

April 21, 2016

Protecting Children from Lead in Drinking Water at Schools – Recommendations of the Medical Health Officer to School Districts

Recommendations

1. School districts within the Vancouver Coastal Health (VCH) region have a responsibility to maintain an appropriate and regularly updated plan for assessing and addressing the potential for lead in drinking water in schools.
2. Every school must flush water lines daily, unless VCH staff indicates otherwise. To flush water lines, let the water from all taps and fountains run until it turns cold. Flushing must occur prior to schools opening for the day.
3. VCH staff will work with school districts to establish a plan to evaluate where lead risks may occur, as well as to mitigate any risks identified.

Background

Lead can be harmful to human health, even in very small amounts. Lead is most serious for pregnant women and young children because infants and children absorb lead more easily than adults and are more susceptible to its harmful effects, such as effects on behaviour and intelligence. The public's exposure to lead has decreased over the years as major sources of lead have been eliminated, and we have no reported cases of children being adversely affected by lead in drinking water in the VCH region. Nonetheless, it is important for schools to keep lead exposure as low as possible, particularly for children and pregnant staff.

Drinking water is one possible, but not the only, source of lead. Lead-based paint in older buildings is another potential source – further information is available at: <http://www.healthlinkbc.ca/healthfiles/hfile31.stm>. The current guideline for lead in drinking water is a maximum acceptable concentration of 0.010 mg/L (10 ppb). Most drinking water supply systems in B.C. have very low levels of lead. However, many water systems in the South Coast of B.C. have soft (low in hardness), and slightly acidic (low pH and alkalinity) drinking water. When this type of water sits unused in building piping, such as overnight or over weekends, lead can be released from the plumbing into the water. Lead in drinking water is a concern in many schools, particularly those built before the 1989 revision of the B.C. Plumbing Code restricting the use of lead in potable water lines.

Water sampling results from schools in various VCH communities indicate that once sitting water is flushed, lead levels return to safe levels below the maximum acceptable concentration even when the levels were elevated prior to flushing. However, it is difficult to predict which schools require flushing based on the age of the building, or maintenance and renovation history.

VCH Medical Health Officers recommend all schools flush drinking fountains and other taps used for drinking or food preparation each morning. This will require running each tap and fountain until a temperature drop in water is observed, indicating the arrival of fresh water from beyond the building. Flushing may be done in a variety of ways including by staff, volunteers, and students, or by installing automated flushing devices. This can be incorporated into a school's environmental stewardship and sustainability program by devising innovative ways to use the flushed water while ensuring the school population can enjoy tap water throughout the day.

VCH Medical Health Officers also recommend that school districts have plans to regularly monitor drinking water lead levels in schools. VCH staff can assist school districts to identify and prioritize potential facilities for testing, and to identify which taps or fountains at each facility should be tested. VCH staff can also assist school districts in determining mitigation strategies other than flushing if elevated lead levels are found, as well as the testing and monitoring requirements to ensure the effectiveness of the adopted measures. There are indications that recent renovations to building piping could diminish lead leaching sufficiently so that the maximum acceptable concentration of lead in drinking water guidelines is not exceeded. As well, some water system operators have measures in place to help counter this problem. Therefore VCH staff may determine that flushing is not required where sampling has shown lead levels can be maintained within the water quality guidelines.

School Districts can contact Vancouver Coastal Health Environmental Health for more information:

Area	Phone
Central Coast	604-983-6700
Powell River	604-485-3310
Sechelt	604-885-5164
Vancouver	604-675-3800
North Vancouver	604-983-6700
Richmond	604-233-3147
Squamish	604-892-2293
Whistler	604-932-3202

More information on lead in drinking water can be found using this Health Canada web link:
<http://www.hc-sc.gc.ca/ewh-semtd/pubs/water-eau/lead-plomb-eng.php>