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How big of a problem is lead exposure in Iowa?

In 2017, Iowa had **1,120 adults** whose blood lead level was tested was at or above **5 micrograms per deciliter**, the current public health reference value.

Common jobs and hobbies with high lead exposure include:

- Manufacturing storage batteries or metal products
- Construction and renovation
- Industrial resurfacing or painting
- Metal and electronics recycling
- Radiator repair
- Vehicle body work
- Firing guns, casting or reloading ammunition



Iowa Department of Public Health
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321 E. 12th Street
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Iowa Department of Public Health



Adult Lead Exposure

A Guide for
Health Care Providers

idph.iowa.gov
Adult Blood Lead Program

How does exposure occur?

Lead dust or fumes can be inhaled or ingested. Lead is absorbed into the bloodstream and then distributed to all tissues, with the majority of the total body burden depositing in bone. Lead is slowly released from bone back into the blood with a half-life of years to decades.

Lead is excreted primarily through the urine with smaller amounts in feces, sweat, hair, and nails.

Chronic, low-level exposure impacts health and can worsen existing health issues.

What are the health effects?

Neurologic <ul style="list-style-type: none">• Peripheral neuropathy• Fatigue• Irritability• Impaired concentration• Seizures• Encephalopathy	Gastrointestinal <ul style="list-style-type: none">• Nausea• Dyspepsia• Constipation• Abdominal pain• Gingival lead lines
Reproductive <ul style="list-style-type: none">• Miscarriage• Decreased sperm count and abnormal morphology	Renal <ul style="list-style-type: none">• Hypertension• Chronic nephropathy with proximal tubular damage
Hematologic <ul style="list-style-type: none">• Anemia Cardiovascular	Other <ul style="list-style-type: none">• Arthralgia• Myalgia

What is my role as a health care provider?

If lead exposure is suspected, the patient's medical evaluation should include:

- An occupational and environmental history, including past blood lead tests
- Possible hobby exposure
- Lab testing with a venous blood lead level (BLL)

If the BLL is elevated, obtain:

- Hemoglobin, hematocrit, red blood cell indices, with peripheral smear
- BUN and serum creatinine
- Routine urinalysis with microscopic examination
- Pregnancy or male fertility testing, if requested by employee

All blood lead levels must be reported to the Iowa Department of Public Health, including patient address and name of employer if work-related.

All health care providers should be aware of the Occupational Safety and Health Administration (OSHA) General Industry Lead Standard and the Construction Lead Standard.

Contact Us for More Information

Iowa Department of Public Health
Occupational Health & Safety Surveillance
515-281-4930/800-972-2026
idph.iowa.gov – search for adult blood lead

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What should I discuss with patients?

“Take-Home” Lead

Lead can be brought into the home and family vehicle via skin, work clothes and equipment. Preschool children are especially at risk from contact exposure and the adverse developmental effects of lead.

Discuss the following preventive measures with patients:

- **Wash** hands and face before eating, drinking, or smoking.
- **Eat, drink and smoke** only in areas free of lead dust and fumes.
- **Wear** a clean, properly fitted PAPR or respirator with HEPA filter in all areas that have lead dust or fumes. Shave to get the best fit. Fit check and medical evaluation are needed.
- **Change** into different clothes and shoes at work. Keep street clothes and shoes in a clean place.
- **Shower** before going home.
- **Launder** clothes separately from other family members' clothes.

Screening for children

All children in Iowa should have a blood lead test at 1, 2 and 3 years of age. Consider annual testing through age 5.

Concerns for pregnant women

Pregnant women, those planning to get pregnant or those breastfeeding should have a blood lead level below 5 µg/dL to protect their health and the baby. Prior exposure should be evaluated.