

## Focus: The Two Ps of Dental Hygiene Public Health: Prevention and Promotion

# Dental Hygiene

## Focus:



The Two Ps of Dental Hygiene Public Health: Prevention and Promotion



### Early Childhood Caries in Public Health: Filling in the Gap

by Taryn Coates, RDH • [Taryn.Coates@viha.ca](mailto:Taryn.Coates@viha.ca)  
and Dee Dee McMillan, RDH • [Deedee.Mcmillan@viha.ca](mailto:Deedee.Mcmillan@viha.ca)

How do you reduce the risk of dental disease at a community level? Public health dental hygienists (PHDH) have a unique opportunity to improve oral and overall health in local communities by providing preventive oral health education to a wide range of health care professionals, community service providers, and clients. Public health dental hygiene practice varies greatly from province to province and community to community but the goal of reducing vulnerability to dental disease is the same.

Public health dental teams have a much larger client-to-professional ratio compared to clinical dental hygienists. Effectiveness in this role relies heavily on collaborative practice with other health care professionals and community partners. These relationships allow PHDHs to bring oral health messages to a diverse group of community members in a variety of settings. We work alongside many professionals including dental therapists, public health nurses, dietitians, speech language pathologists, occupational therapists, family support workers, early childhood educators, and community developers. Through interdisciplinary education PHDHs provide other service providers in their community with key oral health messages and information about dental services offered through public health units. The goal is for those professionals to then pass our messages along to their clients, families, and communities, helping to reach people we may not have the chance to connect with directly. In British Columbia, PHDHs have also had the opportunity to take part in different coalitions and meetings, reinforcing the value of oral health prevention and promotion. Building relationships with other health professionals and service providers in our community allows everyone to work together towards the common goal of creating healthy future generations.

Dental hygienists in clinical practice tend to focus on prevention and oral health promotion for adults, but our role in prevention should start much earlier than adulthood. Specifically, dental hygienists have the opportunity to educate families on how to prevent early childhood caries (ECC) in their children. ECC, a transmissible disease, is defined by the Canadian Dental Association (CDA) as “the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries) or filled tooth surfaces in any primary tooth in a preschool-age child.”<sup>1</sup> Preventing ECC is important considering that, in 2000, the US surgeon general reported that “dental care has been identified as the most prevalent unmet health need of children in the U.S.”<sup>2</sup> Similarly in Canada, ECC is the leading reason for pediatric day surgery, accounting for 31% of all pediatric day surgeries.<sup>3</sup> This situation is disappointing because ECC is completely preventable. Focusing on this aspect of oral health was the biggest shift for us when we started working as public health dental hygienists.

ECC not only causes pain, but it also has the potential to affect the child’s behaviour, diet and nutrition, speech, jaw development, and the eruption of permanent dentition.<sup>1</sup> While in private practice, we would occasionally see a child with multiple areas of decay and possibly a “bombed out” tooth, but in public health, this extent of decay is a regular occurrence. We routinely encounter children who have a number of serious risk factors for ECC, such as sleeping with a bottle of milk each night, drinking juice in a sippy cup throughout the day, and irregular brushing practices. Parents are often concerned that crying associated with brushing could lead to trauma and long-term dental fears, but we’ve come to learn that trauma and dental anxiety for both parents and children are more likely to stem from treatment under general anesthetic (GA).

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GA is expensive and involves some risk to the client; hospital wait times add additional stress as decay and pain continue to progress until the surgery is performed. Currently, a child on Vancouver Island may have to wait 6 to 8 months from time of diagnosis to receive dental treatment under GA in the hospital. Alternatively, families can opt for treatment through a private facility but the additional cost involved is prohibitive for many. Even after a child completes treatment under GA, the underlying cause of the disease may remain.<sup>4</sup> There is a high probability that caries will recur if parents are not educated on the causes of decay. Indeed, prevention education is crucial for success in caries management.<sup>4</sup> Dental hygienists are oral health promotion and disease prevention specialists. Educating parents on oral care and caries prevention is what will reduce the rate of ECC, operating room use to treat caries, and recurring decay.

Shifting into our public health roles after working in clinical practice settings, we realized that there were a lot of evidence-based recommendations for early caries prevention that we were not confident in making. It was confusing to discover that many dental offices have recommendations for a child's first dental visit and fluoride use that differ from what the literature tells us. For example, many dental practices are not comfortable seeing children before the age of three for a variety of reasons. Unfortunately, this can be too late for many children and leaves parents with mixed messages as to what they should be doing. The CDA recommends that a child be seen by a dental professional six months after the eruption of their first tooth or by age one. As dental professionals, it is our responsibility to be knowledgeable in all areas of disease prevention and oral health promotion and offer consistent recommendations regarding a child's first dental visit and use of fluoride to promote oral health and decrease caries risk. We also have an ethical responsibility to provide parents and caregivers with options if their dental office is unable or unwilling to see infants at the recommended age of one year.<sup>1</sup>

### RECOMMENDATIONS FOR THE FIRST DENTAL VISIT

On Vancouver Island, public health dental programs provide free dental screenings for pregnant women and children under the age of three, as well as fluoride varnish programs for infants and young children at high risk for decay. Although these screenings are very basic (flashlight and mirror used only), they are a great opportunity to connect with parents and deliver key oral health messages. As well, PHDHs help families find a dental home. Increasing awareness of the recommendation for the first visit by age one encourages stronger relationships with



dental professionals, focusing on prevention for the family and decreased ECC experience. The benefits of this early intervention support the child and family throughout their lifetime.<sup>3</sup>

### RECOMMENDATIONS FOR FLUORIDE USE

We all know that high-risk clients should use fluoridated toothpaste but what makes a child high risk for tooth decay? According to the CDA, a child may be at risk for developing ECC if **one or more** of the following factors are present<sup>1</sup>:

- ▶ Lives in a community with non-fluoridated drinking water
- ▶ Has a white spot lesion, decay or defect present
- ▶ Regularly consumes sugary drinks or snacks between meals
- ▶ Has special health care needs that may limit cooperation with brushing
- ▶ Teeth are not brushed once a day by parent or caregiver
- ▶ Has a parent/caregiver or siblings with tooth decay
- ▶ Has visible plaque

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*Early Childhood Caries in Public Health...cont'd*

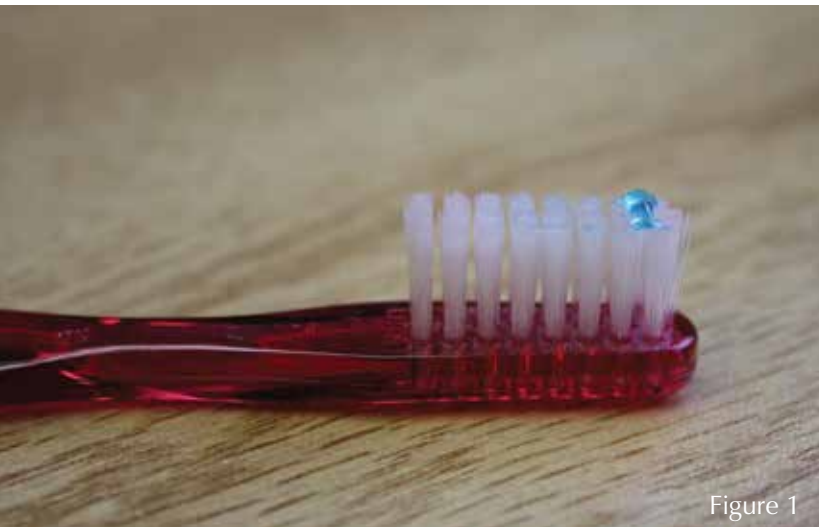


Figure 1



Figure 2

*Images courtesy of Dawn Moon, RDH*

When recommending fluoride toothpaste to parents it is important to discuss the appropriate dose to use. Parents of children from 0 to 3 years of age should brush their child's teeth with a grain of rice-sized (Figure 1) amount of fluoridated toothpaste twice a day, as soon as the first tooth erupts.<sup>1</sup> Parents of children 3 years and older should brush their child's teeth with a green pea-sized (Figure 2) amount of fluoridated toothpaste.<sup>1</sup> If a child is at risk for developing ECC, the benefits of using the appropriate amount of fluoride toothpaste balance the risk of developing fluorosis. If your assessments determine that a child is not at risk for developing ECC, you can still help to prevent ECC by recommending that parents brush their child's teeth with a moistened toothbrush twice a day.<sup>1</sup>

PHDHs often hear from parents that our key messages are new to them and they wish they had known sooner. Every parent wants the best for their child. By promoting the establishment of a dental home by one year of age, we create the opportunity to deliver key messages to families on an ongoing basis. However, the rewards of this dialogue may not come immediately. For example, we have families with whom we connected during their first child's early years, supporting them to agree to dental surgeries under general anesthetic and providing preventive education. Often these families return to us for information when they have their second child, determined to avoid another dental surgery. When parents know to seek oral health information sooner, we have a better chance of preventing ECC and promoting good oral hygiene.

Dental hygienists across Canada practice in a variety of settings, and our oral health messages should remain consistent and be universally promoted as we are the prevention and promotion specialists on our oral health teams. Because PHDHs are few in numbers, we rely heavily on our collaboration with private practice dental hygienists to help support and spread our key messages to the public. Working together we can provide families with the information needed to prevent ECC and reduce the number of children undergoing GA for dental treatment.

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### Preventing Decay: Niagara's Fluoride Varnish in Primary Care Project

by Carol Chipman, RDH • [carol.chipman@niagararegion.ca](mailto:carol.chipman@niagararegion.ca)  
and Christina Yochim, RDH • [christina.yochim@niagararegion.ca](mailto:christina.yochim@niagararegion.ca)



Niagara Region Public Health (NRPH) staff have a reason to smile...again. They have collaborated with local primary care providers to implement a community-based fluoride varnish program. Dental caries is not only the most common chronic disease suffered by children, but it is also the leading cause of day surgery among children one to five years of age, and the cause of 2.26 million missed school days.<sup>1</sup>



In 2015 and 2016, NRPH found caries rates to be high and rising, with 43% of elementary students and 30% of kindergartners having one or more decayed, missing or filled teeth

(DMFT > 1). This discovery supported the need for an oral health strategy. The dental team developed an evidence-based approach to maximize sealant provision in schools and offer fluoride varnish application in the community. Given the evidence and the success of other countries in integrating fluoride varnish application into a primary care setting, in November 2013, NRPH launched a pilot project with a primary care practice to apply fluoride varnish to the teeth of all children under the age of five. In April 2014, the associate medical officer of health and a registered dental hygienist from NRPH hosted their first lunch-and-learn session at a local family health team to determine the feasibility of launching a fluoride varnish program for their pediatric clients.

Primary care providers were not only receptive to providing fluoride varnish in their practice, but also spoke of this initiative as a good way to raise awareness of oral health in general and the "first tooth, first visit" model for pediatric dental care, in particular. NRPH supported the practice by offering a train-the-trainer model, providing free oral health kits, free fluoride varnish, connecting with other primary care practices to share an emergency medical record

stamp, and encouraging clients to call NRPH for assistance in finding a dentist and accessing Healthy Smiles Ontario.

It's recognized that preventive oral health strategies are needed earlier, before school entry.<sup>2</sup> In addition to the fluoride varnish initiative, NRPH implemented a sealant program in schools and began offering fluoride varnish application in day cares, home visiting programs, and community programs. In September 2017, all children in kindergarten in our region will be eligible to receive fluoride varnish during the mandated school dental screening program. Increasing access to fluoride varnish through community partners has supported the best practice of varnish under five, sealants thereafter.<sup>3</sup>

The fluoride varnish project has been very successful, with 14 primary care practices providing approximately 2,800 fluoride varnish applications thus far. It is evident that applying varnish in a primary care practice is sustainable. There has been recent uptake by several health units and their primary care sites in other municipalities, demonstrating that it can be replicated in Ontario, and the project is receiving attention across Canada.

NRPH is committed to working with local primary care practices in the delivery of vital health services. The goal is to reduce tooth decay rates in children under the age of five by providing fluoride varnish applications up to four times a year to as many children as possible.

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### First Dental Visit by the First Birthday: A Health Promotion Strategy

by Dorothy Dziunikowski, RDH, BEd • [dorothy.dziunikowski@york.ca](mailto:dorothy.dziunikowski@york.ca)

The World Health Organization defines health promotion as “the process of enabling people to increase control over, and to improve, their health.”<sup>1</sup> Dental hygienists working in public health review disease trends and focus on health promotion activities to prevent oral diseases and promote oral health. The impact of this type of work is not often seen immediately and requires frequent and innovative delivery of the health promotion message.

According to the Public Health Agency of Canada, “public health activities in each province and territory are governed by a public health act (or equivalent) and its regulations, as well as by other specific legislation.”<sup>2</sup> In Ontario, the Ontario Public Health Standards establish requirements and outline expectations for boards of health. One of the requirements is that boards of health shall work with community partners, using a comprehensive health promotion approach, to influence the development and implementation of healthy policies and the creation or enhancement of supportive environments to address oral health. As registered dental hygienists in public health we work with epidemiologists to understand our communities and their oral health issues that could be improved through oral health promotion activities.

Dental caries is a global health issue. The World Health Organization reports that dental caries is a major oral health problem in most industrialized countries, affecting 60% to 90% of school-aged children and the vast majority of adults.<sup>3</sup> The Canadian Health Measures Survey found that 57% of Canadian children ages 6 to 11 years had a cavity.<sup>4</sup> According to the Canadian Institute for Health Information, early childhood caries accounts for about one-third of all day surgeries performed on Canadian children between the ages of one and five.<sup>5</sup>

Promotion of the first dental visit before the age of one is one example of how the York Region Public Health Dental Program is working to decrease the prevalence of dental caries. The annual *York Region Oral Health Report*



highlights the caries rates in children between the ages of 0 and 13, noting that these rates have remained around 30% since 2011.<sup>6</sup> These numbers, along with the findings of an internal literature review, supported the development of an oral health promotion campaign for the first dental visit before the age of one. In 2017, York Region Public Health will be employing various health promotion strategies to increase awareness of the importance of the first dental visit. We will be promoting the message articulated by many professional associations, including the Canadian Dental Hygienists Association, that babies should visit a dental office for the first time at roughly the time of their first birthday or shortly after the primary teeth begin to erupt.

All dental hygienists can play a role in oral health promotion by encouraging the first dental visit before the age of one. Caregivers may ask why this early visit is necessary. It is important to share the message that as soon as baby teeth appear, cavities can occur. This is an opportunity for dental hygienists to teach caregivers about oral health and to explain that baby teeth are needed for eating, talking, smiling, self-esteem, and holding space for adult teeth.

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York Region Public Health has created a first dental visit tip sheet<sup>6</sup> for oral health professionals to increase their comfort in working with this age group. We encourage the following approach at a first dental visit:

### **KNEE-TO-KNEE EXAMINATION\***

This is the preferred method to assess infant oral health at a first dental visit. The exam should take no longer than 5 minutes.

- Parent and dental professional sit in chairs facing each other with knees touching
- Parent holds child in lap with child facing the parent. This position allows the child to see the parent during the exam
- With child's legs around parent's hips, parent slowly lowers child into dental professional's lap
- A pillow can be placed in dental professional's lap for child's comfort
- Parent should hold child's hands to stabilize child for safety during the exam
- Dental professional gently holds child's head still while completing extraoral and intraoral examinations

It is common for infants to cry and move around during the first dental exam.

### **FIRST DENTAL VISIT CHECKLIST**

- ✔ Complete an extraoral exam
- ✔ Complete an intraoral exam
- ✔ Complete a Caries Risk Assessment
- ✔ Ask parent about familial dental history
- ✔ Ask parent about oral hygiene practices for child and provide oral hygiene instruction
- ✔ Assess child's fluoride exposure and provide counselling on fluoride
- ✔ Ask about oral habits such as thumb sucking, tongue thrusting, lip sucking and pacifier use



Photo credit: The Regional Municipality of York

### **BASED ON THE RESULTS OF THE CARIES RISK ASSESSMENT**

- ✔ Provide counselling on appropriate feeding practices such as breastfeeding and bottle feeding
- ✔ Provide diet counselling related to oral health
- ✔ Provide injury prevention counselling
- ✔ Provide treatment if needed or refer to pediatric dentist
- ✔ Apply fluoride varnish if child is at risk for caries
- ✔ Consult with child's physician if needed
- ✔ Provide parent with anticipatory guidance
- ✔ Book next recall appointment based on a Caries Risk Assessment Management Protocol

\***Source:** York Region Community and Health Services *Tips for a first dental visit examination*<sup>6</sup>

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First Dental Visit by the First Birthday...cont'd

The first dental visit code is included in CDHA's *National List of Service Codes* (00130).

Oral health promotion is a large component of the work done by public health dental hygienists. We look for ways to promote positive health behaviours and decrease the prevalence of disease. Dental hygienists in all work settings have a role to play in the promotion of oral health. Together we can reduce the prevalence of dental caries in Canada.

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## "I am a Dental Hygienist" Poster Contest

Design a poster you can share with #DHpurplepride for a chance to win a \$500 cash prize.

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Entry deadline is April 18.



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