

Hunting and lead poisoning



General lead poisoning information

Lead is a toxic metal that has historically been used because it can be shaped into something else without breaking. Lead was most commonly used in paint, gasoline, and plumbing. Although lead has been banned in many substances, remnants of lead remain in our society today. High levels of exposure can result in adverse health effects, especially in vulnerable groups such as **pregnant women** and **children**.

Lead can negatively influence the nervous, renal, cardiovascular, reproductive, immune, and hematologic systems. **There is no such thing as a safe amount of lead in the body**, especially for children younger than age 6. Prolonged exposure in children can result in neurological deficiencies, damage to organs, and many other symptoms. It is recommended that all children ages 1 and 2 be tested for lead poisoning. Most healthcare providers should be able to test blood lead levels.

Today, most children are exposed to lead in the home while most adults are exposed to lead at work or through hobbies. Unfortunately, adults can bring lead dust home on their clothing and expose vulnerable family members such as pregnant women or children. **In order to minimize lead exposure, adults who work with lead should:**

- Wash hands frequently
- Shower when they get home
- Remove work clothing and wash them separately

Lead ammunition

Lead levels in the body increase with frequent or prolonged exposure. People who work at firing ranges, individuals who participate in target shooting, and hunters should be aware that breathing in lead and ingestion can occur in the following ways:

- Lead fumes that are released when a bullet is fired
- Lead residue or dust from handling ammunition
- Lead fragments which occur when a bullet pierces a target

Lead-containing bullets can fragment into hundreds of small pieces. Some of the lead fragments may be consumed by scavenging animals, while other fragments could be retained in meat prepared for human consumption. The type of bullet used influences the fragmentation.



Rapidly expanding bullets leave the most lead fragments. Other types of ammunition that leave lead fragments include:

- Shotgun slugs or shells
- Muzzleloader bullets
- Lead core bullets or jacketed bullets (lead bullets with a copper or nylon coating)

Arms industries have developed non-toxic shot/bullets that are as effective and comparably priced as their lead counterparts. Use **lead-free ammunition** or **copper bullets** to reduce lead exposure.

Casting and reloading bullets

Lead exposure can also occur during the process of casting or reloading bullets. Many experienced gun handlers choose to cast their own ammunition and reload bullets as a way to save money.

Tips to reduce lead exposure if casting or reloading bullets:

- Work in a controlled location away from children
- Wear gloves and a mask
- Wash your hands and face after you work with lead
- Do not eat or drink in the work area or before washing your hands

Venison and lead

One possible route of lead exposure is eating meat that has been contaminated with lead. Hunting with lead bullets can result in lead-contaminated meat. Because lead can be shaped into something else without breaking, lead bullets fragment within a carcass. These fragments have been found as far away as **18 inches** from the entry point. This can make it harder to separate non-contaminated meat from contaminated meat. The U.S. Food and Drug Administration (FDA) has stated there is **no permissible amount of lead in food**, but the tolerable intake levels are as follows:

- Adults: 75 µg/day
- Pregnant women: 25 µg/day
- Children (ages 5 and younger): 6 µg/day

One grain of salt is equal to about 60 µg (micrograms), therefore it is difficult to determine how much lead you may be consuming. Hunters and their families should keep in mind the possibility of lead exposure when eating venison and selecting ammunition for hunting.



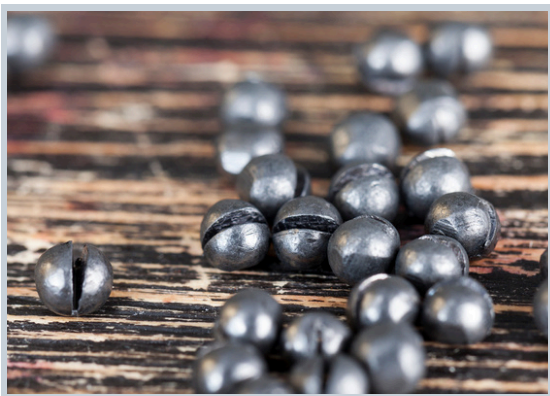
While hunting with lead bullets has been the tradition in the U.S. for many years, studies have shown that copper bullets perform just as well and are sold at a similar price. Although they still fragment within the carcass, **copper bullets result in fewer fragments**. The copper fragments are generally found closer to the exit wound than their lead counterparts. Copper ammunition is less likely to be lead-contaminated. Studies have found that copper-plated lead ammunition results in the same concentration of lead in the carcass as lead bullets.

We recommend hunters and donation centers reference the following recommendations:

- Notify food pantries and clients of possible lead fragments within venison
- Identify/throw away portions of carcasses that could be contaminated with lead fragments (rinsing may help but can spread lead to other parts of the body)
- Use processors who use methods to minimize bullet fragments in the meat for venison donations
- Do not rinse or grind wild game meat
- Do not cook wild game meat in acidic substances (vinegar, tomatoes, etc.) as this can increase lead absorption

Fishing and lead

Historically, lead has been the preferred material for making fishing sinkers due to its low cost, resistance to corrosion, and density. However, since discovering the toxicity of lead, the U.S. has **banned** the use of lead sinkers in National Parks and in specific states.



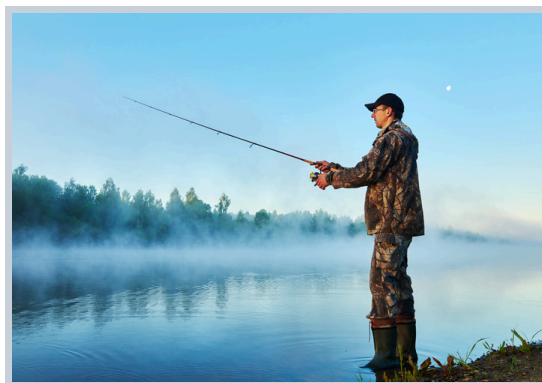
Research has also shown that lead sinkers have negatively affected the environment, due to the ease with which birds and scavengers can ingest the sinkers. Unfortunately, even eating small amounts of lead can be fatal to these animals.

The best method to determine if your sinkers contain lead is to check the packaging. If you no longer have the packaging, there are a few tests you can perform:

- Use pliers to see if you can easily mold the material into something else. If you can, it contains lead.
- If the sinker is covered in paint, remove a small portion of the paint and scratch the revealed surface on a piece of paper. If there is a gray mark, the sinker contains lead.

Unfortunately, most sinkers contain lead, especially older products. In order to prevent lead poisoning, we recommend the following tips:

- Never put sinkers in your mouth
- Wash your hands after you use sinkers, especially before you eat
- Switch to non-lead sinkers
- Don't let toddlers or young children touch sinkers
- Store your fishing equipment out of children's reach



Lead exposure may also occur through the use of lead-core fishing line. There is an outer coating to protect the lead-core line. If you use lead-core fishing line, inspect the outer covering for cuts, abrasions, and any exposed leaded line.

Summary of lead exposure tips

Working with lead

- Wash hands frequently
- Shower as soon as possible
- Remove work clothing and wash separately

Ammunition

- Use non-lead ammunition
- Wash hands after interacting with lead ammunition, especially before you eat

Casting and reloading bullets

- Work in a controlled location away from children
- Wear gloves and a mask
- Wash your hands and face after you work with lead
- Do not eat or drink in the work area or before you wash your hands

Venison

- Avoid eating meat located near the entry and exit points
- Limit intake of meat hunted with lead bullets
- Avoid rinsing or grinding hunted meat
- Do not cook game meat in acidic substances (vinegar, tomatoes, etc.)
- Identify/throw away portions of carcasses that could be contaminated with lead fragments (rinsing may help but can spread lead to other parts of the body)

Donated meat

- Notify food pantries and clients of possible lead fragments within venison
- Use processors who use methods to minimize bullet fragments in the meat for venison donations

Fishing

- Switch to non-lead tackle
- Never put sinkers in your mouth
- Wash your hands after you use sinkers, especially before you eat
- Do not let toddlers or young children touch sinkers
- Store your fishing equipment out of children's reach
- Check lead-core fishing line for cuts, abrasions, or exposed leaded line

Resources

Utah Childhood Lead Poisoning Prevention Program

epi.utah.gov/lead-poisoning-prevention



Department of Environmental Quality

deq.utah.gov



APPLETREE

appletree.utah.gov

