

For the Office-based Teacher of Family Medicine

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Feature Editor

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Teaching Learners About Pediatric Caries Prevention

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Pediatric oral health is an often-neglected topic that offers many teachable moments for preceptors and learners. Medical schools can inform community preceptors about the Society of Teachers of Family Medicine's Web-based curriculum, Smiles for Life (www.smilesforlife2.org),¹ which has a module on Childhood Caries (Module 2). The curriculum includes downloadable tools for providers and patients. Learners can be challenged to increase their own oral health knowledge and to teach parents and children.

Basics About Childhood Caries

Dental caries is the most prevalent disease in childhood, five times more common than asthma.² One quarter of the pediatric population accounts for 80% of all dental disease. The risk is highest among minorities and the poor.^{3,4} Caries

is early decay in teeth that leads to cavities. This is caused by bacteria (primarily *streptococcus mutans*) that create an acidic environment by digesting sugars. Protective factors that decrease the risk of caries include fluoride, plaque control, and saliva.⁵ Cavities and tooth pain can lead to poor nutrition, poor growth, and missed school.

Oral Health Teaching Opportunities

Teaching about oral health should be practical. On average, family physicians see children 12 times in the first 3 years of life. Oral health promotion can be discussed at all of these visits. Advice should be straightforward and age specific. Office clinicians can educate themselves and their students formally by reviewing Module 2 of the Smiles for Life curriculum. Key points can be downloaded onto your handheld computer (personal digital assistant or PDA) and used for teaching patients. Teaching of oral health issues for children should focus around the following six themes:

(1) Caries Risk History

Physicians can demonstrate taking a caries risk history for a learner at the 4-month-old visit (or with any new pediatric patient). A risk history includes parents' caries history, parents' attention to oral hygiene, fluoride content in the family's drinking water, drinking a bottle or at the breast in bed, availability of dental insurance, special health care needs, socioeconomic and cultural background, premature birth, and history of enamel defects. Have the student demonstrate a risk history with a subsequent patient.

(2) Brushing

Starting at the 6-month visit, family physicians should counsel parents about brushing. As a busy clinician, there is not always enough time to spend with each parent to do preventive education. This is a perfect opportunity for the student to offer this education.

The student can download the patient education poster from the Smiles for Life Web site and use the photos to demonstrate to parents how to "lift the lip" to properly

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clean the gumline and how to brush behind the teeth (both are high-risk areas). He/she can refer to the poster to inform parents to begin brushing as soon as the first tooth erupts, use a small soft-bristled brush, and no food or drink after brushing. As a follow up, I often quiz parents or the child to see how well the student taught them.

(3) Diet

I have learners download the Infant Oral Health Palm Application from the Smiles for Life Web site. The student can refer to the information as he/she counsels a parent: no bottles in the baby's bed; after age 1 year, children should have water, milk, or breast milk between meals (since they are less cariogenic) and juice (if offered at all) with meals.

Test the student by listening to them counsel a parent about oral health and diet. Do they cover planning meals and snacks to allow the teeth a break from sugar and acid, limiting sweet snacks, and not drinking all day from sippy cups? Give the student specific feedback about their parental dietary education advice.

(4) Fluoride

Parents may bring a lot of myths about fluoride to the office. Have the student explore facts and myths about fluoride using a Web-based search. Have him/her visit both anti-fluoride sites and evidence-based information from sources like the Centers for Disease Control (CDC) or the American Academy of Pediatric Dentistry (AAPD). Then ask the learner to explain the importance of fluoride for teeth to a parent. Be sure that he/she explains that fluoride strengthens enamel, repairs early defects of the tooth, reduces acid in the mouth, and is bacteriostatic. All children should have access to systemic and topical fluoride, ideally from a fluoridated water supply. Have the student help

a patient determine if their water is fluoridated. Be sure he/she knows to test well water since fluoride can occur naturally. If the water supply for a patient is not fluoridated, have the student write the prescription to learn the specifics of fluoride prescribing. Ask the student to explain to a parent the risks and benefits of fluoride, including fluorosis from chronic excess fluoride use. Fluorosis is a cosmetic problem, in which permanent teeth display white spots and pits.

(5) Oral Physical Exam

Students and physicians should become familiar with the "knee to knee" exam for pediatric oral assessments described in Module 7 of Smiles for Life. Show the student how to perform the exam. Have the student write down your findings to show him/her the importance of documenting oral exams.

(6) Dental Referrals

Ask the student to track which children have seen a dentist and at what age. The AAPD advises that all children have a dental visit "as early as 6 months of age, 6 months after the first tooth erupts, and no later than 12 months of age."⁶ The American Academy of Pediatrics advises "establishment of a dental home by 1 year of age for children deemed at risk."⁷ Many communities have a shortage of dentists who see young children or those with Medicaid. Cleanings, fluoride varnish (a fluoride coating that is painted on teeth and can have benefits for days to weeks), and dental sealants (a plastic barrier applied around age 6 that lasts for months to years) are tools that can prevent caries.

As a mini practice improvement project (PIP), you can have students determine who are the local dentists who accept Medicaid or see children under age 1 year. This list should be posted in your office.

Conclusions

Office-based family physician teachers can teach learners a great deal about pediatric caries prevention by addressing the above six themes at well-child visits. Be creative with learners. Utilize your learners to help find and create resources about oral health for you and your patients. Have learners visit the STFM National Curriculum on Oral Health: Smiles for Life at www.smilesforlife2.org for more information and to download resources such as patient-oriented posters and handheld device applications.

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