BCCOHP | British Columbia College of Oral Health Professionals

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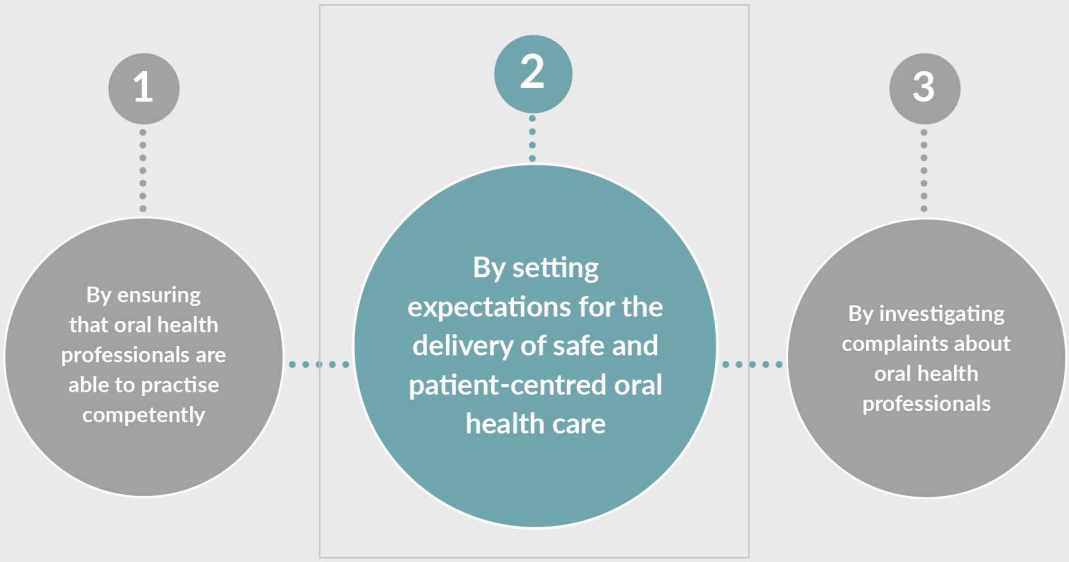
Expectations for clinical and ethical practice

Interpretation Guidelines: Fluorides

Applies to Dental Hygienists

There are three main ways that the BC College of Oral Health Professionals protects the public:



The British Columbia College of Oral Health Professionals (BCCOHP) was created on September 1, 2022 through the amalgamation of four health regulatory colleges: the College of Dental Hygienists of BC, the College of Dental Surgeons of BC, the College of Dental Technicians of BC, and the College of Denturists of BC. All current requirements for standards of clinical and ethical practice issued by the four colleges remain in place upon amalgamation. This document was created by the College of Dental Hygienists of British Columbia and will be updated to reflect the amalgamation.

Fluorides

May 5, 2020 Update: The CDHBC Interpretation Guidelines are under review. The content of these guidelines remains in place at this time; however, they need to be applied in the context of the new Dental Hygienists Regulation and CDHBC Bylaws. Readers are welcome to contact the CDHBC office if they have questions about the application of these guidelines in the interim time.

PURPOSE

To provide guidelines on fluoride application for the prevention of dental caries.

BACKGROUND

The CDHBC stance on fluorides, for the prevention of caries, aligns with the current research provided by the Canadian Dental Hygienists Association (CDHA), the Canadian Dental Association (CDA), Health Canada, the World Health Organization (WHO), the Center for Disease Control (CDC) and the World Dental Federation (FDI).

The College recognizes the application of fluoride as part of the Dental Hygiene Scope of Practice as defined within the *Dental Hygienists Regulation*. The regulation states that registrants of the CDHBC may "*assess the status of teeth and adjacent tissues and provide preventive and therapeutic dental hygiene care for teeth and adjacent tissues*".

As part of the ADPIE process of care, the dental hygienist should complete a caries risk assessment. This caries risk assessment will assist the registrant in planning the appropriate caries management strategies based on the individual clients' needs. Caries intervention strategies should align with current literature and involve collaboration with the client's dentist when appropriate.

The CDHBC recommendations regarding fluoride align with the professional organizations' guidelines found in the reference list.

The Role of Community Water Fluoridation to Deliver Fluoride to Groups and Individuals

Health Canada recommendations for fluoride in drinking water are as follows:

- Maximum recommended concentrations should be no greater than 1.5mg/L of fluoride in drinking water. Fluoride levels set at or below this amount do not pose adverse health risks associated with: skeletal fluorosis, cancer, immunotoxicity, reproductive and developmental toxicity, genotoxicity and neurotoxicity, and moderate dental fluorosis.

- To minimize effects of dental fluorosis in combination with multiple sources of fluoride exposures, such as toothpaste and mouth rinses, optimal water fluoride concentration should be 0.7mg/L.

Fluoride Supplements

According to the CDA, fluoride supplements should only be considered for high-risk clients who have no exposure to topical or systemic fluoride. Total daily fluoride intake should not exceed 0.05-0.07mg/kg of body weight in order to reduce the risk of fluorosis. The use of supplements before the eruption of the first permanent tooth is generally not recommended.

Professionally Applied Topical Fluorides (PATFs)

The CDHBC supports the use of professionally applied topical fluorides (gels and varnishes) as a preventative measure for clients posing a moderate to high caries risk. The decision for the use of PATFs should be based on the individual client's caries risk.

The efficacies of in-office one or two-part professionally applied fluoride rinses have not been scientifically proven to reduce caries and therefore their use is not endorsed by the CDHBC.

The use of fluoride foam is not supported by the clinical evidence as being effective in those with a high caries risk; however, there is limited evidence to support the use of fluoride foam in primary teeth and newly erupted first molars. The research indicates that the application time for fluoride foam is more effective when applied for four minutes; therefore one minute applications are not endorsed.

It is the dental hygienists' responsibility to remain current with the evidence-based research related to PATFs and to follow the manufacturer's guidelines during professional application.

Self-applied Fluoride Mouth Rinses

The use of fluoridated mouth rinses in community dental public health school programs should be considered for high-risk populations aged 6 years and over. Recommendations currently indicate 10 ml of 0.2% sodium fluoride (NaF) administered weekly or biweekly.

The recommendation of self-applied fluoride rinses should be considered for home use for those clients who present with a high caries risk. For example, the daily use of 0.05% NaF for those client over 6 years of age.

Self-applied Fluoride Gels (or Pastes)

The use of self-applied fluoride gels, in addition to fluoride dentifrice, is indicated only if warranted after completion of a caries risk assessment. Professional knowledge and judgment is required when choosing a self-applied fluoride gel for a client. This relates to the appropriateness of the fluoride product for the given needs and risk factors of the client, along with consideration of undesirable side effects such as staining, metallic taste, and etching of tooth coloured restorations due to acidity.

Self-applied 0.4% SnF should not be used in children under 6 years of age. The use of a 1.1% NaF gel for children under the age of 6 years should be done only on the direction of a dental hygienist or dentist and supervised by an adult at home in order to minimize the risk of ingestion.

Fluoride Dentifrices

The following guidelines are proposed by the CDA, Health Canada and the FDI *for children who use fluoridated dentifrice*:

a. brushing with a fluoridated dentifrice should occur twice daily;
b. children from birth up to age 3 should have their teeth brushed by an adult with a rice grain sized amount of fluoridated dentifrice;
c. children aged 3-5 years should be assisted by an adult in brushing their teeth with no more than a pea sized amount of fluoridated dentifrice.

Seniors and Fluoride

Dental hygienists should follow a client-centered approach and incorporate strategies for oral disease prevention to decrease the caries risk in British Columbia's aging population. The need for caries prevention and control in this population is required as teeth are being retained for much longer than in previous generations. Consideration must be given to factors affecting the caries rate such as, diet changes, limited dexterity, social factors, decreased salivary flow, and increased risk of root caries.

Caries Management by Risk Assessment (CAMBRA) Guidelines

Protocol for 1-2 Years Old	
Risk Level	**Fluoride**
Low Risk	• Tooth brushing 2x/day
Moderate risk	• Tooth brushing 2x/day with a rice size of fluoridated dentifrice • Fluoride varnish 2x/year
High risk	• Tooth brushing 2x/day with a rice size of fluoridated dentifrice • Fluoride varnish 2-4x/year

Protocol for 3-5 Years Old	
Risk Level	**Fluoride**
Low Risk	• Tooth brushing 2x/day using pea sized fluoridated dentifrice
Moderate risk	• Tooth brushing 2x/day with a pea size of fluoridated dentifrice • Fluoride varnish 2x/year

High risk	• Tooth brushing 2x/day with a pea size of fluoridated dentifrice • Fluoride varnish 2-4x/year

Protocol for >6 Years and Older	
Risk Level	**Fluoride**
Low Risk	• Tooth brushing 2x/day with a fluoridated dentifrice
Moderate Risk	• Tooth brushing 2x/day with a fluoridated dentifrice • PATF 2x/year
High Risk	• Tooth brushing 2x/day with a fluoridated dentifrice • PATF 2-4x/year
Extreme Risk (high risk plus dry mouth)	• Tooth brushing 2x/day with a fluoridated dentifrice • Appropriate fluoride rinse as needed • PATF 4x/year

Adapted from: American Academy of Paediatric Dentistry: Guidelines on Caries Risk Assessment, 2011 the Journal of Dental Hygiene: The Role of Dental Hygiene in Caries Management: A New Paradigm 2010, and the Canadian Dental Association Position on Use of Fluorides in Caries Prevention 2012.

POLICY

It is the responsibility of the dental hygienist to promote caries prevention by completing an appropriate caries risk assessment for each client and incorporating appropriate evidence based strategies. Consideration should be given to the most appropriate fluoride delivery system for each client's needs, along with complementary education relating to diet, oral self care, salivary substitutes and frequent follow up for the prevention and control of dental caries.

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