

Fluoride Fact Sheet

What is fluoride?

- Fluoride is a naturally occurring mineral found in water and soil.

What is water fluoridation?

- Almost all water contains some amount of fluoride.
- Fluoridation is the process of adding a small amount of fluoride to the water supply up to a level where it helps to prevent cavities (tooth decay).

What are the health benefits of water fluoridation?

- Fluoride works by making the outer layer of teeth (tooth enamel) stronger and less likely to get cavities.
- Water fluoridation is a safe and effective way to help prevent tooth decay for a large number of people at a low cost.

Is there any health risk associated with water fluoridation?

- There is no known health risk associated with drinking water fluoridated within the recommended levels.
- Like many other natural substances, fluoride can be harmful if taken in very large amounts, but toxic amounts cannot be reached by drinking fluoridated water.

Can children get too much fluoride from drinking fluoridated water?

- No, children do not get too much fluoride from fluoridated water or food.
- The most common source of too much fluoride is from swallowing toothpaste.
- Parents should supervise their children less than six years of age during brushing and only use a pea-size amount of toothpaste. Children should spit out well after brushing.

Who supports fluoridation of community water supplies?

- Health Canada, the Canadian Dental Association, the Canadian Public Health Association, the Canadian Medical Association and the World Health Organization endorse fluoridation of drinking water for the prevention of tooth decay.

“Fluoridation of drinking water is one of the ten most successful public health measures in the 20th century.” U.S. Centers for Disease Control and Prevention (CDC)



WATER FLUORIDATION BACKGROUNDER REGION OF WATERLOO PUBLIC HEALTH FEBRUARY, 2007

Fluoride occurs naturally and is often found in water sources. Since the 1930s, researchers have noticed that people who drink naturally fluoridated water had less tooth decay than those who didn't. As a result, many communities in Canada have added fluoride to their drinking water. In Ontario, 70 per cent of the population, or about 8.7 million people, receive fluoridated drinking water.

The natural level of fluoride in drinking water varies throughout the Region. For the City of Waterloo, the natural fluoride level is too low to be therapeutic for the prevention of decay. Two referenda have been held and both have supported the addition of fluoride to the water supply. Today, the fluoride content is between 0.5 to 0.8 parts per million (ppm) which is the optimal range for the prevention of tooth decay as recommended by the Ontario Ministry of Environment. Fluoride levels in drinking water, both naturally occurring and added, are monitored regularly by the Region of Waterloo Water Services to ensure recommended levels are not exceeded. Reports are regularly submitted to ROW Public Health.

Fluoride prevents tooth decay by making the outer layer of teeth stronger, which protects the tooth against acids that cause decay. Studies have shown that fluoridated drinking water greatly reduces the number of cavities in children's teeth.

Fluoridation is also cost-effective as it only costs about 60 cents per person per year, and prevents cavities that would potentially cost hundreds of dollars to treat. However, many factors affect the prevalence of tooth decay. The presence or absence of optimally fluoridated water is only one of these factors.

Other forms of fluoride can be used to prevent disease (e.g., toothpastes, rinses, supplements). However, these forms depend on individual action whereas water fluoridation does not.

Problems may result if too much fluoride is consumed. Dental fluorosis occurs in people who swallow too much fluoride during the important years of tooth formation (0-6 years). In its mild form, dental fluorosis appears as white flecks on the tooth surface. In the more severe forms, brown staining and/or pitting occur on the tooth surface. Dental fluorosis is most often mild and primarily a cosmetic concern. Dental fluorosis affects people who live in communities with or without fluoride in their water supply. The most common source of too much fluoride is from swallowing toothpaste, not from drinking water.

Health risks occur only when fluoride content in water is above recommended levels. Like many substances, fluoride can be harmful if taken in excessive amounts, but toxic levels cannot be reached by drinking optimally fluoridated water. Systematic reviews of evidence have found there is no compelling evidence from well-conducted studies to

indicate that fluoridation of water supplies at recommended levels is associated with adverse health effects. The research in this area is ongoing.

Organizations that support water fluoridation include: Health Canada; both the Canadian Medical and Dental Associations; Canadian Public Health Association; the US Centres for Disease Control and Prevention (CDC); and the World Health Organization. The CDC selected water fluoridation as one of the ten most important public health initiatives of the 20th century and “recommends community water fluoridation as a safe, effective, and inexpensive way to prevent tooth decay among populations living in areas with adequate community water supply systems.”

The fluoridation of water supplies does have its opponents. From time to time, individuals or groups will voice their opposition to water fluoridation and ask that their concerns be addressed. There is a specific process which is followed for fluoridation of drinking water in Ontario which is outlined in the Fluoride Act and ensures a majority of support by voters.

Region of Waterloo Public Health supports community water fluoridation for the prevention of tooth decay. Public health staff will continue to monitor research in this area and review reports of the levels of fluoride in the City of Waterloo water supply.

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