home crafts and hobbies such as pottery glazing, making stained glass, and casting lead bullets and sinkers may expose you and your family to lead. Lead is also found in pottery glazes imported from other countries and in some traditional medicines and health supplements from overseas, such as Ayurvedic medicines.

## How does lead exposure happen?

Lead fumes and lead dust are produced when you engage in lead-disturbing activities such as sanding or scraping lead paint, using lead soldering, welding on old steel, or melting lead to cast lead products.

Lead fumes and lead dust are odorless, so you may not know you are being exposed.

If you eat, drink, or smoke in areas where lead is handled or disturbed, you may accidentally ingest lead dust from your hands or from contaminated food. If you handle lead, you can be exposed through your eyes, nose, or mouth if you touch them with contaminated hands.

## What does lead do once it is inside the body?

Lead is absorbed and stored in blood and tissues. Over the long term, lead can be stored in bones and teeth. As we age, the lead is released into the bloodstream with calcium and other minerals in our bones, re-exposing our tissues to lead.

## How does lead affect your health?

Too much lead in the body can damage the nervous system, kidneys, and other organs. Acute lead poisoning can happen if a person is exposed to high levels of lead over a short period of time. When this happens, a person may feel abdominal pain, constipation, fatigue, weakness, headaches, irritability, loss of appetite, and pain and tingling in the hands and feet.

Lead exposure over a long period of time may lead to anemia, high blood pressure, kidney disease, reduced fertility in men, and trouble with mental function, such as memory loss. Long-term or high lead exposure during pregnancy can result in miscarriage or severe problems with learning and behavior in children.

## Occupations at Risk

- Auto repair
- Battery making
- Bridge, tunnel, road work
- Construction
- Demolition
- Firing range instruction and cleaning
- Foundry work
- Mining
- Painting
- Plumbing
- Remodeling
- Scrap metal recycling
- Welding



## How is lead detected?

A blood test can measure your lead levels. Regulatory standards dictate periodic blood lead testing for individuals working with lead, but this test measures only recent exposure.

In contrast, a bone lead test measures accumulated or lifetime exposure, even when blood lead levels have returned to normal. Your physician will order a blood test or bone lead test if he or she considers it appropriate.

## How is lead poisoning treated?

Treatment for lead poisoning varies based on the blood lead level and severity of symptoms. In most cases, discontinuing exposure to lead and careful follow-up is sufficient treatment.

## How can you keep yourself and your family safe from lead?

The following guidelines can help protect you and your family from lead exposure:

- Do not eat or drink in areas where lead-containing products are being handled or processed.
- Wash your hands before you eat, drink, or smoke.
- Shower and change your clothes and shoes after working around lead-based products.
- Launder your work clothes separately from family members' clothes.
- Do not use traditional remedies or medicines from other countries unless your doctor has approved them.

Your employer is required by OSHA to provide you with the proper personal protective equipment (PPE), including gloves, protective clothing, and respiratory protection if lead levels exceed OSHA limits. If you use a respirator for protection from lead dust or fumes, your employer must provide a medical evaluation and annual fit testing and training.

This information is intended for general reference purpose only to better understand workplace exposures. This information is not intended to be used as a substitute for professional medical advice.

If you think you may be suffering from lead exposure or any work-related illness or injury, contact an occupational health clinic in your area to request an evaluation. The Mount Sinai Selikoff Centers for Occupational Health have locations throughout New York City and the Lower Hudson Valley, and are members of the New York State Occupational Health Clinic Network. For a list of all clinics throughout New York, visit the New York State Department of Health's website at [www.health.ny.gov/environmental/workplace/clinic](http://www.health.ny.gov/environmental/workplace/clinic). The Association of Occupational and Environmental Clinics also maintains a national directory of clinics at [www.aoec.org/directory](http://www.aoec.org/directory).

## Resources

If You Work Around Lead, Don't Take it Home! (OSHA, 2014)

[www.osha.gov/Publications/OSHA3680.pdf](http://www.osha.gov/Publications/OSHA3680.pdf)

How You Can Keep Yourself and Your Family Safe from Lead (CDC, 2013)

[www.cdc.gov/niosh/topics/lead/safe.html](http://www.cdc.gov/niosh/topics/lead/safe.html)

What Are the Physiologic Effects of Lead Exposure? (ATSDR, 2007)

[www.atsdr.cdc.gov/csem/csem.asp?csem=7&po=10](http://www.atsdr.cdc.gov/csem/csem.asp?csem=7&po=10)

Lead Exposure in Adults — A Guide for Health Care Providers (New York Department of Health, 2009)

[www.health.ny.gov/publications/2584/](http://www.health.ny.gov/publications/2584/)



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**888.702.0630**

