

# 2006 Update on Fluoride Supplement Recommendations in BC



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[www.bcdental.org](http://www.bcdental.org)

The Canadian Dental Association (CDA) supports the appropriate use of fluoride in dentistry as one of the most successful preventive health measures in the history of health care. Over 50 years of extensive research throughout the world has consistently demonstrated the safety and effectiveness of fluoride in the prevention of dental caries.

In a 2004 report by the US Public Health Service Surgeon General, community water fluoridation was identified as the most cost-effective, equitable and safe means of providing protection from dental caries in a community. Despite that, the trend towards removing fluoride from community drinking water continues. Dentists should assume that their patients are not exposed to fluoride through fluoridation unless their patient's community is listed in Table 1 or 2, below.

In 2005, the BCDA's Health Promotions Committee (HPC) reviewed scientific Clinical Corner literature pertaining to the benefits of fluoride in all stages of life. It concluded that rationalization of various recommendations, simplified usage, and identification of low maximum dosages would best be realized when practitioners were offered a combination of the CDA's 1998 and 2000 recommendations on the use of fluoride supplements, with some amendments. The HPC is concerned that the 2000 CDA guideline on fluoride supplements fails to identify an absolute maximum dose of daily fluoride supplement.

Although the CDA's 2000 guideline sets the total daily maximum exposure to 0.07 mg/kg, there is not an absolute maximum level of fluoride supplement as a safety valve. It is therefore possible that contrary to CDA's attempt to reduce exposure to excess fluoride, the CDA's 2000 recommendation may indeed expose the patients to higher doses than the CDA's 1998 guideline. For example, a 3-yearold weighing an average of 15 kgs would require 1.05 mg of daily fluoride supplement when no contribution from other fluoride sources is identified. There is no indication whether in such instances an absolute maximum of 0.5 mg fluoride supplement per day should be the limit.

On the Basis of its literature review, the HPC advises that:

- Children should have their teeth brushed twice a day with a smear of fluoridated toothpaste upon the eruption of the first tooth
- Most of the beneficial effect of fluoride is associated with its topical effect
- Chewable tablets and lozenges are the preferred forms of fluoride supplement for pre-schoolers
- Daily fluoride rinses with a concentration of 0.05% would be most suitable for adults and school-aged children who are able to expectorate the solution. If possible, choose a product that is alcohol-free since alcohol-based products are difficult or impossible to keep in the mouth for the required time to be effective, especially for children. Best time for rinsing is after brushing and before bedtime; it is best not to have anything to eat or drink after rinsing for the best effects.
- Fluoride drops and varnishes may be the only means of providing fluoride supplements for special needs patients.
- Fluoride gels with custom trays may be used in high caries-risk adults
- At high serum concentrations, trace amounts of fluoride may be able to cross the placenta. Prenatal fluoride allows the foetus to develop to its full potential with no deleterious effects on the skeletal system, although it has no significant caries preventive effect. Hence, prenatal fluoride supplements are not advisable.

| <b>Table 1:<br/>Fluoridated BC Water Supplies as of February 2005</b>  |   |
|--|---|
| <u>Communities</u><br>Cranbrook<br>Fort St. John<br>Golden<br>Lake Cowichan<br>Prince George<br>(Fort George)<br>Prince Rupert<br>Sparwood<br>Terrace<br>Williams Lake | <u>C.F.B. Installations</u><br>Aldergrove<br>Chilliwack<br>Comox<br>Kamloops (presumed) |

*Courtesy of Dr. Malcolm Williamson, Dental Consultant, Ministry of Health Services, and Dr. Barry Boettger, Project Manager, Drinking Water, Ministry of Health Planning, Ministry of Health, Gov. of BC.*

| <b>Table 2:<br/>Locations of Well Water with High Fluoride Concentrations ( &gt; 1.5 mg/L):</b> |   |
|---|---|
| Nanaimo<br>Duncan<br>Gabriola Island<br>Salt Spring Island<br>Ladysmith                         | Penticton<br>Okanagan Falls<br>Vernon<br>Armstrong<br>Salmon Arm<br>Enderby |

*Other communities may have locally high or medium levels of fluoride.*  
(Source: Well Stewardship Information Series, "Fluoride in Groundwater" September 2002, B.C. Groundwater Association and BC Ministry of Environment and Water Stewardship and Sustainable Communities)

**Table 3:  
Recommended Fluoride Supplement Schedule (BCDA 2006)**

| <b>RECOMMENDED FLUORIDE SUPPLEMENT SCHEDULE</b><br>For patients who have caries risk AND/OR do not brush with fluoride toothpaste twice per day<br>WHEN TOTAL FLUORIDE EXPOSURE IS LESS THAN 0.07 mg/kg/day AND CONCENTRATION OF FLUORIDE IN DRINKING WATER IS LESS THAN 0.3 PPM  |   |   |
|---|---|---|
| <b>Age</b><br>0-3 years<br>3-5 years<br>6 years and over  | <b>Tablet/ Lozenge/ Drops</b><br>NONE<br>0.5 mg Fluoride<br>1.0 mg Fluoride | <b>Mouthrinse</b><br>NONE<br>NONE<br>0.05% daily fluoride rinse |
| <ol style="list-style-type: none"> <li>1. Children should have their first dental exam by the age of ONE.</li> <li>2. Children should have their teeth brushed with a smear of fluoridated toothpaste twice a day upon the eruption of the first tooth.</li> <li>3. Fluoride supplements should only be given following a complete oral exam by, and on the recommendation, of a dentist.</li> <li>4. Ingestible fluoride supplements should only be given to patients with moderate to high caries risk.</li> <li>5. Ingestible fluoride supplements are not recommended when the concentration of fluoride in drinking water is higher than 0.3 ppm.</li> <li>6. Total fluoride exposure should not exceed 0.07 mg/kg/day.</li> <li>7. The best time for the administration of fluoride supplements is at bedtime.</li> <li>8. Fluoride supplements are not recommended for children until they are able to expectorate toothpaste. This is a developmental milestone achieved by most past the age of three.</li> <li>9. Fluoride drops and varnishes may be the only means of providing fluoride supplementation for special needs patients.</li> <li>10. Systemic fluoride supplementation is not recommended for expecting mothers as it has no preventive effect in reducing tooth decay.</li> </ol> |   |   |

Table 3 summarizes the BCDA’s recommendations for fluoride supplements. The recommended dosages in this table will allow for sufficient fluoride supplementation without the unnecessary risk of exposing the patient to excess fluoride. This table may be printed on a prescription pad to allow for individualized recommendations.

While there is controversy in the minds of some people about the safety of ingesting or rinsing with fluoride, there is sound science behind the recommendations that have been provided above. Since fluoride is found in many natural sources of water, it is arguable that it is a necessary element for good health. Like any medication or health supplement, there are safe limits for dosages of fluoride beyond which adverse effects will be experienced. If used as recommended, the fluoride exposure will be well within safe limits for both the user and the environment, and will provide a significant benefit to oral health and well-being.

Here is another source for updated information on fluoride: <http://www.fluoridescience.org/>



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# Tooth Brushing Tips for Parents Provided by British Columbia & Canadian Dental Associations University of Toronto Vancouver Coastal Health



[www.bcdental.org](http://www.bcdental.org)



CANADIAN DENTAL ASSOCIATION  
L'ASSOCIATION DENTAIRE CANADIENNE

[www.cda-adc.ca](http://www.cda-adc.ca)



[www.utoronto.ca/dentistry](http://www.utoronto.ca/dentistry)



[www.vch.ca](http://www.vch.ca)

Your role as a parent includes keeping your child's teeth clean and healthy and free from tooth decay. It can be challenging to brush infants' and toddlers' teeth, but it's important to do since baby teeth are very susceptible to tooth decay.

## Brushing your baby's teeth

- Prior to the eruption of the baby teeth, wipe your baby's gums and tongue with a damp cloth after feedings
- Begin brushing your baby's teeth as soon as their first tooth appears.
- Use a soft, baby toothbrush with just a tiny dab of fluoride toothpaste.
- Brush twice a day; brushing before bed is especially important.
- Don't miss brushing where the teeth and gums meet!
- Lift your baby's lip regularly to check for white or brown spots on their teeth. Look closely along the gum line. Call your dentist if you notice anything unusual.
- Take your baby to see a dentist once their first tooth comes in or by their first birthday.

## Placement of the baby for tooth-brushing

- Find a comfortable position. It is often easiest to brush your baby's teeth when the child is lying down. You will see better and do a better job. Try these positions to find what works best for you:
  - Lay your baby on a change table, making sure they cannot fall off.
  - Place your baby on a couch or bed, with their head in your lap.
  - Lay your baby on the floor with their head placed between your legs.

## Cleaning your toddler's teeth

- Use a child-size toothbrush with soft bristles.
  - Use a tiny dab of fluoride toothpaste about the size of a grain of rice.
- Brush twice a day; brushing before bed is especially important.
  - Brush the tongue, the top of the tooth and both sides of the tooth; remember to brush where the teeth and gums meet, too!
- Brush for at least two minutes.
  - Gums that bleed need more brushing to make them healthy.
- Floss between teeth that are touching.
  - Use of a "floss-wand" (available where oral hygiene products are sold) can greatly simplify this process
- Hold the brush or floss-wand like a pen
- Take your child to the dentist regularly when they reach one year of age.

## Cleaning teeth for children from 3 to 6 years of age

- Children in this age group should be assisted by an adult in brushing and flossing their teeth.
  - Have them lay their head on your lap and hold the brush or floss-wand like a pen
- Only a small amount (a portion the size of a green pea – see figure 1) of fluoridated toothpaste should be used.
- All children should be supervised or assisted until they develop appropriate manual dexterity.



**Figure 1.** A rice grain sized portion of toothpaste on a child's toothbrush is shown on the left. A pea-sized portion of toothpaste is shown on the right.



**Figure 2.** Example of a “floss-wand” from GUM® (the Flossmate® Floss Handle which easily reaches back teeth)

### Caution!

Fluoride mouth-rinses are an effective preventive measure for at-risk individuals and should be used according to the specific needs of the individual. However, fluoride mouth-rinsing is not recommended for children under 6 years of age.

### Remember

- Young children cannot clean their own teeth. Do it for them when they are very young; do it with them as they grow.
- Children under eight need you to start the brushing for them.
- Always use toothpaste with fluoride. Fluoride strengthens tooth enamel and helps prevent tooth decay.
- Encourage children to spit out toothpaste and keep toothpaste and mouth-rinses out of their reach.
- Discourage on-going nibbling on foods and sipping on drinks between meals and snacks. This causes on-going acid attacks on teeth, which can cause tooth decay, even tooth rot.
- Be a great role model: children want to brush their teeth when they see you brushing your own.

For additional information on the management of dental health from pre-natal to childhood, go to <http://www.utoronto.ca/dentistry/newsresources/kids/index.html>

For an excellent video on the technique for brushing babies' and toddlers' teeth produced by Dr Pam Glassby and Vancouver Coastal Health, go to <http://www.youtube.com/watch?v=NUNmoh14CD8&sns=em>



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