

**Ministry of Health
and Long-Term Care**

Chief Medical Officer of Health

Public Health Division
11th Floor, Hepburn Block
Queen's Park
Toronto ON M7A 1R3Telephone: (416) 212-3831
Facsimile: (416) 325-8412**Ministère de la Santé
et des Soins de longue durée**

Médecin hygiéniste en chef

Division de la santé publique
Édifice Hepburn, 11e étage
Queen's Park
Toronto ON M7A 1R3Téléphone: (416) 212-3831
Télécopieur: (416) 325-8412

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MEMORANDUM**TO: Medical Officers of Health, Associate Medical Officers of Health****RE: Value of Water Fluoridation**

The Office of the Chief Medical Officer of Health has been asked to provide expertise and advice to Medical Officers of Health on the value of water fluoridation.

The practice of water fluoridation is one of the greatest public health achievements of the 20th century. More than 90 national and international professional health organizations including Health Canada, the Canadian Public Health Association, the Canadian Dental Association, the Canadian Medical Association, the U.S. Centers for Disease Control and Prevention, the National Institutes of Health and the World Health Organization have endorsed the use of fluoride at recommended levels to prevent tooth decay.

The use of fluoride in drinking water is a safe, effective, economical means of preventing dental cavities. The studies are clear and unequivocal and the benefits of fluoridation are well documented:

- where fluoride has been added to municipal water supplies, there has been a marked decline in the rates of tooth decay;
- water fluoridation reduces dental care expenditures, with an estimated \$38 in avoided costs for dental treatment for every \$1 invested in community water fluoridation; and
- the health benefits extend to all residents in a community regardless of age, education, or socio-economic status; the practice is particularly beneficial to seniors, underprivileged people, those living in conditions of material privation, and the hardest to reach poor for whom other preventive measures may be inaccessible.

Fluoride additives themselves are required to meet rigorous standards of quality and purity before they can be used, and, when added to water at levels recommended in Ontario and across the country, studies have determined that fluoride, is not harmful.

It is important to note that credible scientific organizations and associations continue to review the evidence and assess the benefits and harms of fluoridation. Their reports are publicly available and constitute the basis for the continuing support of water fluoridation. The most recent review is that of Health Canada. In 2007, a Health Canada-appointed panel of experts concluded that community drinking water fluoridation remains an effective public health method to reduce the prevalence of dental cavities and that there is no evidence of risks detrimental to the health of Canadians at the current recommended levels.

The value of water fluoridation should not be underestimated. Tooth decay is the single most common chronic childhood disease, one that is highly preventable. According to sound research, fluoridated drinking water greatly reduces the number of cavities in children's teeth, which contributes to their healthy development.

Therefore, I find no reason for Ontarians to avoid drinking fluoridated water at the recommended levels in Ontario's drinking water. Through Ontario's Child Health Program, public health units across the province are required to review drinking water quality reports for their municipal drinking water where fluoride is added, and to take action in accordance with provincial legislation and guidelines.

As you know, the decision to fluoridate local drinking water is made by each municipality in consultation with local residents. It is an effective public measure that reduces social inequalities in health. It helps to contain the costs of health care in Ontario. It benefits all residents in a community, and for these reasons we fully expect that this important practice will continue for many years to come so that Ontarians can enjoy lasting health benefits.

It is often difficult to communicate the information about this well-studied intervention amid misinformation and controversy generated by misinterpretation of data and results of studies. We are attaching a series of Q's and A's and a list of website references to related scientific studies and other areas of research and information that we hope you will find useful.

In my capacity as CMOH for the Province of Ontario and with the support of the Ministry of Health Promotion, my office will continue to monitor this issue and review the information as provided by the scientific reviews.



David C. Williams, MD, MHSc, FRCPC
Chief Medical Officer of Health (A)
Associate Chief Medical Officer of Health, Health Protection

Attachment

Supporting Scientific Studies

Health Canada

<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/environ/fluor-eng.php>

"The use of fluoride for the prevention of dental cavities is endorsed by over 90 national and international professional health organizations including Health Canada, the Canadian Public Health Association, the Canadian Dental Association, the Canadian Medical Association, the Food and Drug Administration of the United States and the World Health Organization.

Fluorides protect tooth enamel against the acids that cause tooth decay. Many studies have shown that fluoridated drinking water greatly reduces the number of cavities in children's teeth. Fluoride is used in many communities across Canada, spanning most provinces and territories. About 40 percent of Canadians receive fluoridated water."

Findings and Recommendations of Health Canada's Fluoride Expert Panel (January, 2007)

<http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2008-fluoride-fluorure/index-eng.php>

"The current Maximum Acceptable Concentration (MAC) of 1.5 mg/L of fluoride in drinking water is unlikely to cause adverse health effects, including cancer, bone fracture, immunotoxicity, reproductive/developmental toxicity, genotoxicity, and/or neurotoxicity...Under modern conditions of exposure, Heller *et al.* (1997) concluded that 0.7 mg/L of fluoride in drinking water provides a suitable trade off between the risk of dental fluorosis and the protective effect against dental caries...From a health perspective, there is no reason to be concerned about the actual prevalence of very mild and mild dental fluorosis in Canada. In addition, the actual prevalence of moderate dental fluorosis in Canada is low, and all evidence suggests that since 1996 there has been an overall decreasing trend of dental fluorosis in Canada...Community drinking water fluoridation is still an effective public health method to reduce the prevalence of dental caries in the Canadian population."

Health Canada - Chief Dental Officer's letter on water fluoridation

<http://www.hc-sc.gc.ca/hl-vs/oral-bucco/care-soin/fluor-eng.php>

"The big advantage of water fluoridation is that it benefits all residents in a community, regardless of age, socioeconomic status, education, or employment. Health Canada continues to support water fluoridation as a safe, cost effective public health measure, and encourages Canadians to review respected and credible sources of information to reach their own conclusions about water fluoridation."

The Canadian Dental Association

http://www.cda-adc.ca/en/oral_health/faqs_resources/faqs/fluoride_faqs.asp

List of commonly asked questions about fluoride with answers in lay language.

National Health and Medical Research Council of Australia. 1999

"Water Fluoridation at optimal levels continues to provide significant benefits in the prevention of dental caries for both deciduous (baby) and permanent (adult) teeth. It remains the most effective means of achieving community-wide exposure to the caries preventive effects of fluoride and should remain unchanged."

National Health and Medical Research Council of Australia. 2007: The Efficacy and Safety of Fluoridation is a report on the review of the latest scientific evidence in relation to fluoride and health.

"The existing body of evidence strongly suggests that water fluoridation is beneficial at reducing dental caries."

<http://www.nhmrc.gov.au/publications/synopses/files/eh41.pdf>

Oral Health in America: A Report of the Surgeon General. 2000

“Community Water Fluoridation is ‘safe and effective’ in preventing dental caries” in both children and adults. Water fluoridation benefits all residents serviced by community water supplies regardless of their social or economic status

http://www.cdc.gov/fluoridation/fact_sheets/sg04.htm

Systematic Review of Water Fluoridation. UK/International study. 2000

“Fluoridation of drinking water supplies does reduce caries prevalence, both as measured by the portion of children who are caries free and by the mean change in deft/DMFT Score.” The deft Score determines the dental caries status for primary teeth decayed.

(d= decayed, e = extracted due to caries, f = filled t = teeth)

<http://www.york.ac.uk/inst/crd/pdf/fluorid.pdf>

Water Fluoridation. US Department of Health and Human Services Centers for Disease Control and Prevention. 2001

“Fluoride has contributed profoundly to the improved dental health of persons in the United States and other countries. Fluoride is needed regularly throughout life to protect teeth against tooth decay. To ensure additional gains in oral health, water fluoridation should be extended to additional communities.”

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>

European Fluoridation Forum. 2002

“Water fluoridation has been very effective in improving the oral health of the Irish population, especially of children, but also of adults and the elderly”“The prevalence of dental decay is approximately 30-50% lower in fluoridated areas of the Republic of Ireland compared with non fluoridated areas in Northern Ireland.”

http://www.dohc.ie/publications/pdf/fluoridation_forum.pdf?direct=1