

## Fear of fluoride—More bark than bite?

**D**espite numerous studies confirming the benefits and safety of fluoridation, there remains considerable opposition to this important public health measure. In BC only 11% of homes have fluoridated water. Due to unfounded fears about its harmful effects, some communities have stopped water fluoridation and subsequently experienced an increase in incidences of tooth decay. Many patients are concerned about fluoride and there is much misinformation on the topic.<sup>1,2</sup> For those of us in practice, answering patients' concerns on this issue can be daunting, particularly if we are presented with some of the published "evidence" that fluoride is harmful.

Part of the problem is that there are in fact published reports of harm from fluoride, and occasionally individuals with genuine scientific or medical/dental credentials will make statements opposing fluoridation. This does not mean these claims are true, and one might ask why the vast majority of qualified scientists do not agree with the interpretation of the evidence adopted by the anti-fluoridation camp.<sup>3</sup>

We know that there is no such thing as a free lunch; any measure carries some risks. However, we also know that any time a health measure is studied repetitively, some studies will show false positive or negative results simply because of poor design or just by chance. In addition, many "findings of harm" may be insignificant, inaccurate, or simply taken out of context—a situation similar to the ongoing popular debate about childhood immunizations.

### **Benefits of water fluoridation**

Extensive research done over the past 50 years shows that fluoridation of

public water supplies is a safe, effective, and low-cost way to reduce tooth decay and improve dental health for people of all ages.

Studies show that children who drink fluoridated water can expect to have up to 35% less decay than those who drink non-fluoridated water. The

ting of tooth enamel—neither of which is thought to be a threat to tooth function or longevity. This same fluoride can appear in skeletal bone but has not been proven to cause increased fracture risk.

However, anything taken in excess, even oxygen, is a poison. Acute toxic

**Children who drink fluoridated water can expect to have up to 35% less decay than those who drink non-fluoridated water. The strong teeth children develop by using fluoridated water last throughout adult life.**

strong teeth children develop by using fluoridated water last throughout adult life. As adults, they will have fewer cavities or missing teeth.

Adults who drink fluoridated water can also expect to have less tooth decay.

All patients then, including children, face a greater risk from not having fluoride than from being exposed to the small quantities recommended.

### **Risks of water fluoridation**

At the recommended levels of fluoridation and supplementation (see Resources), the only real (and small) risk is dental fluorosis. This is a mottling of the teeth due to fluoride exposure and is a dose-related condition. At the recommended water levels (0.7–1.2 ppm), at worst, it is a minimal cosmetic problem (white specks on teeth) that can be dealt with easily. Higher levels of fluoride exposure can be associated with brown discoloration or pit-

ting from fluoride produces nausea, vomiting, diarrhea, abdominal pain, seizure, cardiac arrhythmias, and coma.<sup>4</sup> These effects only ever occur at levels far in excess of those found in fluoridated water.

### **More adverse effects?**

Since 1950, opponents of fluoridation have claimed that fluoride causes a long list of other problems.<sup>5</sup> These include:

- Cancer
- Down syndrome
- Heart disease
- Osteoporosis
- Bone fractures
- AIDS
- Allergic reactions
- Alzheimer disease
- Low intelligence

There have been numerous studies over that last 50 years and no

*Continued on page 364*

*Continued from page 344*

Since most physicians earn more than the maximum insurable wages and want coverage for non-work-related disability as well, purchasing additional disability coverage is a consideration.

### **WorkSafeBC benefits**

You may already be familiar with the WorkSafeBC health care and rehabilitation benefits that your patients receive when they suffer a work-related injury or disease. Benefits may include short-term disability wage loss payments, certain health care and rehabilitation costs, long-term benefits for permanent disability, and death benefits to the survivor dependants of a worker suffering a fatal injury or occupational disease.

WorkSafeBC coverage has no waiting period; therefore, benefits for approved claims commence on the date of injury, with wage-loss replacement commencing with the first missed shift due to partial or total disability. For further details of the benefits, including eligibility and limitations, please visit [www.worksafebc.com/insurance](http://www.worksafebc.com/insurance).

At present, there are no benefits available for quarantine from work in the absence of injury or disease as may have occurred during the SARS crisis.

If you are covered by WorkSafeBC as a worker—that is, you are employed by a corporation registered with WorkSafeBC or you purchase POP coverage—you are eligible for the same benefits that your injured worker patients receive.

### **Contact WorkSafeBC**

For more information regarding WorkSafeBC coverage and eligibility or an application for POP coverage, visit [www.worksafebc.com](http://www.worksafebc.com) and click on Insurance or call WorkSafeBC's Employer Service Centre at 1 888 922-2768 and choose option 2.

—Don Graham, MD  
WCB Chief Medical Officer

*Continued from page 323*

convincing evidence has been found to support these claims.<sup>4,6</sup>

### **The bottom line**

The addition of fluoride to water supplies or to dental hygiene regimens in recommended doses has repeatedly been proven to be a safe, effective, and cost-saving measure for ensuring good dental health. Patient concerns about fluoride should be acknowledged and addressed in light of the best available evidence.

—Lloyd Oppel, MD  
Alternative Health and  
Therapeutics Committee

### **References**

1. You're putting WHAT in our Drinking Water? [www.suite101.com/article.cfm/chiropractic\\_health\\_care/89303](http://www.suite101.com/article.cfm/chiropractic_health_care/89303) (accessed 9 August 2006).
2. Fluoridation/Fluoride, Toxic Chemicals in your Water. [www.holisticmed.com/fluoride/](http://www.holisticmed.com/fluoride/) (accessed 9 August 2006).
3. The Canadian Dental Association, the Canadian Medical Association, the Canadian Public Health Association, the Canadian Pediatric Society, and the World Health Organization (among others).
4. American Academy of Family Physicians. 2004 American Academy of Family Practice policy statement on fluoridation of public water supplies. [www.aafp.org/online/en/home/clinical/clinicalrecs/fluoridation.html](http://www.aafp.org/online/en/home/clinical/clinicalrecs/fluoridation.html) (accessed 9 August 2006).
5. Hodge HC. Evaluation of some objections to water fluoridation. In: Newbrun E (ed). *Fluorides and Dental Caries*. 3rd ed. Springfield, Illinois: Charles C. Thomas; 1986:221-255.
6. National Research Council. *Health Effects of Ingested Fluoride*. Washington, DC: National Academy Press; 1993.

### **Resources on fluoride supplementation**

Visit these web sites for information on the facts and misconceptions of fluoride supplementation.

**American Academy of Family Physicians.** 2004 American Academy of Family Practice policy statement on fluoridation of public water supplies. [www.aafp.org/online/en/home/clinical/clinicalrecs/fluoridation.html](http://www.aafp.org/online/en/home/clinical/clinicalrecs/fluoridation.html) (This site gives a blow-by-blow analysis and critique of the studies allegedly showing the harm of fluoride.)

**Centers for Disease Control and Prevention.** Achievements in Public Health, 1900–1999: Fluoridation of Drinking Water to Prevent Dental Caries. [www.cdc.gov/mmwr/preview/mmwrhtml/mm4841a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4841a1.htm)

**Quackwatch.** Fluoridation: Don't Let the Poisonmongers Scare You! [www.quackwatch.org/03HealthPromotion/fluoride.html](http://www.quackwatch.org/03HealthPromotion/fluoride.html)

**2004 US Preventive Services Task Force.** Prevention of Dental Caries in Preschool Children. [www.ahrq.gov/clinic/uspstf/uspstdnch.htm](http://www.ahrq.gov/clinic/uspstf/uspstdnch.htm)

**Canadian Pediatric Society.** Statement on the use of fluoride in infants and children. [www.cps.ca/english/statements/N/n02-01.htm](http://www.cps.ca/english/statements/N/n02-01.htm)