

LEAD IN DRINKING WATER

Lead

Lead is a naturally occurring grayish metal found in rocks and in the ground. Also, it is used in some industries.

Trace amounts of lead can be found everywhere in the environment: in air, soil, dust, food, drinking water and various consumer products.

Health effects of lead exposure

Depending on level of exposure, lead can affect:

- The nervous system
- The cardiovascular system
- Kidneys
- The gastrointestinal system
- The reproductive system

Lead is a contaminant for which there is no safe threshold for exposure, that is, even the smallest exposure can affect health.

Studies have shown that low-level exposure to lead is associated with the following health effects:

- Neurodevelopmental, in children (effects on IQ, learning and behaviour)
- Cardiovascular, in adults (higher blood pressure).

These effects are mild and associated with long-term exposure.

Sources of lead exposure

Today, the population is much less exposed to lead than in the past.

Over the past few decades, stricter standards have resulted in lead being almost completely eliminated from

- Gasoline
- Tin cans
- Paint
- Lead solder, and
- Various other materials and consumer products.

Main sources of exposure today

MAIN SOURCES OF EXPOSURE	OTHER SOURCES OF EXPOSURE
<ul style="list-style-type: none">• Food• Drinking water• Dust, including old paint chips	<ul style="list-style-type: none">• Soils• Kohl makeup• Other consumer products such as ceramics, etc.• Activities such as recreational shooting, hunting, arts and crafts, and others• Various sources in work places

Considering that there is no safe threshold for lead, it is advisable to continue to reduce exposure to the lowest possible levels.

Source: [Health Canada - Lead](#)

People at risk

Some groups of people are considered to be more vulnerable to the health

- Infants
- Children under 6 years old
- Pregnant women (for their babies)

FYI:

- Young children absorb lead more easily and are more sensitive to its effects than adults.
- Infants can be exposed more to lead than children, especially if fed milk preparations reconstituted with tap water (concentrated or powdered formula).

Lead in drinking water

Drinking water distributed through Montréal's water mains contains next to no lead.

However, lead can seep into tap water when water flows through lead service lines that link some homes to the municipal water main.

Lead service lines

Lead connectors in some residences and in the municipal water main are called lead service lines; an LSL and includes the following components:

- A **public section** (the municipality's responsibility)
- A **private section** (homeowner's responsibility)

In Montréal, lead in water is mostly associated with lead service lines.

Montréal's regional public health department (DRSP) considers that health risks are low. Even so, these health risks could affect a significant number of Montrealers. Science-based information suggests exercising prudence. To this effect, the goal of public health authorities is to reduce lead exposure as much as possible for the entire population, especially young children and pregnant women.

In the fall of 2019, the City of Montréal made a commitment to replace all LSCs (public and private sections) by 2030.

Protection and prevention

How to know if a residence has a lead service line

- **Citizens of Montréal** who wish to find out if they have lead service connections can call 311 or visit [the City of Montréal Website](#).
- **Citizens of linked cities on the island** can contact their municipal public works departments

Homes most likely to have LSCs are those with 8 living units or less, built before 1970. In 2019 the City of Montréal estimated there were still about 50,000 LSCs in its territory.

How to reduce exposure to lead in drinking water

Replacing lead service lines is the most efficient and durable way to reduce the presence of lead in drinking water.

Water filtration devices

There are temporary protection devices that can cut exposure to lead in tap water and reduce health risks to a minimum:

- Filtering pitcher

- Filter attached to the faucet or filter under the sink

Notes:

- The water filtration devices must meet NSF/ANSI Standard No. 53.
- It is important to follow the manufacturer's instructions.

These measures are especially important for people at risk.

Simple actions

To reduce exposure to lead in drinking water, the City of Montréal recommends the following:

- Before drinking tap water, let it run for a few minutes once it has turned cold (cool in summer), especially if the water has been standing in pipes for several hours (in the morning or after returning home from work).
- Always use cold water to cook (coffee, tea, vegetables, pasta, rice, etc.).
- Clean screens (aerators) in water faucets regularly.

There is no point in boiling water, since lead won't evaporate and is not eliminated by boiling.

FYI: Hot water and water from taps that have not been turned on for a while (e.g. in the morning or after returning home from work) tend to contain higher concentrations of lead.

Lead in drinking water and Montréal schools

Large buildings don't have lead service lines. Therefore, schools in Montréal as well as buildings with more than eight apartments don't have LSLs.

However, other pipe components in schools (e.g. taps, water fountains and soldering) can contain lead, but their levels are much lower.

Study on lead in Montréal elementary schools

- Read the study report *Plomb dans l'eau potable de l'île de Montréal : concentrations de plomb dans l'eau potable des écoles et évaluation des risques à la santé des enfants de 5-6 ans - 2017*

In 2017, Montréal's regional public health department conducted a study on lead concentrations in 51 schools.

The study showed that drinking the water at school does not significantly increase blood lead levels in 5- and 6-year-old children in elementary schools on the island of Montréal.

The greatest source of lead in children's blood are lead levels in homes with lead service lines. Replacing lead service lines in homes is the most efficient way to reduce children's exposure to lead.

Help and Resources

See also

- Avis de santé publique - Plomb dans l'eau potable, Direction régionale de santé publique de Montréal
- Plomb dans l'eau potable de l'île de Montréal : concentrations de plomb dans l'eau potable des écoles et évaluation des risques à la santé des enfants de 5-6 ans - 2017, Direction régionale de santé publique de Montréal
- Le plomb dans l'eau potable sur l'île de Montréal - État de situation et évaluation des risques à la santé - 2007, Direction régionale de santé publique de Montréal
- Eau potable, Direction régionale de santé publique de Montréal
- [Lead](#), Quebec.ca

- [Lead Information Package - Some Commonly Asked Questions About Lead and Human Health](#), Santé Canada
- [Reduce your exposure to lead](#), Santé Canada
- [Le plomb dans l'eau potable](#), MELCC