

# Firing Ranges

The Airborne Lead Hazard



# About Us

With over 90 years of Caswell International heritage and 15,000+ ranges fielded worldwide, InVeris Training Solutions brings the industry's best gun range design, development, installation and support experience to every job site. InVeris has all the resources you need under one roof to guide you through the processes of range design, development and management.

It's easy for shooting range developers to feel overwhelmed with questions about courseware, ventilation, lead abatement, general environmental concerns, zoning regulations, proper range equipment -- the list seems endless. Rest assured that our team of experts, from engineering to sales, will streamline this process. We can help guide you through every step, from the research and bid process through range design, construction and maintenance, well after your range is completed.

With range planning expertise comes the most reliable shooting range products in the industry for judgmental training, use of force simulation, home invasion training, and many other virtual training needs, including:

- Portable simulators and trainers
- Target carriers, target retrieval systems
- Live fire screens
- Range control devices
- Steel and rubber bullet traps
- Shooting stalls
- Ballistic baffles and walls
- Mobile ranges
- Ventilation systems
- Shoot houses

To learn more, contact InVeris Training Solutions

[ITS-LESales@InVerisTraining.com](mailto:ITS-LESales@InVerisTraining.com)

+1-678-288-1090

[InVerisTraining.com](http://InVerisTraining.com)

# Introduction

Exposure to lead dust and fumes at the firing range can present a potential health risk to shooters, firearms instructors and other range employees. Protecting the health of range employees and shooters, while minimizing environmental contamination from lead exposures, is an important element in the safety plan for firing ranges.

## How does lead affect the body?

Adults can be exposed to lead by breathing in lead dust or fumes from shooting or work activities, by eating, drinking or smoking in work areas, or by handling contaminated objects - and accidentally swallowing lead dust. Workers and shooters in many firing ranges have so much lead in their bodies that they are slowly being poisoned. The symptoms may hardly be noticeable at first. But over time, lead can damage the brain, blood, nerves, kidneys and reproductive organs. This damage can cause serious disability: memory loss, extreme tiredness, emotional problems, even kidney failure, coma or death. Young children are especially affected by lead. Lead dust can collect on clothes during the day. When those clothes are worn home, the lead can contaminate shooters' and workers' cars and homes, thereby exposing young children to lead-contaminated dust.



## What are the signs of lead poisoning?

There are many symptoms or signs that suggest a problem with lead, but they can also be symptoms of other illnesses. It is also possible to have lead poisoning without noticing any symptoms. If you work around lead you should regularly see your doctor, whether or not you are experiencing the following symptoms:



# Early Signs and Symptoms

- Fatigue
- Headache
- Uneasy stomach
- Sleeplessness
- Irritability or nervousness
- Metallic taste
- Poor appetite
- Reproductive problems



# Later Signs and Symptoms

- Aches/pains in stomach
- Memory problems
- Constipation
- Muscle and joint pains
- Nausea
- Weak wrists or ankles
- Weight loss
- Kidney problems



# Lead Dust in a Firing Range

- Exploding primers containing lead styphnate and the friction from lead slug against the gun barrel create airborne lead.
- High lead dust levels can accumulate inside indoor ranges with inadequate ventilation.
- Slugs hitting the bullet trap, walls, floors, or ceiling of the range also create lead dust.
- Airborne lead dust can concentrate in outdoor ranges, depending on weather conditions.
- Spent bullets and settled dust can contaminate both indoor and outdoor ranges.
- Improperly cleaning the range also can cause settled dust to become airborne.



# Steps to Minimize Lead Absorption

- Make sure the range is correctly ventilated and that the ventilation system is working properly.
- At the range, wash your hands and face before eating, drinking or smoking.
- Wash hands and face before leaving the range.
- Wash range clothes separately from the rest of the family's clothes.
- Always load bullets in a ventilated area.
- Do not load bullets in the home or in areas where children frequent.
- Do not allow children into the bullet loading area.
- Keep the bullet loading area clean by using detergent.



## Outdoor Ranges

Airborne lead dust is a concern in outdoor ranges and can contaminate the surrounding environment. Lead dust exposure to employees or shooters can occur. Lead contamination in an outdoor environment can occur through water runoff and from wind carrying the lead offsite. The process of removing spent bullets, or the face of a berm, can generate large quantities of lead dust. Bullet traps or steel backstops, similar to those constructed in indoor ranges, can be used instead of earthen backstops. Although the initial cost may be high, the spent bullets can be recovered and sold without soil removal. The trap holds the bullets and fragments, minimizing the amount of lead pollution in the soil.



## Learn More

Would you like to learn more about preventing lead contamination in your shooting range? Our team of experts are ready to discuss the latest requirements with you and determine what equipment would best meet the needs of your range.

For more information, email [ITS-LESales@InVerisTraining.com](mailto:ITS-LESales@InVerisTraining.com) or call us at +1 800 813 9046.



ITS-LESales@inveristraining.com | 1.800.813.9046  
296 Brogdon Road | Suwanee, GA 30024 USA  
[inveristraining.com](http://inveristraining.com)

