

## Community Water Fluoridation

### ***Begin a legacy of healthy teeth***

Community water fluoridation (CWF) is when a municipality adjusts the fluoride content of drinking water to a level that helps prevent tooth decay. Community water fluoridation is proven to be a safe and effective way to reduce dental cavities for the population. The health benefits of community water fluoridation are felt by everyone, regardless of a person's age, income level or access to routine dental care. About 77% of Ontarians benefit from drinking fluoridated water through their municipal water system.

### ***Why add fluoride to Orillia's drinking water?***

- Just a tiny amount of fluoride in drinking water helps to harden tooth enamel in primary and permanent teeth, making them more resistant to decay.
- Tooth decay can lead to many issues such as difficulty with eating, increased pain, trouble concentrating and decreased self esteem and social interaction.
- Drinking fluoridated water reduces tooth decay by 20% to 40% (CDC, 2005) even when other sources of fluoride (e.g. toothpaste, topical fluorides given by a dentist) are used.
- Orillia has never had community water fluoridation. Among the 10 largest communities in Simcoe Muskoka, elementary school children in Orillia have the most severely decayed teeth (SMDHU screening data, 2010-2011). This represents a 66% higher decay rate than elementary school children in fluoridated areas of Simcoe Muskoka.

### ***Fluoride exists in water naturally***

- Fluoride is a common mineral found in rocks, soil and water, but it generally appears in water in amounts too low to protect teeth. The natural fluoride concentration in the City of Orillia's water is 0.2 mg/L. The optimal concentration for dental health is 0.7 mg/L as determined by Health Canada.
- Fluoride can be delivered in various ways – as an additive to water or salt; or directly to teeth through a fluoride dental application and dental products (like toothpaste, rinse or varnish applied by a dentist).

### ***Safety of community water fluoridation***

- The safety of community drinking water is taken very seriously by the provincial and municipal governments and the Simcoe Muskoka District Health Unit. Levels of fluoride added to water are safe and are carefully monitored.
- A very small amount of fluoride is added to municipal water. Optimal fluoride concentration is between 0.5 to 0.8 parts per million (Ontario Ministry of the Environment, Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines, 2003). One part per million is comparable to one minute in two years, or one cent in \$10,000.
- The only proven risk from community water fluoridation is mild dental fluorosis. Fluorosis is a discoloration of the teeth that in its mild form appears as pale white lines across the teeth. The risk of dental fluorosis is very low at the recommended levels for water fluoridation.

- Swallowing toothpaste is the most common way that small children get too much fluoride.
- Studies have found that water fluoridation is safe for the environment and poses no risk to plants and animals.
- Fluoridation is endorsed as safe and effective by Health Canada, the World Health Organization, the Canadian Medical Association, the Canadian Dental Association, the Canadian Public Health Association and Ontario's Chief Medical Officer of Health, among others.

### ***Evidence on the effectiveness and safety of water fluoridation***

- The safety and effectiveness of water fluoridation have been proven through numerous studies and several large systematic reviews of research, including the following:
  - Findings and Recommendations of the Fluoride Expert Panel Health Canada, January 2007.
  - A Systematic Review of the Efficacy and Safety of Fluoridation. National Health and Medical Research Council, Australian Government, 2007.
  - Oral Health in America: A Report of the Surgeon General, 2000.
  - Systematic Review of Water Fluoridation. UK/International study, 2000.
- The weight of evidence does **NOT** support a link between drinking fluoridated water and increased risks of the following conditions: cancer, skeletal fluorosis (brittle bones), adverse effects among people with kidney problems, lowering of Intelligence Quotient (IQ), bone fracture, immunotoxicity, reproductive and developmental toxicity, DNA toxicity and neurotoxicity.

### ***What is at stake?***

- A recent study showed that there are more hospital emergency department visits in Ontario for non-traumatic dental problems than for diabetes and hypertensive diseases combined. (Community Dentistry and Oral Epidemiology, August 2009). This is also true for Orillia Soldiers Memorial Hospital (National Ambulatory Care Reporting System 2005-09).
- Dental cavities are one of the most prevalent chronic diseases in childhood (Centers for Disease Control).
- Every \$1 invested in community water fluoridation yields about \$38 in savings each year from fewer cavities treated (*J Publ Health Dent* 2001;61(2):78–86).
- On average in Simcoe Muskoka, the provincial-municipal cost-shared CINOT (Children in Need of Treatment) dental program spends \$14 (3%) less to treat a child who lives in a fluoridated area than on a child who lives in a non-fluoridated area. The cost-shared dental treatment provided under Ontario Works spends \$70 (19%) less on treatment for a child who lives in a fluoridated area than one who lives in a non-fluoridated area (Simcoe Muskoka CINOT data, 2006-08).

### ***More information***

To learn more about community water fluoridation and its health benefits, visit the health unit's website at [www.simcoemuskokahealth.org](http://www.simcoemuskokahealth.org) or call Your Health Connection at 1-877-721-7520.