Summary of Primary Care Clinical Interventions

The primary threats to oral health are the chronic infections that cause tooth decay (caries) and gum inflammation (periodontal disease). These are different but closely related pathologic processes that the primary care clinician should understand and be prepared to address. The prevention strategy for these conditions entails reducing factors that accelerate infection, including exposure to acid, dietary sugar, and toxic substances like tobacco, while fortifying natural defenses by reducing medication-induced salivary dysfunction and encouraging optimal oral hygiene behavior, including the judicious use of fluoride. As a result, there are a limited number of important interventions that are appropriate in a primary care setting to preserve the oral health of patients:

1. Avoid, or minimize the dose of, medications that cause oral dryness.
2. Provide specific guidance on best practices for oral hygiene.
3. Use fluoride to protect tooth enamel and dentin against decay.
4. Offer behavior change interventions for diet, including reduction of sugary or acidic foods and beverages including energy drinks, as well as ingestion of substances such as tobacco, alcohol, and recreational drugs.
5. Refer patients with active tooth decay or gum inflammation to dentistry for definitive diagnosis and treatment that is beyond the scope of primary care.

Drugs placing the mouth at risk

Medication list: Review the patient's medication list for potential causes of oral dryness. Such medications include those with anti-cholinergic side effects, which are common among behavioral health medications, pain medications, muscle relaxants, antihistamines, and medications for overactive bladder, as well as proton pump inhibitors. Use pharmacists and online resources to evaluate each of the medications on the patient's medication list to identify suspected pharmaceutical causes of oral dryness.[1]

Chemical dependency: Use SBIRT (screening, brief intervention, and referral to treatment) protocol to identify patients who are chemically dependent on substances that place their oral health at risk. Drugs to ask about are alcohol, tobacco, marijuana, and stimulants, including cocaine or amphetamines. Particular emphasis should be placed on patients with diabetes who smoke. Tobacco, especially in the setting of diabetes, rapidly destroys periodontal tissue.

Personal oral hygiene

Brushing: It is recommended that all patients brush at least twice daily for at least two minutes with fluoride toothpaste. After brushing, patients should spit but not rinse excess toothpaste. Parents should brush their children's teeth and/or supervise the brushing of teeth until the age of seven.

Flossing: Any of the many kinds of dental floss are more effective in reducing plaque between the teeth than brushing alone. There appear to be no discernable differences in effectiveness between waxed or un-waxed floss for most patients.[2] Waxed floss is recommended for patients with tight contacts between the teeth. The recommended flossing frequency is once daily.

Jet tip oral irrigators: When combined with daily brushing, oral irrigator machines are more effective than flossing in reducing gingival bleeding, a marker for periodontal disease.[3]

Toothpick-type cleaning devices: There is no evidence that wooden stick toothpicks are superior to dental floss for controlling plaque, but they do appear to improve inter-dental gingival inflammation and reduce bleeding.[4]

Fluoride

Primary care clinicians and their care teams need to be familiar with three types of fluoride for prevention of caries. Used together or individually, these three forms of fluoride provide significant protection against caries. However, it is important to remember that any fluoride is better than no fluoride.[5]

Fluoridated water: Public water fluoridation has been shown to produce a 20–30 percent reduction in caries in both children and adults.[5] The lowering in 2015 of U.S. Public Health Service-recommended fluoride concentrations in public drinking water to 0.7 milligrams/liter addressed the concern about mild fluorosis in a small percentage of people that was attributable to water fluoridation noted in 2002 NHAHES (National Health and Nutrition Examination Survey) data.[6] In most communities water is fluoridated; however, bottled water is not. Primary care clinicians should give patients a clear message that public water fluoridation protects teeth, and encourage drinking tap water, particularly during pregnancy and early childhood when tooth formation is taking place, unless there is a public health reason to avoid it.

Fluoride varnish: Fluoride varnish is a 5 percent solution of sodium fluoride that is applied in an adhesive form to dry teeth. Studies in children with fluoride varnish applied every three to six months for two to three years show a 40 percent reduction in caries rates.[7] The USPSTF (U.S. Preventive Services Task Force) recommends that all children ages 6 months to 5 years of age receive fluoride varnish two to four times yearly.

Fluoride toothpaste: Fluoride toothpaste is an important component of the fluoride intervention spectrum. Commercial toothpaste products contain concentrations of 0.15–0.76 percent fluoride. Fluoridated toothpaste is preferable to non-fluoridated toothpaste in preventing caries.

Topical fluoride is also available as gels and rinses by prescription and in some over-the-counter formulations. All of them have been shown to reduce the risk of caries.[5] These products contain higher concentrations of fluoride than fluoridated toothpastes and, unlike fluoride varnish, could potentially be ingested in large-enough quantity to cause acute fluoride toxicity. On the other hand, they may be more acceptable to adult patients than fluoride varnish, which must be administered in the office.

Recommendations

- Advise patients to brush with fluoride toothpaste at least twice daily, and to floss daily.
- In a pediatric practice, apply fluoride varnish every three to six months.[8]
- Consider offering fluoride varnish every six months for high-risk adult patients.

As is the case with any self-management support effort, success will depend on how well a patient understands the disease process, and their role in determining its course. Patients are most likely to engage in activities that are aligned with their priorities, and that they can afford. Primary care teams need to understand the range of interventions available to patients and their relative effectiveness so that they can guide patients in using the most effective intervention the patient will agree to. For example, using a sonic toothbrush is effective. However, if a patient cannot afford a sonic toothbrush, the patient should be guided to use correct brushing techniques with a manual toothbrush, flossing, and using a commercial toothpaste containing fluoride.

Dietary

Every patient at high risk for caries should receive dietary counseling messages. The specific topics should include:

- Avoid sugar as well as sugar-containing foods and drinks.
- Avoid acidic beverages, including carbonated soft drinks with sugar substitutes.
- Limit coffee.
- Avoid alcohol.
- Avoid starchy foods that stick to gums and teeth. Clean the mouth with water after eating sweet or starchy foods, and brush after eating.
- Allow two to three hours between meals.

Educational methods

There are a variety of methods clinicians can use to coach patients on oral health topics. Click on the highlighted method to learn more about that technique. These methods include:

- Teach-back
- Patient activation
- Self-Management
- Motivational interviewing

As with other common behavioral change issues, one of the most effective tactics is "frequent positive messages" that reinforce to the patient the importance of behaviors that result in improved oral health.

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About the Oral Health Integration in Primary Care Project

Organized, Evidence-Based Care Supplement: Oral Health Integration joins the Safety Net Medical Home Initiative Implementation Guide Series.

The goal of the Oral Health Integration in Primary Care Project was to prepare primary care teams to address oral health and to improve referrals to dentistry through the development and testing of a framework and toolset. The project was administered by Qualis Health and built upon the learnings from 19 field-testing sites in Washington, Oregon, Kansas, Missouri, and Massachusetts, who received implementation support from their primary care association. Organized, Evidence-Based Care Supplement: Oral Health Integration built upon the Oral Health Delivery Framework published in Oral Health: An Essential Component of Primary Care, and was informed by the field-testing sites' work, experiences, and feedback. Field-testing sites in Kansas, Massachusetts, and Oregon also received technical assistance from their state's primary care association.

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For more information about the project sponsors and funders, refer to:

- National Interprofessional Initiative on Oral Health: niioh.org.
- DentaQuest Foundation (now CareQuest Institute for Oral Health): carequest.org.
- REACH Healthcare Foundation: reachhealth.org.
- Washington Dental Service Foundation (now Arcora Foundation): arcorafoundation.org.

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