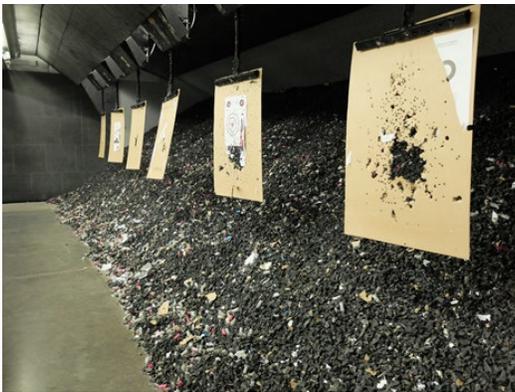




Lead Hazards at Shooting Ranges

Lead poisoning at shooting ranges continues to be a major problem. Exposure to airborne and settled lead dust at shooting ranges poses the highest risk to employees who handle bullet debris or clean the range. But instructors, volunteers and customers are also at risk of lead poisoning.

Lead serves no useful purpose in the body, and it can cause serious and permanent health problems. Exposure even at low levels over years or decades can cause damage. That's why it is important for employers and workers to do everything they can to lower the amount of lead in the workplace.



Lead-contaminated bullet debris at a shooting range.

Exposure to Lead at Shooting Ranges

Shooters using ammunition with lead primers or lead bullets (and anyone spending time at the firing line) are exposed to lead fumes in the "gun smoke" that is released into the air when the gun is fired.

Workers are exposed to lead when they clean the range, clean guns or empty the bullet trap. Dry sweeping of the range causes settled lead dust to become airborne. Workers who clean bullet traps by pouring or shoveling bullet debris into waste buckets are also exposed to very high levels of airborne lead dust.

Workers who eat, drink or smoke without washing up before meals and breaks can

swallow lead dust that has settled on their hands, lunchroom surfaces or food and drink.

The Health Effects of Lead Exposure

Even low levels of lead in adults can:

- ✓ Increase the chances of heart attack and stroke
- ✓ Decrease brain function, making it harder to think, learn and remember
- ✓ Decrease kidney function
- ✓ Harm the physical and mental development of a baby before it is born
- ✓ Increase the chances of having a miscarriage

Strategies for Preventing Lead Poisoning on the Job

Below are the basics of a lead safety program for indoor shooting ranges.

- **Reduce the use of lead-containing ammunition.** Use jacketed or coated ammunition, with non-lead primers, to reduce airborne lead in the range. Some ranges require in-house use of such ammunition and sell it at the retail counter.

Strategies for Preventing Lead Poisoning on the Job *(continued)*

- **Control exposure through ventilation.**
Good ventilation can significantly reduce airborne lead levels at the firing line. Supplied air should move steadily across all shooting booths, carrying the gun smoke away from the shooter's face and directly down the range where it is exhausted, filtered and discharged. General building ventilation is not adequate. Contract with a ventilation consultant who has a proven track record of designing effective firing range ventilation systems. Perform regular maintenance to keep the system running well.
- **Use good housekeeping practices.**
Keep all work areas free from lead by regular cleaning. Cleaning should be done using either a special toxic dust vacuum ("HEPA" vacuum) or by wet mopping. Never dry sweep the range. This increases exposure and spreads contamination by kicking up lead dust.
- **Minimize airborne lead dust while cleaning the bullet trap.**
Where possible, debris trays should be emptied inside closed plastic bags. Debris should be repeatedly misted with water during all shoveling operations. New bullet trap designs which do not require cleaning are best and also save time.
- **Train employees about lead safety.**
All employees should receive training on how to work safely in lead exposure areas. Training increases employee awareness of health and safety conditions and provides them with information and skills to protect themselves on the job.
- **Provide employees with respirators.**
Fit-tested respirators should be worn during all cleaning operations. Employees should use at least a half-mask respirator with P-100 (HEPA) filters while cleaning the range. At least a full-face respirator with P-100 (HEPA) filters should be worn while cleaning the bullet trap.
- **Provide employees with protective clothing.**
Employees should wear disposable coveralls, head covering and shoe coverings when cleaning the range and the bullet trap. Employees should not wear work clothing or shoes home. Lead dust carried on work clothes and shoes from the range to employees' homes and vehicles puts their children and other household members at risk of lead poisoning.
- **Prohibit eating, drinking and smoking in the work areas.**
Require employees to wash their hands, forearms and face before breaks, lunch and at the end of their work shift.
- **Establish an ongoing lead medical program.**
Find a licensed physician to supervise a lead medical program. The program should include lead-specific medical exams, periodic blood lead level testing and an exam of medical fitness for respirator use. The physician should be familiar with the medical surveillance requirements of the Cal/OSHA General Industry Lead Standard.

For more information on how to prevent lead poisoning at indoor firing ranges, contact the Occupational Lead Poisoning Prevention Program (1-866-627-1587) or visit www.cdph.ca.gov/OLPPP.

To obtain a copy of this document in an alternate format, please contact (510) 620-5757 and allow at least ten (10) working days to coordinate alternate format services.