

Lead in Drinking Water for Schools and Childcare Facilities

This fact sheet provides information on lead and health, how lead may get into the drinking water at your school or childcare facility, and how children, teachers, and staff can avoid exposure.

Lead can be found in all parts of the environment. Although lead is found in nature, most exposure comes from human activities or use. Lead-based paint and lead-contaminated dust are the primary sources of exposure for children. Infants, young children, and developing fetuses are most sensitive to the effects of lead because their body systems are not fully developed. Precautions should be taken to minimize lead exposure.

HOW DOES LEAD GET INTO DRINKING WATER?

In Massachusetts, most drinking water sources from reservoirs and groundwater are lead free. When lead is present in water, it is typically due to the water flowing through lead pipes or plumbing in buildings with lead parts or solder. Service lines, which are the pipes that connect homes, schools, or other buildings to the water main, could have lead in them. Inside the school or facility, there may also be lead pipes, pipes connected with lead solder, or brass faucets or fittings containing lead. Lead levels are highest when the water has been sitting in lead pipes for several hours. Using hot water can draw lead out of pipes, solder, or taps/fixtures, releasing it into the water.

HOW DOES LEAD GET INTO SOMEONE'S BODY?

Lead is present in typically low levels in a variety of different sources, such as food, drinking water, soil, dust, and air. Individuals are exposed to lead from eating food, drinking water, accidentally swallowing soil and dust, and from breathing air that contains

lead. Other less common sources of lead include some handmade pottery and imported cookware, home remedies, toys, candy, jewelry, and canned food. Lead-based paint and lead-contaminated dust are the primary sources of exposure for children, but drinking water can be an important contributing source to overall exposure.

Since everyone is exposed to small amounts of lead in their daily life, it is not uncommon for a low level of lead to be present in someone's body.

IS IT SAFE TO BATHE IN WATER WITH ELEVATED LEVELS OF LEAD?

Yes. Lead is not easily absorbed through the skin. It is not a problem to wash hands, bathe, or shower in water containing lead.

WHAT IF LEAD LEVELS IN THE DRINKING WATER AT SCHOOL OR CHILDCARE FACILITIES ARE HIGH?

The Massachusetts Department of Environmental Protection provides the following recommendations to schools and childcare facilities. The recommendations apply to taps/fixtures used for drinking, food preparation, and medical use:

- If the lead levels are 15 parts per billion (ppb) or higher, your school or childcare facility should prevent access to taps/fixtures above 15 ppb and provide an alternate source of water.
- If lead is detected below 15 ppb, the school or childcare facility should continue to evaluate and remediate taps/fixtures until the lowest possible concentration of lead is achieved.
- Taps/fixtures with higher concentrations serving infants, young children, and pregnant women should be remediated first.

Note: At taps/fixtures that should not be used for drinking, food preparation, or medical use, signs should be posted advising against their use.

MassDEP can provide technical assistance to schools and childcare facilities on testing and follow-up measures. There are a number of ways lead levels can be reduced in school drinking water, such as replacing pipes and taps/fixtures, installing filters, or initiating a flushing program. Schools and childcare facilities should have a plan to address lead in drinking water and keep parents, teachers, staff, and MassDEP informed of testing, results, and follow-up actions.

Children's exposure to lead in drinking water at school is only a small part of their overall potential exposure. Children typically only drink water in schools and childcare facilities for a portion of the day. While it is unlikely that lead in drinking water at schools or childcare facilities would cause staff or children to have significantly elevated blood lead levels, it can contribute to overall exposure. Risk will vary, however, depending on the individual, the circumstances, and the amount of water consumed. For example, infants who drink formula prepared with lead-contaminated water may be at a higher risk because of the large volume of water they consume relative to their body size.

CAN WATER WITH ELEVATED LEAD LEVELS BE USED FOR WASHING OUT CUTS?

Yes. A brief exposure to elevated levels of lead in water while rinsing a cut does not pose any hazard to health.

HOW DOES LEAD MAKE YOU SICK?

Lead detected above 15 ppb does not necessarily mean a child will have elevated levels of lead in their blood. The amount of lead in a child's body depends on several factors, such as their age, nutritional status, and the various sources of lead in their environment.

Lead can affect every organ system in the body, including the nervous system, kidneys, and cardiovascular system. The developing brains of infants, young children, and developing fetuses are

at greatest risk. An exposure to lead that would have little effect on an adult can have a big effect on an infant, young child, and developing fetus. Most children who have lead poisoning or high levels of lead exposure do not look or act sick. The only way to confirm lead poisoning is through a blood lead test. It is important to reduce lead exposure as much as possible, particularly for infants, young children, and pregnant women.

WHAT IF I'M PREGNANT OR PLANNING TO BECOME PREGNANT?

Lead can pass from a mother to her developing fetus. Dust from old lead-based paint (such as during renovation) can be an important source of exposure for pregnant women. While drinking water is not usually the most significant source of lead exposure leading to elevated blood lead levels, it can be an important contributing source to overall exposure. Pregnant women should be aware of potential exposure to lead from the home and workplace, from the use of traditional home remedies, imported cosmetics, or lead-glazed pottery from cooking or storing food. Additionally, a craving to eat or mouth nonfood substances, such as soil or jewelry, can expose a person to lead. Talk to your doctor or other health care provider to discuss your lead exposure risks and whether you should be tested.

SHOULD I OR MY CHILD HAVE BLOOD TESTING DONE?

Testing all children following the detection of lead in a school's or a childcare facility's drinking water is not recommended. It is unlikely that lead in drinking water at schools or childcare facilities would cause staff or children to have elevated blood lead levels. The most important thing to do is to identify and remove suspected sources of lead exposure.

Blood tests are commonly used to screen children for lead poisoning. In Massachusetts, young children must have their blood lead levels tested at age 9-12 months, and again at ages 2 and 3, and also sometimes at age 4, depending on where they live. This scheduled approach to blood lead testing helps identify lead poisoned children and eliminate sources of lead exposure. While we do not recommend testing all children at schools or

childcare facilities where elevated levels of lead in drinking water have been identified, if your child has never been screened or you have specific health concerns about your child, you should discuss this with your child's doctor or other health care provider.

HOW CAN I REDUCE LEAD EXPOSURE AT SCHOOL AND CHILDCARE FACILITIES?

If you are a student, teacher, or staff member, you can help reduce your exposure if lead levels are elevated in tap water.

Easy things to do are:

- Obey signs identifying water taps/fixtures that are for handwashing only or shouldn't be used at all.
- Let the water run for 1 minute before you drink from a tap/fixture.
- Use cold water for drinking and cooking. If you want hot water, run cold water from the tap/fixture and warm it in the microwave or on the stove.
- When mixing powdered baby formula with tap water, always use cold water. Simply warm formula to serve. Use bottled or filtered water when mixing baby formula if you know lead levels in tap water are elevated. Filters should be certified to NSF International/ANSI standards for the removal of lead below 1ppb (www.nsf.org/services/by-industry/water-wastewater/ or 1-877-867-3435). See MassDEP's tips on point-of-use filters at <https://www.mass.gov/doc/tips-on-operation-maintenance-for-point-of-use-devices>.

WHERE CAN I GET MORE INFORMATION?

For health information contact:

Massachusetts Department of Public Health
Bureau of Environmental Health
Phone: 617-624-5757 | Fax: 617-624-5777 | TTY:
617-624-5286

<https://www.mass.gov/orgs/bureau-of-environmental-health>

Massachusetts Department of Public Health
Childhood Lead Poisoning Prevention Program
1-800-532-9571

<https://www.mass.gov/orgs/childhood-lead-poisoning-prevention-program>

For additional drinking water information contact:

Massachusetts Department of Environmental
Protection
Drinking Water Program
617-292-5770

Program.Director-DWP@state.ma.us

<https://www.mass.gov/lead-in-drinking-water>

(See also "Assistance Program for Lead in School Drinking Water")

NOTE FOR PUBLIC WATER SUPPLIERS: This FAQ does not fulfill the notification or education requirements of the Lead and Copper Rule 310 CMR 22.06B. Public Water Systems should contact MassDEP for specific Lead and Copper Rule requirements of public water systems to notify consumers of elevated lead results.

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