

# What you need to know about lead poisoning

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The recent news about high lead levels in the Flint, Mich., water supply has raised concerns about lead poisoning in general.

Mayo Clinic experts say young children are at the greatest risk of health problems related to [lead exposure](#), including serious brain and kidney damage. Lead poisoning happens when the metal builds up in the body, often over time. Even small amounts of lead can cause serious issues. The Centers for Disease Control and Prevention says about 4 million households have high levels of lead.

"Lead is a toxin to the human body and especially harmful to children due to their developing brain and nervous system," says Mayo Clinic Children's Center pediatrician Marcie Billings. "Lead can affect almost any system in the body but in children can have the most serious effects on the neurological system including poor concentration, behavioral issues, effect on IQ, effect on academic achievement, [developmental delay](#), and in most severe cases, encephalopathy. The effects of lead are also not reversible." Billings says awareness about lead poisoning is key to prevention.

Lead-based paint and lead-contaminated dust in older buildings are the most common sources of lead poisoning in children. Other sources include water pipes; imported canned goods; contaminated air, water and soil and some imported toys. Adults who work with batteries, do home renovations or work in auto repair shops also may be exposed to lead.

How can you protect your children and yourself from lead exposure?  
Follow these tips:

- Check your house. Homes built before 1978 are most likely to contain lead. Professional cleaning, proper paint stabilization techniques and repairs done by a certified contractor can reduce lead exposure. If you buy an older home, have it checked for lead. And if your home does contain lead paint, do not remove it by sanding or using a blow torch.
- Keep children out of potentially contaminated areas. Don't allow your child near old windows, old porches, dirt next to an old home or areas with chipping or peeling paint, as well as old window putty that is flaking or chipping.
- Filter water. Ion exchange filters, reverse osmosis filters and distillation can effectively remove lead from water. If you don't use a filter and live in an older home, run cold tap water for 15 to 30 seconds before using it.
- Keep your home clean. Regularly wipe floors and other surfaces with a damp mop or sponge.
- Encourage good hygiene. Make sure your child washes his or her hands and face after playing outside or with pets and before eating and sleeping. Also, regularly wash children's toys, which may become contaminated from soil or household dust.
- Promote a balanced diet. Eating a diet high in iron and calcium may decrease a child's absorption of lead.

How do you know if your child has been exposed to lead? The following are possible symptoms of [lead poisoning](#) for children:

- Developmental delay

- Learning difficulties
- Irritability
- Loss of appetite
- Weight loss
- Sluggishness and fatigue
- Abdominal pain
- Vomiting
- Constipation
- Hearing loss

For adults:

- High blood pressure
- Abdominal pain
- Constipation
- Joint pains
- Muscle pain
- Declines in mental functioning
- Pain, numbness or tingling of the extremities

- Headache
- Memory loss
- Mood disorders
- Reduced sperm count, abnormal sperm
- Miscarriage or premature birth in pregnant women

A simple blood test can confirm the presence of lead in the body.

Treatment includes:

- Removing source of lead.
- Chelation therapy. In this treatment, you take a medication that binds with the lead so that it's excreted in your urine.
- EDTA therapy. Doctors treat adults with lead levels greater than 45 mcg/dL of blood with one or more of three drugs, most commonly a chemical called ethylenediaminetetraacetic acid (EDTA). Depending on your [lead](#) level, you may need more than one treatment. In such severe cases, however, it may not be possible to reverse damage that has already occurred.

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