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# FIRING RANGES

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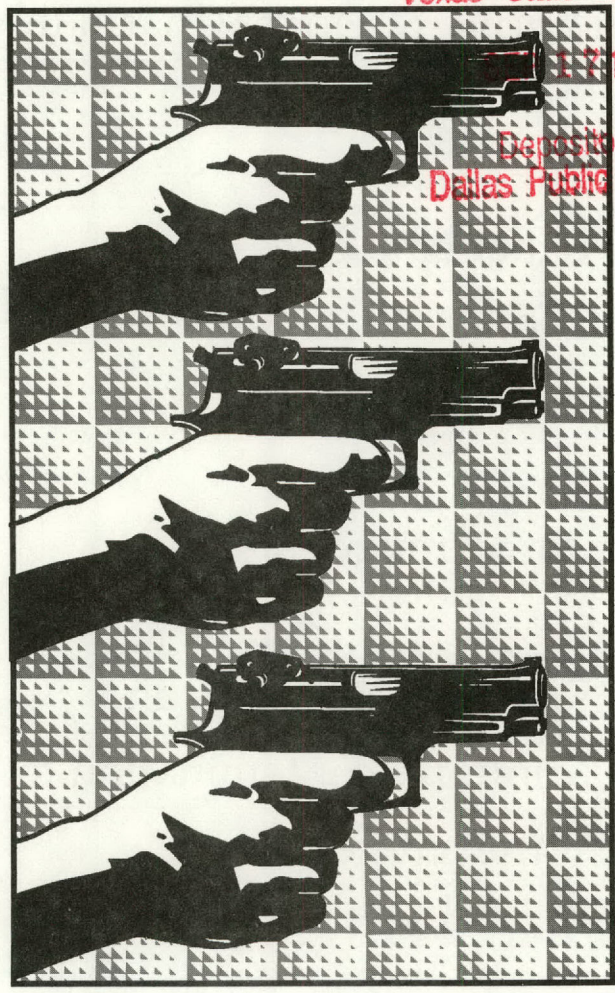
## The Airborne Lead Dust Hazard

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### Shooter's Guide

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# THE AIRBORNE LEAD DUST HAZARD

Exposure to lead dust and fumes  
at the firing range may harm the  
health of:

Firearm instructors

Other employees

Shooters








The firing range safety plan  
should:

Protect their health and

Minimize contamination to  
the environment

# LEAD DUST IN A FIRING RANGE

Airborne lead dust is created by:

-  Exploding lead styphnate primers
-  Friction from the lead slug against the gun barrel
-  Lead slugs hitting the bullet trap, walls, floors, or ceiling of the range
-  Spent bullets and settled dust
-  Improper range-cleaning methods disturbing settled dust
-  Poor indoor range ventilation
-  Outdoor weather conditions

## Other High Lead Dust Sources

Bullet loading creates a fine dust that is very difficult to clean.

Melting lead to cast bullets produces a fume, which turns into tiny dust particles that can stay in the air for up to 10 hours. A person can easily breathe in this fine dust.

The dust also can contaminate surfaces.

**NEVER** load bullets or melt lead

- In an unventilated area
- Inside the home
- Anywhere children may live or play

## Lead Dust Can Be Carried Home!

When employees and shooters are in the firing range, lead dust can:

- Settle on their bodies
- Settle on their hair
- Settle on their clothes
- Be picked up on their shoes

Then the dust can be carried to their cars and homes, where it can harm their family and children.

## HEALTH EFFECTS

Lead is a strong poison that serves no known use once absorbed by the body. Lead dust can enter the body by breathing or eating.

The body stores lead in the:

- BLOOD - for about 1 month
- BODY ORGANS - for several months
- BONES - for decades

It affects the:

- Brain and nervous system
- Digestive system
- Reproductive system
- Kidneys
- Ability to make blood

Small amounts of lead can build up in the body and may cause temporary symptoms or permanent damage.

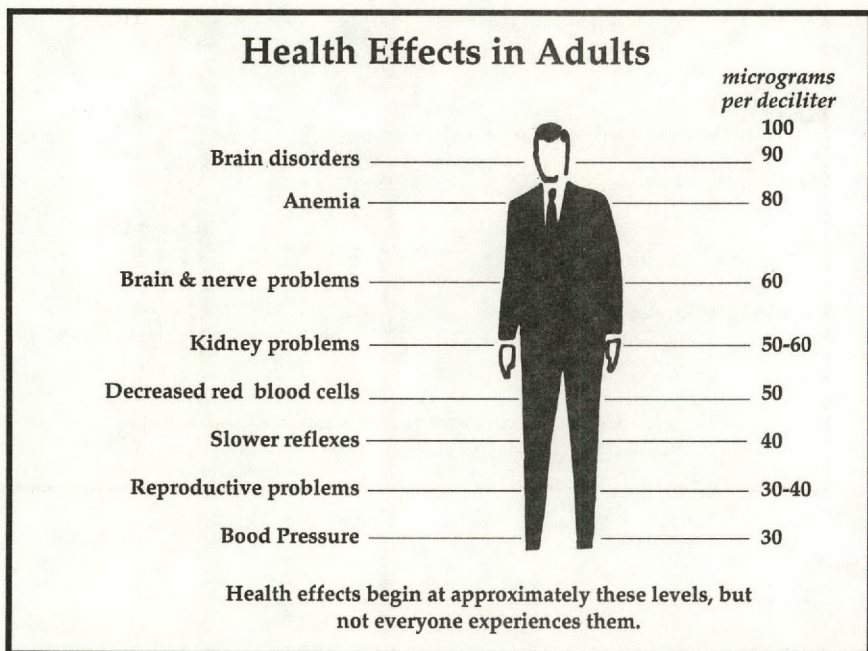
To find the amount of lead in the body, a health professional can take a blood sample from an adult or child and have it analyzed.

An elevated blood lead level is a sign that lead is building up in the body faster than it can be removed.

## Adults

Adults can absorb lead at work or from hobbies. Lead dust and fumes can enter the body by:

- Breathing in lead dust and fumes
- Swallowing lead when drinking, eating, or smoking in contaminated areas
- Not washing their hands and faces after being in a contaminated area



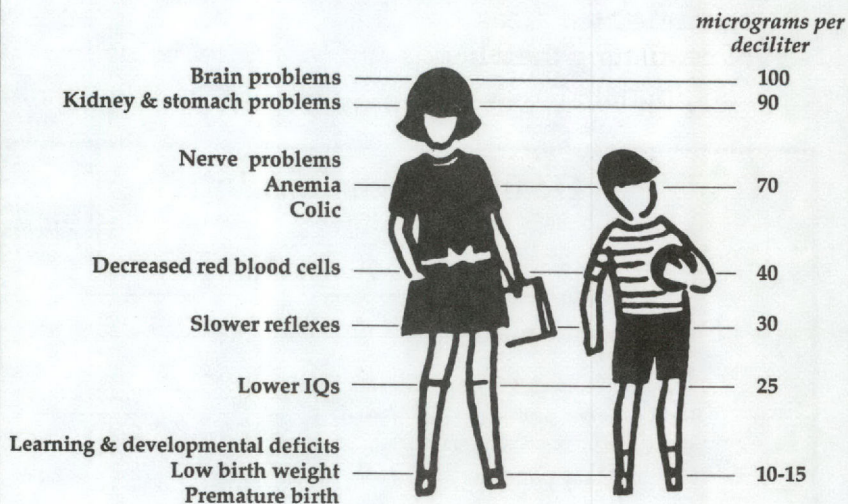
## Children

Toys and other things children handle can get lead on them when parents bring lead dust home on clothes, shoes, and other objects.

Even small amounts of lead can harm a young child's developing brain and nervous system, and other organs.

Lead absorbed by children can cause permanent damage. The child may have learning problems and not grow as he or she should.

## Health Effects in Children & Fetuses



Health effects begin at approximately these levels, but not all children experience them.

## REFERENCES

- National Rifle Association, The Range Manual, 1988.
- Crouch KG, Peng T, Murdock DJ, Ventilation Control of Lead in Indoor Firing Ranges: Inlet Configuration, Booth and Fluctuating Flow Contributions, NIOSH, 1990 (draft).
- Juhasz AA, The Reduction of Airborne Lead in Indoor Firing Ranges by Using Modified Ammunition, US Department of Commerce, 1977.
- ATSDR Toxicological Profiles, 1990.
- OSHA, Occupational Lead Standard, 29 CFR 1910.1025.

## WHAT EMPLOYEES AND SHOOTERS CAN DO

**U**se the ventilation systems.

**M**ake sure they are working properly.

**W**ash hands and face before eating - drinking - smoking.

**W**ash hands and face before leaving range.

**W**ash range clothes separately from family's clothes.

**A**lways load bullets in a ventilated area.

**D**o not load bullets in the home or in areas where children live or play.

**D**o not allow children into the bullet-loading area.

**K**eep bullet-loading area clean by using a high-phosphate detergent.

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For more information on lead exposure and firing ranges write or call:

Environmental & Occupational Epidemiology Program  
Noncommunicable Disease Epidemiology &  
Toxicology Division

Texas Department of Health

1100 W. 49th St.

Austin, Texas 78756

512-458-7269

TOLL FREE 1-800-588-1248

FAX 512-458-7699

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