



Lead in Drinking Water

The National Hispanic Indoor Air Quality Helpline 1-800-SALUD-12 (1-800-725-8312)

How do I find out if I have lead in my body?



A blood test for lead will indicate whether you have lead in your body at levels of concern. Once you know if you have lead in your blood or not, your health care provider will inform you of the health effects of lead and what steps you can take to reduce lead levels in your body.

What is lead?



Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery, porcelain, pewter, and lead contaminated drinking water.



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Why is lead harmful?



Lead can pose a significant risk to your health as it accumulates in your body. Lead is a cumulative poison. Excess lead in the body can cause serious damage to the brain, kidneys, nervous system, and red blood cells.

Young children and pregnant women are at greatest risk of lead poisoning. Infants and fetuses are particularly vulnerable. Infants who drink baby formulas or concentrated juices mixed with water containing lead from lead service lines and/or plumbing systems are especially at risk.

Children under the age of six (6) who are at risk of having lead poisoning should be tested. Children with high levels of lead in their bodies can suffer from:

- Damage to the brain and nervous system;
- Behavior and learning problems (such as hyperactivity);
- Slowed growth;
- Hearing problems; and
- Headaches.

Lead accumulates in the body until it reaches toxic levels. Lead can be absorbed through the digestive tract, the lungs, and the skin. Lead is carried by blood throughout the body and is deposited into the bones allowing the lead to stay in your body for many years after exposure. The effects of lead poisoning on your health depend on how much lead has accumulated in your body.



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Is lead also harmful to adults?



Yes, adults can suffer from:

- Difficulties during pregnancy;
- Other reproductive problems (in both men and women);
- High blood pressure;
- Digestive problems;
- Nerve disorders;
- Memory and concentration problems; and
- Muscle and joint pain.

How does lead enter drinking water?



Lead enters drinking water primarily as a result of the corrosion or the wearing away of materials containing lead in the household plumbing or the water distribution system.

When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or water that has not been run for a period of time, may contain high levels of lead.



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What can I do to reduce my family's exposure to lead in drinking water?



There are several steps you can take to reduce your family's exposure to lead in drinking water. (In addition to these recommendations, you can also purchase a water filter. Please see section on filters below.)

- **Flush your pipes before drinking.** If your water has gone unused for more than six hours, let the water run until it becomes as cold as it can get. This could take from 15 to 30 seconds. If there has been recent heavy water use such as showering or toilet flushing, run water for 2 minutes or longer. The longer water resides in your home's plumbing the more lead it may contain. If your house has a lead service line to the water main, you may have to flush the water for a longer time; at least 1 minute is recommended.
- **Only use cold water for drinking or cooking.** and especially for making baby formula. If you need hot water, draw water from the cold tap and heat it on the stove. After flushing your pipes, use only cold water for cooking and drinking. It is important to remember that foods that absorb all the water in a pot are absorbing all the lead that is in the cooking water. Foods cooked in water and then drained, also absorb lead from the water.
- **Consider purchasing bottled water for drinking and cooking.** Bottled water is regulated by the US Food and Drug Administration (FDA). When purchasing bottled water, look for products certified by the NSF International or the International Bottled Water Association.

Have your water tested?



After you have taken the above precautions for reducing the lead in water used for drinking or cooking, have your water tested. The only way to be sure of the amount of lead in your water is to have it tested. The cost for testing your water ranges from \$25 - \$100 per faucet. Your health department offers information about testing. Testing is especially important for apartment dwellers living in high-rise buildings with lead soldered central piping. Flushing your water before using it may not reduce lead levels in your drinking water if you live in an apartment.



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What if I find lead levels in my drinking water above 15 ppb?



If a water test indicates that levels of lead are in excess of 15 parts per billion (the US EPA action level) after flushing, you may take the following steps:

● **Purchase or lease a home treatment or faucet filter.** Home treatment devices or filters treat only the water that flows from the faucet to which it is connected. Not all filtering systems can effectively remove lead from your drinking water. Be sure to check the actual performance of the product before purchasing the system. Purchasing a water filter may be your least expensive solution. If you opt to purchase a filter, carefully follow the installation instructions. If your water had high levels of lead, you may need to change your filter more often than indicated. The manufacturer of the filter is the best source of information on your purchased filter. Make sure you inform them of the lead levels found in your water. Two organizations can help you decide which type of filter is best for you:

‡ NSF International is an independent testing agency that evaluates and certifies the performance of filtering devices that remove lead from drinking water. Generally, their seal of approval appears on the device and product packaging.

‡ Water Quality Association (WQA) is an independent, not-for-profit organization that represents firms and individuals who produce and sell equipment and services which improve the quality of drinking water. WQA's water quality specialists can provide advice on treatment units for specific uses at home or business.



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Where else can lead in my home come from?



Lead can be found in other places throughout your home including the following:

- **Loose debris in faucet strainers** from plumbing material in new homes or recently replaced plumbing. Remove all faucet strainers and run the water for 3 to 5 minutes.
- **Lead soldering used to join water pipes.** Lead solder looks dull gray, and when scratched with a key looks shiny.
- **Brass faucets and fittings** also contain lead.
- **Water Service Line.** Determine if the service line that connects your home or apartment to the water main is made of lead.
- **Ground wiring** from the electrical system that is attached to your pipes cause greater corrosion affecting your drinking water.
- **Paint.** Homes built before 1978 have lead based-paint. Lead can be found in homes in the city, country or suburbs; in apartments, single-family homes, and in both public or private housing; inside or outside of your home.
- **Peeling, chipping, chalking, or cracking lead-based paint** is a hazard and needs immediate attention.
- **Lead-based paint found on surfaces** that children reach such as windows, window sills, doors or door frames, stairs, railings, banisters, porches and fences.
- **In soil around your home.** Soil can pick up lead from exterior paint, or other sources such as past use of leaded gas in cars.
- **Household dust.** Dust can pick up lead from deteriorating lead-based paint or from soil tracked into a home.
- **Lead dust** can form when lead-based paint is dry scraped, dry sanded, or heated and from movement in opening and closing windows, doors, cupboards, and drawers painted with lead-based paints.
- **Settled lead dust** can re-enter the air when people vacuum, sweep, or walk through it.
- **Old painted toys and furniture** in your home and playground equipment.
- **Food from liquids** stored in lead crystal or lead-glazed pottery or porcelain. Acid foods like fruit juices and tomatoes are more likely to dissolve lead.
- **Lead smelters** or other industries that release lead into the air.
- **Hobbies** that use lead, such as making pottery or stained glass, or refinishing furniture.
- **Folk remedies** that contain lead, such as "greta" and "azarcon" used to treat an upset stomach.



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Can I be exposed to lead on my job?



Under federal and state regulations (the Lead Standards for General Industry and Construction), employers have a responsibility to ensure that workers are protected from harmful lead exposure. If you work with lead, you could bring it home on your hands or clothes. Shower and change your clothes before returning home. Launder your work clothes separately from the rest of your family's clothes.

You may be exposed to toxic levels of lead if your work includes:

- Thermal stripping or sanding of old paint;
- Welding or cutting of old painted metal;
- Machining and grinding lead alloys;
- Scrap metal handling;
- Lead soldering; and,
- Ceramic glaze mixing.

Some specific industries with a greater exposure to lead include:

- Lead production or smelting;
- Brass, copper, or lead foundries;
- Lead fishing-weight production;
- Battery manufacturing and recycling;
- Radiator manufacturing and repair; and,
- Indoor firing ranges.



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What do I do if I have high blood lead levels?



The treatment and management of elevated blood lead levels (BLL's) depends on the result of your initial blood test. Elevated BLLs differ for children and adults. For children, BLL's greater than 10 micrograms per deciliter (mg/dL) of lead in the blood are elevated. Elevated BLL's for an adult are 30 micrograms/dL of lead in the blood.

For the majority of lead-exposed patients, a combination of lead education and referrals, aggressive environmental intervention, clinical management, and continued monitoring is necessary:

- Lead education and referrals. Patients with elevated BLL's and their families, should receive education about the potential health effects of lead exposure, important environmental and behavioral intervention to reduce exposure for lead, and the importance of good nutrition in reducing the absorption and effects of lead. Health providers and physicians with lead toxicity experience should be consulted.
- Nutritional Education. A diet high in iron, calcium, and vitamin C rich foods that protect the body against the harmful effects of lead; iron protects the body from the effects of lead. Calcium and vitamin C reduce the absorption of lead into the body.
- Diagnostic testing refers to the collection and analysis of venous blood samples to confirm and monitor the BLL status on a monthly or weekly basis to determine whether levels have dropped, stayed the same, or increased.
- Clinical evaluation and management means that care must be provided by a health care provider and include family medical history, family lead education and referrals, environmental history, nutritional history, and a physical examination.
- Aggressive environmental intervention refers to investigating potential lead exposure pathways and taking immediate steps to control the actual lead hazards identified. If exposure is severe, immediate separation from the lead source (such as relocation from housing with lead based paint or hospitalization) is required.
- Chelation Therapy is the intake of drugs that bind with heavy metals in the bloodstream, causing them to be discharged from the body in urine and bile. It is vital that physicians experienced with this therapy are consulted about the potential side effects associated with drug use. Chelation therapy is reserved for patients with extremely high (70 mg/dL) or persistent BLL's.



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Resources



The National Alliance for Hispanic Health

Aire Limpio para su Familia Helpline (Bilingual Service Spanish /English)

1-800-SALUD-12 or (800) 725-8312

<http://www.SuCasa.hispanichealth.org>

US Environmental Protection Agency Safe Drinking Water

<http://www.epa.gov/safewater/lead/leadfactsheet.html>

1-800-426-4791

National Lead Information Center

<http://www.epa.gov/opptintr/nlic.htm>

1-800-424-LEAD (5323)

Centers for Disease Control Childhood Lead Poisoning Prevention Program

<http://www.cdc.gov/nceh/lead>

U.S. Department of Housing and Urban Development Healthy Homes

<http://www.hud.gov>

Clean Water Action

<http://www.cleanwateraction.org/>

202-895-0402

Agency for Toxic Resources and Disease Registry (ATSDR)

http://www.atsdr.cdc.gov/HEC/CSEM/lead/treatment_management.html

District of Columbia Water and Sewage Authority (WASA)

<http://www.dcwasa.com> or WQP2003@dcwasa.com

202-787-2732



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Resources



District of Columbia Department of Consumer and Regulatory Affairs
For list of laboratories certified by the EPA for testing water quality.
<http://dcra.dc.gov/main.shtm> or 202-442-4641

District of Columbia, Department of Health
<http://dchealth.dc.gov/index.asp> or 202-535-2626

Free testing for children and families in the District of Columbia:
Mary's Center for Maternal and Child Care
2333 Ontario Road, NW
Washington, DC 20009
202-483-8196
<http://www.maryscenter.org/>
Write to: info@maryscenter.org with questions.

Maryland Department of the Environment
<http://www.mde.state.md.us> or call 410-537-3825

Virginia Department of Health
<http://www.vdh.state.va.us/>