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How to Improve Caries Control in Patients With Dry Mouth

Van B. Haywood, DMD, and Monica Chana, DMD October 25, 2017

Dry mouth is a problem for both the patient and the dentist. There is the uncomfortable feeling for the patient, but more importantly, there is the risk of dental caries that ruins good teeth and previous dental work. The causes of dry mouth could be anything from aging to medications to radiation treatment, most of which cannot be changed.

Fortunately, there are strategies that can minimize the effects of dry mouth and resultant dental decay that have been helpful in some populations. Finding the right option for each case is a matter of trial and error in treating the symptoms and sequelae of dry mouth, as there is no "one size fits all" solution.

Use Sugarless Lozenges

Many people with dry mouth tend to use lozenges to alleviate the feelings of dryness, which, if not sugarless, will increase their caries risk. There are different sugarless lozenges, some containing pectin (which is best), and some containing menthol, which may be too strong for delicate tissues. However, the taste of many of these sugarless lozenges is very good.

Drink Water Frequently

Drinking water dilutes acids and helps cleans the teeth. It also means patients may have to go to the bathroom more often, though, so some patients avoid this approach.

Considering its popularity and variety, it is important to note that bottled water may not have the ideal amount of fluoride, if any. It all depends on the source of the water. Only certain bottled water, usually for infants, generally has the proper amount of fluoride, so one should check the label.

The pH of bottled water also varies greatly, ranging anywhere from 4.7 to 6.5, with some highly flavored water being very acidic. In a compromised patient—one taking several prescription medications or post-radiation who is more susceptible to root caries and dry mouth—even the water pH can matter.

Another option using water and some oils is to have a "mouth spray" bottle to moisten the mouth with a mist.

Brush Before Bedtime

With dry mouth, some patients feel the need to brush in the morning, which is fine. However, the most critical time to brush is just before bedtime, since any bacteria and debris left on the teeth will have a bigger impact at night when saliva production, as well as talking and drinking, is significantly reduced or terminated.

Use Flossing and Brushing Aids

Some patients have limited manual dexterity or are missing teeth, so adequate oral hygiene is difficult to achieve. Large fluffy floss aids can help as well as floss holders and toothpicks. Using a 2×2 gauze to clean spaces as if you were drying your back with a towel or shining your shoes is the most effective method for cleaning teeth adjacent to spaces or where diastemas exist.

Use High-Fluoride Toothpaste

Patients should be advised that high-fluoride toothpaste, both to brush with and in a tray application, is very beneficial. The ADA code for a fluoride gel carrier is D5986, and the code for topical fluoride is D1208. The best tray design is a non-scalloped, no reservoir tray as used in bleaching. Then, the fluoride can be placed in the tray at night.

Use Carbamide Peroxide

Another technique for caries control is to elevate the pH in the mouth. A mouth with a basic pH (>7) will build up calculus, but not have caries. A mouth with an acidic pH (<7) will have caries but no calculus.

The caries process is an acidic process, where the dentin gets decay if the pH is below 6.8 and the enamel gets decay if the pH drops below 5.5. This difference in caries pH explains why people with dry mouth tend to have root caries in the dentin, but not smooth surface caries in the enamel: the pH is below 6.8 but above 5.5.

The bleaching material carbamide peroxide (CP) contains urea along with hydrogen peroxide, and the urea in the product will elevate the pH to above 8 within 5 minutes. As a result, another caries control option for patients with dry mouth is to sleep with the tray containing 10% CP, the concentration that is approved for use in the mouth as Generally Recognized as Safe (GRAS) by the Food and Drug Administration.

The 10% CP will remove the plaque, elevate the pH, and even kill some of the bacteria that cause tooth decay. The only bad side effect is that the teeth will turn white from bleaching. So, if the patient has crowns or composites that match the teeth, they may no longer match. However, that compromise may be a lesser problem than the cost and damage of continual root caries and replacement of restorations.

For cancer patients with dry mouth, it is best to avoid the mint flavors of 10% CP, which tend to create a burning sensation. A non-flavored material is best.

There are some over-the-counter 10% CP products, but many are too runny to remain in the tray. Usually the bleaching material from the dental office is the best material. The codes for the tray would be the same as the fluoride gel carrier D5986, and the code for other drugs or medicaments is D9630.

Use a Xylitol Chewing Gum

Chewing gum also stimulates saliva flow, so it can be effective if there are no temporomandibular joint issues. While some xylitol chewing gum can become rubbery in a short time, some products on the market work well and stay soft. Patients who don't chew gum can use a xylitol lozenge to administer the xylitol.

Use a Green Tea Chewing Gum

Recent research with Sjögren's patients has demonstrated the benefits of chewing green tea gum or lozenges to stimulate saliva. The normal benefits of the chewing gum as well as the stimulation of green tea on the saliva secretion cells is a combined benefit. While the use of this special chewing gum has an additional expense, patients seem to prefer it. If patients cannot chew gum, there are also green tea lozenges, which are available over the counter at many pharmacies.

Use Chlorhexidine

Patients can use chlorhexidine for gingival health and caries control, though its staining is often a deterrent to use. Using 10% CP material in the tray every third or fourth night can remove the staining. It also will kill some of the bacteria.

Use Commercial Products

Some commercial products can be used alone or combined using one third mouthwash, two thirds water, and one squirt of a dry mouth gel in a spray bottle. However, some over the counter products have a low pH, which is not desirable. On the other hand, some of these products contain lipids, which is beneficial in combination with xylitol, glycerin, or silicon dioxide.

Prescription Medications

Pilocarpine and Cevimeline, both cholinergic agonists, are approved for use associated with dry mouth in Sjögren's syndrome patients. They can help stimulate functional salivary tissue, but may have limited success in patients who have undergone significant damage to their salivary glands from head and neck radiation. As with any prescription medication, it is important to consider any potential interactions with the patient's current medications.

Other Solutions

Other treatments are available. For example, patients can use alcohol-free mouth rinses. Many commercially available products contain anywhere from 10% to 22% alcohol, however, which can dry the mouth. Or, they can use a humidifier at night to provide moisture in the air in a small area and combat the drying effects of air conditioning, fans, or heat. Finally, patients can avoid or limit their alcohol and caffeine intake. Both are diuretics, which increases fluid loss and can worsen dry mouth.

Your Treatment

These different suggestions work in some patients to reduce or eliminate the symptoms of dry mouth and the resultant outcome of root caries. A review of the literature concluded that there is no single effective method, so trying all reasonable options may provide some relief for your patients.

Dr. Haywood is a professor in the Department of Restorative Sciences at the Dental College of Georgia at Augusta University. A 1974 graduate of the Medical College of Georgia School of Dentistry, he was in private practice for 7 years in Augusta and taught at the University of North Carolina School of Dentistry in Chapel Hill, NC, in operative and prosthodontics for 12 years before coming to Augusta University in 1993. He can be reached at vhaywood@augusta.edu.

Dr. Chana is an assistant professor at the Dental College of Georgia at Augusta University. She has a joint appointment in the Oral Health & Diagnostic Sciences and the General Dentistry departments. Before joining the faculty, she completed advanced training in general dentistry with a focus on public health dentistry, infectious diseases, and medically complex patients. Her clinical practice is focused on the geriatric and medically compromised population. She can be reached at mchana@augusta.edu.