

Putting Teeth into Your Physical Exam: Part 1. Children and Adolescents

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Primary care clinicians can serve an important role in screening for oral conditions, prescribing chemotherapeutics to prevent oral disease, and counseling patients to adopt behaviors for optimal oral health. These preventive services can be provided by physicians in the course of routine clinical care.¹

The oral health interventions related to personal health practices reviewed in this paper are adapted from the *Guide to Clinical Preventive Services*.¹ The interventions recommended here include community-based health promotion and education strategies for preventing oral disease.

Infant Oral Health

The condition of the oral cavity is important to the physical and psychological health and well-being of every child.² Timely diagnosis and treatment of oral diseases is greatly enhanced through cooperation between physicians and dentists.³ Infants with oral problems requiring a dental referral may be identified initially during a routine visit to a physician.¹ By the time a child has his or her first encounter with a dentist, there may have been at least seven medical appointments for immunizations and well-child examinations.⁴⁻⁵

Baby Bottle Tooth Decay

Baby bottle tooth decay (BBTD) is a disease characterized by severe dental caries in the primary dentition that may have significant short-term and long-term implica-

tions for the health of children. Studies published over the past 25 years indicate that the primary factor in BBTD is the prolonged use of a nursing bottle filled with sweetened liquids. Any liquid except plain water can cause BBTD. This includes formula, milk, juice, and soft drinks. Baby bottle tooth decay is most often found in lower socioeconomic, Native American, and Hispanic populations, although it is becoming an increasing problem among young children of middle and upper class working parents.⁶

The irony of this disease is that by the time children are routinely seen in dental offices, usually at the age of 2 years, BBTD is likely to have caused its greatest damage.⁶ Thus, physicians can be key players in the prevention and early detection of baby bottle tooth decay.⁷

Diagnosis of the earliest stages of BBTD simply requires lifting the child's lip and examining the maxillary anterior teeth for signs of decalcification (etching of the enamel). The teeth could be lightly decalcified (whitish to shades of brown) or they could be decayed right down to the gumline. Any signs of decay should precipitate a referral to a dentist.^{6,7}

The prevention message that physicians can reinforce is simple and centers on appropriate bottle habits:

1. Wean children from the bottle by 1 year of age.
2. Never let a child walk around with or feed on the bottle at will for several hours a day.
3. Never put a child to bed with a bottle.

Breast-feeding mothers should be informed about the hazards of taking the baby to bed with them to feed at will through the night.⁶

Child and Adolescent Oral Health

When examining the oral cavity, primary care clinicians should be alert for obvious signs of oral diseases such as

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untreated tooth decay and inflamed or cyanotic gingiva. Children and adolescents should be examined during oral inspection for evidence of mismatching upper and lower dental arches, crowding or malalignment of teeth, premature loss of primary posterior molar teeth, signs of oral trauma, severe halitosis, and obvious mouth breathing. Patients with suspected oral disease, conditions, or abnormalities should be referred to their dentist for further assessment.^{4,7-9}

Dental Caries and Periodontal Disease

Although dental caries (tooth decay) among school-aged children has declined in recent years, the average child still has at least one decayed permanent tooth by 9 years of age, three by 12 years of age, and eight by 17 years of age. Approximately 25% of school children have five or more decayed, missing, or filled teeth. Additionally, in the United States, gingivitis (inflammation of the gums) affects more than 60% of adolescents nationwide. A majority of school children are in need of moderate gingival treatment and improved oral hygiene.^{10,11}

The most effective means of reducing dental caries is by optimal exposure to systemic and topical fluorides in combination with dental sealants.^{12,13} Additionally, reduced intake of between-meal snack foods containing refined sugars has been shown to be effective in reducing the susceptibility of the teeth to dental decay. Daily plaque removal by toothbrushing and flossing is a critical factor in preventing the development and progression of periodontal disease.^{7,12}

Fluorides act primarily by facilitating the remineralization of enamel. Fluoride also strengthens the enamel of developing tooth buds and may serve as an antibacterial agent against cariogenic organisms. Methods of fluoride delivery include community water fluoridation, school water fluoridation, dietary fluoride supplements, professionally applied topical gels, mouth rinses, and fluoride dentifrices.¹²

Physicians should routinely determine whether their child and adolescent patients are receiving adequate and appropriate exposure to fluorides through the above-mentioned methods.⁷ If a patient's home water supply is known to be fluoride deficient, a daily fluoride supplement should be prescribed according to the most recent dosage schedule established by the American Dental Association's Council on Dental Therapeutics. If the child is regularly exposed to optimally fluoridated water, dietary fluoride supplements should *not* be prescribed.^{12,14}

Dental sealants prevent decay on the occlusal (biting) surfaces of the teeth. Dental sealants are plastic coverings applied to the pits and fissures of newly

erupted permanent molars. First molars usually come into the mouth when the child is about 6 years of age. Second molars appear at about age 12 years. It is best if the sealant is applied soon after the molars have erupted, before the teeth have a chance to decay. For that reason, children between the ages of 5 and 13 years should be evaluated by their dentist regarding the need for dental sealants.^{12,13}

Oral Injury and Trauma

Facial and oral injuries that cause lacerations, fractures, and loss of teeth are frequently seen in children and adolescents. Motor vehicle crashes, sports and recreational activities, and falls, as well as interpersonal conflicts, are factors associated with facial and oral injuries.¹⁵ Between 1979 and 1987, 75% of nationally reported episodes of traumatic injury to teeth occurred in persons under the age of 15 years and were most often due to activities associated with sports and play.¹¹

The preparticipation physical examination for sports competition should include an assessment of the athlete's oral health status and stress the importance of measures to prevent injuries. The primary care provider has an opportunity to reinforce the importance of proper use of appropriate protective gear such as mouthguards and helmets to prevent oral and facial injuries. Patients and parents should be counseled about the importance of using head and mouth protection during practice and competition in extramural sports as well as recreational activities such as skateboarding and bicycling. A referral to a dentist may be necessary for fabrication of a custom-made mouthguard in cases in which a standard mouthguard is inappropriate.^{8,9,11}

Tobacco Use

More than 75% of smokers begin smoking as teenagers. Currently, one out of five high school seniors smokes on a daily basis.¹¹ Smokeless tobacco is used by over 10 million American adults as well as a growing number of young men under the age of 21 years (currently 3 million). There is also evidence to suggest that young children (aged 8 to 13 years) have significant exposure to smokeless tobacco in some geographic areas of the United States.¹⁶ Physicians should look for signs of smokeless tobacco use in the mouth (eg, gingival irritation at the tobacco placement site, gum recession, and stained teeth) and take advantage of this opportunity to emphasize that smokeless tobacco *is not* a safe alternative to cigarette smoking. Tobacco cessation counseling

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should be offered on a regular basis to all young persons who smoke or use smokeless tobacco.^{11,17}

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