



# FLUORIDE IN DRINKING WATER

## What is fluoride?

Fluoride is a mineral that is found in countless places in the environment, but the major sources of exposure to the general population from fluoride are water, food and beverages, and dental products. To a lesser extent, fluorides are also found naturally occurring in soil and the atmosphere.

## Why add fluoride to drinking water?

Fluoride helps to prevent tooth decay by re-mineralizing cavities when they first begin to form and increasing the resistance of tooth enamel (the tooth's hard outer layer) to acids that cause tooth decay.

Adding fluoride to the water is the best way to provide fluoride protection to a large number of people at a low cost. That's why many towns and cities fluoridate drinking water.

At appropriate levels, fluoride in drinking water has been proven to significantly reduce cavities and dental decay. This finding is strongly supported by an extensive body of Canadian and international research, and has been commonly accepted in the scientific community for almost 70 years.

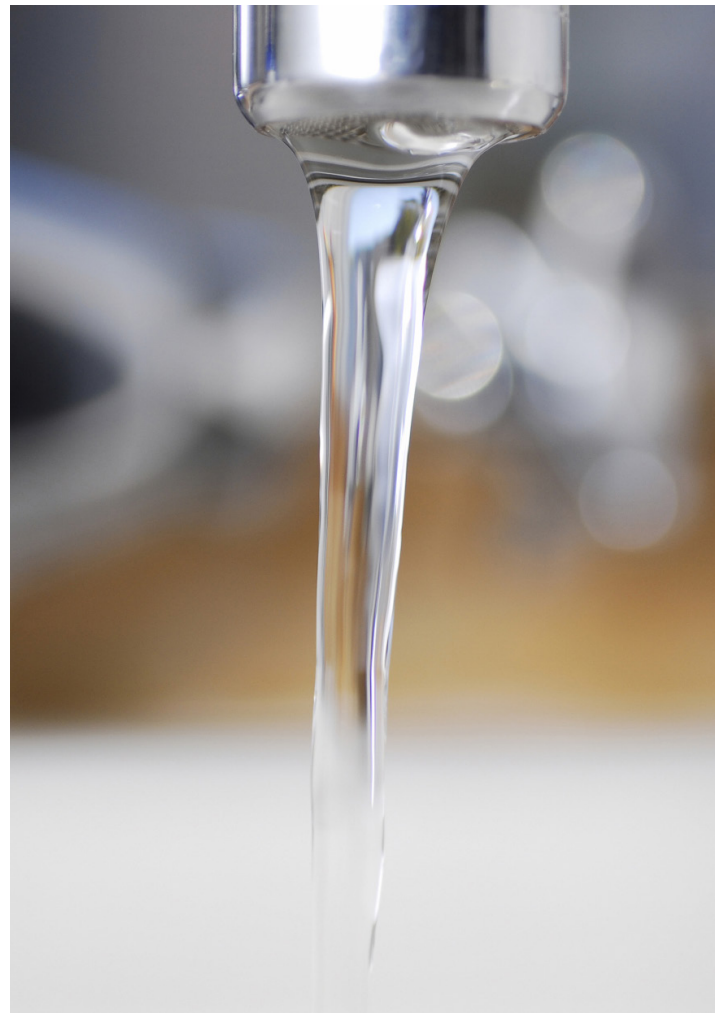
In fact, the U.S. Centers for Disease Control and Prevention (CDC) includes fluoridation of drinking water in its list of the ten most successful public health measures of the 20th century.

## Are there health concerns associated with adding fluoride to drinking water?

Fluoride has beneficial effects on teeth when at a low concentration in drinking water. Excessive exposure to fluoride in drinking water, or in combination with fluoride from other sources, can give rise to adverse effects. These adverse effects range from mild dental fluorosis (characterized by white lines, staining or pitting of the teeth during the years of tooth development) to more severe skeletal fluorosis (which may cause joint pain and stiffness) as the level and period of fluoride exposure increases.

## How much fluoride is added to the water supply?

Health Canada recently completed its review of the health risks associated with fluoride in drinking water. This review



assessed all identified human health risks, incorporating contemporary data. Based on this review, the current regulatory standard for fluoride in drinking water is a Maximum Acceptable Concentration (MAC) of 1.5 mg/L.

For communities wishing to fluoridate their water supply, the concentration of fluoride in drinking water to promote optimal dental health has been determined to be 0.7 mg/L. This is well below the Maximum Acceptable Concentration, to protect against adverse effects. Reliable equipment and careful monitoring help maintain these fluoride levels.

## 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 children less than six years of age during brushing and restrict toothpaste use to only use a pea-size amount.

## Who decides whether or not fluoride is added to municipal water?

The fluoridation of drinking water supplies is a decision that is made by each municipal government. Approximately 75% of Ontario's population lives in communities that fluoridate their water.

## Do Haldimand County and Norfolk County add fluoride to drinking water?

Certain areas of Haldimand County and Norfolk County add fluoride to adjust the natural concentration of the water supply to the level recommended for optimal dental care. If you are unsure if your municipal water supply is fluoridated, contact your county's Water and Wastewater department.

## Who monitors the level of fluoride in drinking water?

There are two levels of fluoride monitoring in local water supplies. The fluoride level is continuously monitored at water treatment plants using on-line analyzers. In addition, the fluoride concentration is tested throughout the water distribution system by certified operators. If fluoride levels exceed the MAC of 1.5 mg/L, the result must be reported to both the Ontario Ministry of the Environment and the Local Health Unit. Corrective actions must also be taken immediately to get the fluoride concentration back below the MAC.

## What if my water comes from a well or other private water supply?

In drinking water, fluoride has no taste or odour. It can only be detected through chemical testing. Some water supplies may contain naturally occurring fluoride at levels higher than 1.5 mg/L. Users of water supplies with fluoride levels between 1.5 mg/L and 2.4 mg/L are advised to control excessive exposure to fluoride from other sources, including dental products and treatments.

If you have your own well and are expecting a baby or have children under age seven, you should get your water tested

for fluoride. To test your water for fluoride, you may submit a water sample for analysis at a certified water testing laboratory. Contact a licensed laboratory for details and costs. A list of licensed labs is available at [www.ontario.ca/drinkingwater](http://www.ontario.ca/drinkingwater).

You should test your well for fluoride:

- At least once to determine if fluoride is present in your well water.
- Regularly, if your well's fluoride levels are near the drinking water standard.
- Every three (3) years in areas known to have elevated levels. To see what provincial information is available on whether fluoride has been found in or around your community, visit: [www.ontario.ca/environment-and-energy/map-provincial-groundwater-monitoring-network](http://www.ontario.ca/environment-and-energy/map-provincial-groundwater-monitoring-network)
- If you have a treatment system to remove fluoride from your water, test the treated water annually to ensure it is working properly.

Private water supply owners may also contact a Public Health Inspector at the Haldimand-Norfolk Health Unit for advice on ways to ensure their water supply is safe.

## What should I do if a high concentration of fluoride is found in my well water?

If your well water has levels of fluoride above 2.4 mg/L, consider installing a filter or treatment system to remove fluoride, or using another source of water for drinking and preparing food. For treatment options, consult with a water treatment professional. Alternate sources of water include bottled water or a public water system.

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