

Occupational Lead Exposure:

An Alert for Health Care Providers



Introduction

Although the toxic effects of lead have been known for centuries, many workers in the U.S. are overexposed and poisoned in their workplaces. This resource is designed to help you work with the Department of Labor & Industries (L&I) to prevent lead poisoning among Washington's working men and women and their children.

The physician's role and the law

The Lead Standard

Washington State's Lead Standards for general industry (WAC 296-62-07521) and construction (WAC 296-155-176) give physicians primary responsibility for evaluating lead toxicity in workers who are patients.

Under these standards, employers are required to provide:

- Medical evaluations for lead-exposed workers.
- Written reports detailing the fitness for duty and any special equipment required, limitations or restrictions from performing job duties.

Workers should be **medically removed** (transferred to a non-lead exposed job without loss of pay or benefits) from the worksite if:

- Blood-lead levels (BLLs) exceed the medical removal level for general industry or construction.
- Medical conditions place the worker at increased risk of impairment of health due to lead exposure (e.g., renal disease, pregnancy, plans to have children).

Biological monitoring

Employers must establish a medical surveillance program for workers who are or may be exposed to airborne lead levels above legal limits. Periodic BLL and zinc protoporphyrin tests must be offered to workers.

Medical evaluation of workers

A comprehensive physical examination and screening blood tests are recommended components in the evaluation of a lead-exposed worker. Medical surveillance guidelines are provided in the lead standards. Suggestions for additional medical guidelines are provided on the last page of this resource.

Blood-lead levels above 5 µg/dl are considered to be harmful to adults. BLLs once considered safe have been associated with reproductive health effects (neuropsychological effects in children born to exposed women), hypertension and renal dysfunction.

Reporting blood-lead test results

According to the Washington State Reportable Conditions Rule (WAC 246-101), in-state laboratories and clinics using point-of-care machines are required to report all blood-lead test results to the Washington State Department of Health (DOH).

Laboratories are encouraged to use the DOH electronic reporting system, Public Health Reporting of Electronic Data (PHRED), which automates reporting of laboratory results. For information on PHRED, please contact our customer support center at 1-877-889-3377.

Questions?

Contact lead@doh.wa.gov with questions or to find out how to report electronically using an Excel spreadsheet. Please do not send patient information to this email address. Phone: 360-236-4280 or toll free 1-800-909-9898

The Lead Registry: A prevention effort

The Safety & Health Assessment & Research for Prevention (SHARP) Program at L&I follows up on the elevated blood-lead levels and maintains the Occupational Lead Exposure Registry. This registry has operated since May 1993, and serves to pinpoint hazardous jobs and design strategies to prevent overexposures. **Lead poisoning is a completely preventable disease.**

Whenever you request lead testing, please provide the following patient information to the laboratory:

- Name
- Address (including county)
- Sex
- Race and ethnicity
- Employer
- Occupation
- Age or date of birth

You can also provide invaluable assistance to the lead registry by encouraging your patients to complete SHARP's Blood-Lead Testing (BLT) form. The BLT is designed to track the industries and occupations in which lead overexposure occurs and gather other important demographic information. This form eliminates time-consuming and costly telephone follow-up with health care providers, laboratories, patients and employers.

You may obtain a blank BLT form by downloading a copy from our website at www.Lni.wa.gov/Safety/Research/Files/OccHealth/Blt.pdf or calling SHARP at 1-888-667-4277 or 360-902-4728.

Completed BLT forms may be faxed to 360-902-5672 or mailed to:

Lead Surveillance
SHARP Program
P.O. Box 44330
Olympia WA 98504-4330

Stamped addressed envelopes are available upon request.

Your cooperation will greatly assist the state's effort in tracking and preventing lead poisoning and overexposure.

Lead in the workplace

Industries in Washington State with the highest number of worker blood-lead reports (2010–2015 Occupational Lead Exposure Registry data):

- Paint and wall covering contractors, especially bridge repair work
- Storage battery manufacturing
- Firing ranges
- Glass manufacturing
- Metal manufacturing and recycling



Jobs and work activities associated with lead poisoning:

- Steel bridge maintenance
- Thermal stripping or sanding of lead-containing paint
- Welding or cutting of lead-containing painted metal
- Demolition of structures containing lead
- Battery manufacturing and recycling
- Working at indoor firing ranges
- Scrap-metal handling
- Masonry
- Lead, brass or copper smelting
- Lead fishing weight production
- Machining and grinding lead alloys
- Radiator manufacturing and repair
- Lead soldering
- Ceramic glaze mixing
- Home renovation/remodeling

Lead away from work

Workers may carry lead dust home on their work clothes, work shoes or areas of the body not covered by protective clothing such as hands or hair. Young children are very sensitive to lead's harmful effects. If a pregnant woman is exposed to lead, it may harm her unborn child.

Sources of lead in the environment include:

- Paint on houses built before 1978 and soil contaminated with paint dust and chips.
- Drinking water contaminated by lead solder or pipes.
- Soil and air near buildings where people work (or have worked) with lead.
- Soil in areas where lead-containing pesticides had been used.

Some hobbies associated with lead poisoning include:

- Creating leaded glass pieces.
- Using pottery glazes containing lead.
- Firearm use (especially at indoor ranges).
- Casting fishing weights.

Additional resources

SHARP Program

L&I's SHARP Program can provide further information on work-related lead poisoning to interested employers, workers and health professionals. Call 1-888-667-4277 or 360-902-4728, or visit www.Lni.wa.gov/SHARP.

Division of Occupational Safety and Health

L&I's Division of Occupational Safety and Health (DOSHS) enforces the worker protection rules for workplaces with lead and investigates complaints

from workers and concerns from health care providers. It also offers free assistance and information to both workers and employers upon request. Call 1-800-423-7233, or visit www.Lni.wa.gov/Safety.

Washington State Department of Health

The Washington State Department of Health provides information and resources on reducing children's exposure to lead. Call 360-236-4280 for more information, or visit www.doh.wa.gov/lead.

Harborview Medical Center

The University of Washington Occupational Medicine Program at Harborview is the Pacific Northwest training site for occupational medicine professionals and is available for consultation to other health care providers:

University of Washington
Occupational Medicine Program
P.O. Box 359739
Seattle WA 98104
206-341-4446

Recommendations for Medical Management of Adult Lead Exposure

Michael J. Kosnett; Richard P. Wedeen; Stephen J. Rothenberg; Karen L. Hipkins; Barbara L. Materna; Brian S. Schwartz; Howard Hu; and Alan Woolf

www.aoc.org/documents/positions/MMG_FINAL.pdf

If you see a case of lead poisoning or overexposure, it may not be an isolated incident. Find out if other workers are exposed or if small children may be at risk, either at the exposure source or through take-home lead.

Upon request, foreign language support and formats for persons with disabilities are available. Call 1-800-547-8367. TDD users, call 360-902-5797. L&I is an equal opportunity employer.