



LEAD IN DRINKING WATER



What is lead?

Lead is a toxic metal that is found naturally in the air, soil, and water. It is also used in mining, manufacturing, and burning of fossil fuels. The amount of lead Canadians are exposed to has decreased since the 1970s, mainly due to the removal of lead in gasoline, paint, and solder in food cans (Government of Canada, 2013). Although lead water pipes were banned in the National Plumbing Code of Canada in 1975, lead solder (joins metal surfaces together) was still allowed until the late 1980's (Health Canada, 2016).

Who is at risk?

Although people of all ages are at risk of lead poisoning, it is most serious for infants, young children and pregnant women. Children absorb lead more easily than adults and are more susceptible to its harmful effects.

What are the health effects from lead poisoning?

There is no level of lead exposure that is safe. Even small amounts of lead can be harmful.

Signs and symptoms of lead poisoning include:

- General Weakness
- Poor Attention Span
- Irritability
- Learning Difficulty
- Abdominal Pain
- Weight Loss
- Headaches
- Vomiting (Health Canada, 2009)

With exposure to low levels of lead, *symptoms are often not obvious*, but can still be a danger to your health. Talk to your health care provider if you are worried about lead exposure. A simple blood test can find out your lead levels. Effects of lead exposure are different for different age groups:

Age Group	Effects of Lead Exposure
Infants and Children	Permanent and irreversible effects on brain development (behavioural changes, reduced intelligence, decreased attention span, decreased learning abilities) (WHO, 2016)
Pregnant Women	Miscarriage, premature birth, low birth weight, baby deformities (WHO, 2016)
Adults	Kidney problems, neurological effects, increased blood pressure (Health Canada, 2016)

Did you know?

The maximum acceptable concentration for lead in drinking water is 10ug/L (Government of Canada, 1992). If your water supply is higher than 10ug/L and you have kids or are pregnant, you should use a different source, such as bottled water.

Is there lead in my drinking water?

The amount of lead in natural water supplies in Canada is very low. However, lead can enter the water supply from lead pipes, lead-containing brass fittings, or faucets. Homes built before 1975 often have lead pipes and those built until 1990 may have lead-containing fittings.

Lead test kits that are available from stores for testing drinking water, are generally not correct or reliable. You can contact your municipal water distribution office if you would like your water tested. Contact information will be on your water bill.

How do I know if I have lead in my pipes?

Check with your municipality to find out if there are lead pipes in your area. However, even if the municipal pipes do not have lead, the service lines connecting to your home, and plumbing within the the home may have lead and are the responsibility of the homeowner. Contact a plumber to help you find out if your pipes have lead.

How can I lower my risk?

Flushing

Boiling water will not remove the lead.

- The longer the water sits in your pipes, the higher the lead levels in your tap water. Hot or warm water usually has higher levels of lead. Use only cold water for drinking, cooking, and making breast milk substitutes (formula).
- If water has been sitting in the pipes for a few hours, be sure to run cold water for at least 5 minutes before using. Or, flush the toilet, shower, or do laundry to clear the standing water from your pipes, then run cold water for 1 to 2 minutes before using.

Bottled water

Bottled water is not always lead-free. Check the label to make sure the lead 'Pb' value is zero.

In-home water treatment systems

Carbon-based filters can be very helpful in removing lead from water. These should be NSF International Certified to remove lead and must be installed and maintained as per the manufacturer's instructions (Health Canada, 2016). Home owners can contact the manufacturer or a professional for details.

Removing the lead lines

Removing the lead-based water lines that feed your home with water is a permanent solution to lowering your exposure. Contact your municipality and a professional to find out more.

Other Helpful Tips:

- Do not use ceramic cookware from foreign countries to heat water, serve or store food unless you're sure that they are lead-free.
- Do not store drinks in lead crystal containers. Babies, children, and pregnant women should not drink from crystal glasses.
- Some hobby activities like furniture refinishing, model building and working with metals or stained glass can be sources of lead. Wear a mask, wash hands after and keep kids and pregnant women away.
- Do not use outdoor paint indoors.

References:

- Government of Canada. (2013). *Lead fact sheet*. Retrieved from <http://chemicalsubstanceschimiques.gc.ca/fact-fait/lead-plomb-eng.php>
- Government of Canada. (1992). *Guidelines for Canadian drinking water quality: Guideline technical document- Lead*. Retrieved from <http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/water-lead-plomb-eau/index-eng.php>
- Health Canada. (2016). *Water talk: Reducing your exposure to lead from drinking water*. Retrieved from <http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/lead-plomb-eng.php>
- Health Canada. (2009). *Lead information package*. Retrieved from http://www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees-eng.php
- World Health Organization. (2016). *Lead poisoning and health fact sheet*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs379/en/>

FOR MORE INFORMATION

WINDSOR-ESSEX COUNTY HEALTH UNIT
www.wechu.org
519-258-2146 ext. 4475