



Frequently asked questions for staff and parents/guardians:

Lead in Drinking Water Study

Introduction

Working with Alberta Health Services (AHS) and Strathcona County, Elk Island Public Schools (EIPS) is currently conducting a study on the level of lead in the drinking water at all of its schools. The study is a proactive effort to ensure drinking water in all of its buildings is safe for staff and students.

Throughout the month of June 2016, water samples were collected from primary drinking outlets at all EIPS schools. Of the 42 schools within the Division, 11 school sites came back with results indicating one or more of its drinking-water outlets had minimally elevated levels of lead.

According to AHS, the minimally elevated levels of lead seen at our school sites pose no immediate health risks to our students or staff. However, as a precautionary measure, all affected outlets were immediately taken out of service or a flushing protocol implemented. Retesting has taken place on all the affected water outlets, which consistently indicates lead levels meet the Health Canada guideline for lead when water is run for 30 seconds. Work is currently underway to remediate all affected outlets.

What is lead and where is it found?

Lead is a naturally occurring substance found in soil, food and air. It's highly resistant to corrosion and malleable so it's often used for many industrial purposes—piping to transport corrosive liquids; building construction; lead-acid batteries; bullets and weights; and in solder for pewter, fusible alloys and radiation shields.

Lead is also used in the construction of many water systems, dating back to the late 1880s. While lead can leach into drinking water from lead service lines and plumbing, the bulk of human exposure comes from other sources. In recent years, that exposure has significantly decreased because of lead restrictions. In the mid-1970s lead was banned as an additive of paint; in the 1990s it was banned as a gasoline additive, and the use of lead in solder—used for tin cans and drinking-water pipes—has either been eliminated or drastically reduced.

What are common sources of lead exposure?

Lead is present almost everywhere in nature. It can be found in air, soil, dust, drinking water, food and various consumer products. Lead can be taken in by the body through ingestion and/or inhalation. The most common sources of lead are:

- *Lead-based paints* and the contaminated dust and soil it generates are the leading sources of lead exposure, which is typically found in older homes—lead was banned as an additive of paint in the mid-1970s.



- *Lead-based solder*, which is used to join copper pipe, faucets made of brass and chrome-plated brass, and plumbing made of lead that connect a home to the water service lines, is another common source of lead exposure.

How does lead get into our water?

Lead can leach into water from plumbing parts that contain lead—for example pipes, solder, and fixtures. The most common cause of lead leaching into water is from lead pipes used to deliver water to homes that were built before 1950. Typically, the pipes have some corrosion and the lead seeps into the tap water when it's been sitting for a period of time. Alberta Health Services advises people should always run water until it's cold, both at home and school, before drinking.

How does lead affect health?

It depends on the level of exposure and the age of the person being exposed. According to AHS, exposure to lead in water at minimally elevated levels—the level found in 11 EIPS school sites—pose no immediate health risks.

Research does show exposure to high levels of lead can be harmful to humans, particularly infants, children under 6, and pregnant women. Young children are still developing and absorb lead more easily than adults, which can affect their brain development. Similarly, pregnant women can pass lead in their blood to their fetus, for that reason lead levels for pregnant women, and breastfeeding women, should be kept as low as possible.

The manner and seriousness of the adverse health effects of lead exposure varies greatly by the extent, timing, and length of exposure. Health Canada's maximum acceptable concentrations (MAC) of lead and health advisory level (HAL) standards are intended to apply to average concentrations in water consumed for extended periods of time—in other words, decades. Short-term consumption of water containing lead at concentrations above the MAC/HAL doesn't pose excessive health risks. If you're concerned about being over exposed to lead contact your doctor, who can conduct a blood test to measure your blood lead level.

What is the EIPS Lead in Water Study?

The EIPS Lead in Water Study is a study initiated by the Division to test the lead levels in the drinking water at all of its schools. In June 2016, samples from all primary drinking-water outlets—fountains and taps used for drinking or cooking—were collected from all 42 of its school sites. The goal of the study is twofold: to improve any necessary water-quality management practices and to ensure the drinking water at all school sites is safe for staff and students.

Should I be concerned if my child drank water from one of the EIPS taps that contain low levels of lead?

No. Of the 42 schools within the Division, 11 school sites came back with results indicating one or more of its drinking-water outlets had minimally elevated levels of lead. AHS has assured the Division, the minimally elevated levels of lead seen at our school sites pose no immediate health risks to students or staff. It also supports the steps the Division has taken to protect students and staff from any exposure.

What is the source of drinking water at EIPS schools?

The water source for all EIPS schools comes from municipal water systems, through EPCOR, which is tested on an ongoing basis to ensure it meets Health Canada's Canadian Drinking Water Guidelines. In our jurisdiction there are no lead service lines.



How was sampling carried out at EIPS schools?

An appropriate Health Canada sampling protocol was used to determine sources of lead in water samples taken from different locations at each school site. Water samples were collected from water outlets in each school including all primary fountains and taps used for drinking or cooking.

The sampling involved drawing water at the start of each morning—the first draw—from each outlet location. By using the first-draw method, the Division was able to accurately determine lead levels in each outlet when water was sitting in the pipes for an extended amount of time. Eleven school sites came back with results indicating one or more of its drinking-water outlets had minimally elevated levels of lead, which were all taken out of service.

Additional samples were collected from those water outlets with exceedances for lead. The retesting included water sampling after running the water for 30 seconds and 60 seconds. The results consistently verified flushing for 30 seconds immediately decreases the lead concentrations to the acceptable levels set by Health Canada.

Does Alberta have a drinking-water quality standard for lead?

Yes. Alberta follows Health Canada's Guidelines for Canadian Drinking Water Quality. The maximum acceptable concentration (MAC) for lead in drinking water to protect public health is a value of 0.01 milligrams per litre.

What actions are being taken by EIPS in the school sites that came back with results exceeding the standards levels for lead in drinking water?

Any water fountains or taps that came back with results higher than the MAC of lead were immediately taken out of service or a flushing protocol was implemented at the school and the source of the problem was investigated. Any plumbing equipment identified as a possible source for the minimally elevated levels of lead were replaced—such as valves, bubbler heads, and supply tubes. At some schools a daily flushing program is in place until a long-term solution is implemented. Additional testing is ongoing to determine if the remedial work was successful and if additional modifications are needed.

Is there a plan for followup testing?

Retesting is ongoing to determine if the remedial work was successful, if additional modifications need to be made or if changes to the Division's water-management practices are necessary. If there is a need, an alternate source of drinking water may be provided until the issue resolved.

Who reviews the test results?

AHS has reviewed all the results to date and will continue to review the retesting results. AHS will also help determine if the controls put in place are working or if additional interventions to reduce lead-in-water levels are necessary.

Will parents be informed of the test results?

In September 2016, the Division sent all its families a letter with the latest updates about the EIPS Lead in Water Study. Once a final report is complete, EIPS will share findings with all its staff and families. Additionally, if a specific concern was identified at a school, all families at that school were notified.



How can I limit my exposure to lead?

If you are concerned about lead in your drinking water, take the following preventive steps to further limit possible exposure:

- Flush standing water in pipes each morning—by flushing the toilet, washing your hands, or letting the water run cold. The flushing clears out any water that’s been sitting in the lead pipes. By doing this, you ensure the water is straight from the main service line.
- Use cold water for both drinking and cooking—hot water dissolves more lead from plumbing and boiling water doesn’t remove lead.
- Not all home water-treatment devices remove lead. Before purchasing a treatment system, check the various models and their specifications.

More information about how to reduce lead exposure in the home can be found at:

- www.hc-sc.gc.ca/ewh-semt/contaminants/lead-plomb/asked_questions-questions_posees_e.html
- www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/lead-plomb-eng.php

Where can I get more information?

If you have questions or concerns relevant to your school contact your principal.

For more information about lead and drinking water visit:

- [Health Canada’s Canadian Drinking Water Guidelines](#)
- [Health Canada Lead Information Package](#)
- MyHealth.Alberta.ca

Additionally, if you have any questions or concerns about potential health effects of lead call Health Link 24/7 at 811.