



Whether you live in an apartment or single family home, in an old or new neighborhood, lead is in your environment. It can be found in lead-based paint, soil, household dust, food, and certain types of pottery, porcelain, and pewter. Lead can also be found in tap water. Lead can pose a risk to your health if too much of it enters the body.

Most cases of lead poisoning are from contact with peeling lead paint and lead paint dust. While lead in tap water is rarely the single cause of lead poisoning, it can increase a person's total lead exposure, particularly in infants who drink baby formula or concentrated juices that are mixed with water. The Environmental Protection Agency (EPA) estimates that water, in some cases, can make up to 20% of a person's total exposure to lead.

The water provided by MWRA is virtually lead-free when it leaves the reservoirs. MWRA and local distribution pipes that carry the water to your community are made mostly of iron and steel, and therefore do not add lead to water. However, lead can get into tap water through home service piping, lead solder used in plumbing, and some brass fixtures. (Even though the use of lead solder was banned in the U.S. in 1986, it still might be present in older homes.) The corrosion or wearing away of these lead-based materials can add lead to tap water, particularly if water sits for a long time in the pipes before use.

This brochure from MWRA and your water department explains some simple steps you can take to reduce your exposure to lead in tap water.

Lead and Your Health

Lead builds up in the body over many years. Excessive amounts of lead in the body can cause damage to the brain, red blood cells, and kidneys. The greatest risk from lead is to young children and pregnant women. Levels of lead that may not hurt adults can slow down normal mental and physical development of growing bodies.

What is Being Done to Reduce Lead Corrosion

MWRA and your city or town are concerned about lead in your tap water. Although most homes have very low levels of lead, some homes may have lead levels in their tap water above the EPA Action Level of 15 parts per billion (ppb). Greater than 15 parts per billion of lead in drinking water is considered to be high by the EPA.

To monitor lead levels, MWRA and your local water department perform a thorough sampling program to test tap water in homes in each community. But not just any homes. Under EPA regulations, homes that are likely to have high lead levels—usually older homes which may have lead service lines or lead solder—must be tested at first flush after water has been sitting overnight. The EPA rule requires that 90% of these worst case samples must have lead levels below the Action Level of 15 ppb.

MWRA is taking steps to make the water less corrosive, thereby reducing the leaching of lead into tap water. In 1996, MWRA opened a new Interim Corrosion Control Facility in Marlborough where

sodium carbonate and carbon dioxide are added to adjust the water's pH and buffering capacity. This change has made the water less likely to leach lead from the pipes. Lead levels found in sample tests of tap water have dropped significantly since this treatment change. In 1999, 89.6% of the sampled homes were below the Action Level, just missing the passing grade of 90%. Corrosion control treatment will also be incorporated into the new Walnut Hill Plant in Marlborough to be completed in 2004.

Your local water department is also working to decrease lead corrosion by replacing lead service lines. After the comprehensive corrosion control program has been completed, if a lead service line continues to contribute to lead concentrations of 15 ppb or more, the water department would be required to replace the lead service line(s) up to your property line.

If you think that your home plumbing is at high risk or if you are not sure, you may want to have your water tested or take the following simple steps to minimize exposure to possible lead in your tap water.

Simple Steps

to Reduce Exposure to Lead in Tap Water

1 Flush Your Tap



The longer water remains in contact with plumbing materials containing lead, the greater the chance lead will dissolve into the water.

Any time water has gone unused for more than six hours, run each faucet used for drinking or cooking for about a minute or until the water becomes cold. Fill a pitcher after flushing the system and refrigerate it for later (i.e. after washing the dishes). Or, use the flushed water for watering house plants.

2 Use Only Cold Water for Cooking or Drinking

Since hot water lines leach more lead than the cold water lines, use cold water for drinking, cooking, making baby formula and mixing juices. If you need hot water for these purposes, heat water on the stove.



3 Replace Your Lead Water Service Pipe

If your water service pipe is made of lead, replace that portion of the lead water service pipe from the property line to your home.

4 Remove Loose Lead Solder and Debris



Every few months remove the faucet aerator from each faucet in your home, and flush the pipes for about three to five minutes. This will remove any loose lead solder and debris from your plumbing.

5 Be Mindful Of Other Lead Sources In Or Near Your Home

There are many exposures to lead in the environment, particularly lead-based paint. Children, who are at the highest risk for lead, often come into contact with lead contamination in other ways like dirt, dust, and paint chips. It is important to wash children's hands and toys often.



6 Identify And Replace Plumbing Containing Excessive Amounts Of Lead

In 1986 Congress banned the use of solder containing greater than 0.2 percent lead for joining water pipes. The Massachusetts plumbing code also restricts the lead content of faucets and other plumbing materials to 3.0 percent. When having plumbing replaced in your home, make sure that the plumber uses materials that conform to these standards.

7 Have an Electrician Check Your Wiring

More lead may dissolve in the tap water if wires from your electrical system are grounded to a lead water service pipe. Ask a licensed electrician to check the wiring in your home. If the wiring is attached to a lead water service pipe, ask the electrician to relocate the wires. Don't change the wiring yourself. Improper grounding can cause electrical shocks and fire hazards.



8 Test Your Tap Water

In addition to these simple tests, you may want to check the lead levels at your tap. The only way to determine the level of lead in tap water at your home is to have the water tested by a state certified laboratory. The cost of the test is usually between \$10 and \$50. A list of labs is available on-line at www.mwra.com/water/html/lead_list2.pdf or call MWRA at (617) 242-5323.

Additional Steps

The steps listed above will help reduce your exposure to any lead in your tap water. However, if after flushing your tap, a water test indicates that your tap water contains lead concentrations in excess of 15 ppb, then you might want to take additional measures.

Should I Buy Bottled Water?

If your water at the tap has elevated levels of lead after flushing, bottled water is an option, but it may cost as much as 100 times more than water from your faucet.

Should I Get A Home Water Filtration System?

Some water filtration systems do not remove dissolved lead which is the major source of concern. Before purchasing a filter, you should verify the manufacturer's claims. A good resource to call is the National Sanitation Foundation (www.nsf.org), an independent testing agency that evaluates and certifies the performance of filtering devices. Simply running the tap, as described above, is a usually cheaper, effective alternative.



Other Sources of Information

List of Lead Testing Labs

On-line at www.mwra.com/water/html/lead_list2.pdf, or call MWRA at 617-242-5323 or the DEP - Division of Water Supply at 617-292-5770 (on-line at www.state.ma.us/dep).

Lead Testing Results

Available on-line at www.mwra.com/water/html/awqr.htm or call MWRA at 617-242-5323 for a copy of the 1999 Report on Your Drinking Water for your community.

General Lead Information

Contact the Massachusetts Department of Public Health, Childhood Lead Prevention Program at 1-800-532-9571, or go to: www.magnet.state.ma.us/dph/clppp/.

Water Filters

Call the National Sanitation Foundation at 1-877-867-3435, or go to: www.nsf.org/.

Water System Information

Call your Public Works Department or MWRA at 617-242-5323.

