

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

Dental Hygiene

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Early Childhood Caries in Public Health: Filling in the Gap

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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.”¹ 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.”² Similarly in Canada, ECC is the leading reason for pediatric day surgery, accounting for 31% of all pediatric day surgeries.³ 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.¹ 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.⁴ 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.⁴ 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.¹

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.³

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 present¹:

- 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.¹ Parents of children 3 years and older should brush their child's teeth with a green pea-sized (*Figure 2*) amount of fluoridated toothpaste.¹ 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.¹

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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