

Over-the-Counter Management of Dry Mouth

Jeff Burgess* *Department of Oral Medicine, University of Washington School of Dental Medicine, USA (Retired)*

The many remedies for dry mouth available over-the-counter often leave patients to decide on their own which product to use from a fairly overwhelming selection of oral care products carried by their local grocery or pharmacy; products which may or may not provide acceptable results. And further complicating decision making, some products lack underlying scientific research or supporting product testing literature documenting their effectiveness. The result is that a product having the most advertising or popularity may be selected over a remedy that is evidence based.

This brief article provides an overview of the causes of dry mouth, lists common dry mouth remedies, and reviews the scientific and supportive product testing literature related to the OTC management of dry mouth.

The Protective Role of Saliva

Saliva has many protective properties. It guards oral acidity produced by plaque, aides in the strengthening of the teeth through accumulation of calcium and phosphorus, protects the inner tissue by moistening and lubricating the inner lining of the mouth, has a sensory impact on taste (although taste can occur in the absence of saliva) and is an important component in the oral clearance of food and the initial process of digestion¹.

Causes of Dry Mouth

Dry mouth may result from behavioral issues such as smoking, mouth breathing, and factors such as aging as well as medication, chemotherapy, dehydration, emotional stress, local surgery or radiation, disease, and blockage of the gland ducts from stones or tumors. Diseases that can cause dry mouth include Sjögren's syndrome, HIV/AIDS, Alzheimer's disease, diabetes, anemia, cystic fibrosis, connective tissue diseases such as rheumatoid arthritis, infectious diseases such as the mumps and tuberculosis, and congenital diseases (e.g. congenital failure of a gland or duct).²

Common Symptoms of Dry Mouth

A helpful guide for determining oral dryness that has supporting science is an 11 item questionnaire developed to help define individual dryness and dry mouth. Each question is scored by the patient based on a 1-5 scale (never = 1, hardly ever = 2, occasionally = 3, fairly often = 4, and often = 5). The higher the total score, the more likely it is that a person will have dry mouth. The questions, listed below, are easy to complete.³

1. My mouth feels dry
2. My lips feel dry.

3. I get up at night to drink.
4. My mouth feels dry when eating a meal.
5. I sip liquids to aid in swallowing foods.
6. I suck sweets or cough lollipops to relieve dry mouth.
7. My throat feels dry.
8. The skin of my face feels dry.
9. My eyes feel dry.
10. I have difficulties swallowing certain foods.
11. The inside of my nose feels dry.

While the above questions help to define the level of perceived dryness, it is important to note that an individual's perception of oral dryness may not match the actual production of saliva⁴. In addition, saliva flow rate will vary between individuals, men and women, with age, and in relation to oral disease and oral anatomy.^{5, 6}

In general, when resting saliva falls to half of its 'normal' baseline, the result is typically a sensation of dryness⁷. Dry mouth associated with sleep is normal, but if the dryness awakens a person or causes oral discomfort, an OTC remedy that can be used during sleep is often helpful.

A person with dry mouth may also have sensitivity to spicy foods, difficulty speaking or eating coarse food, gum or tongue sensitivity, tongue roughness, frequent oral infections including tooth decay, thick or sticky saliva, bad breath, and difficulty with oral appliance use. In some cases of duct blockage, pain in the region of the gland may occur with the introduction of food.

Common Dry Mouth Strategies

A number of unstudied self-help common sense strategies are thought to be helpful in the management of dry mouth: lip coating with Vaseline or balms, discontinuation of caffeine and alcohol consumption, sucking on sugar free candies, humidifying the bedroom environment, adding water to food, avoiding salty foods, frequent sipping of water, and sucking on ice chips. While some of these approaches may be helpful for reducing dry mouth occurring during the day and during sleep, science supporting their effectiveness in reducing dry mouth is non-existent.

Research on Over-the Counter Products

A number of products are available over-the-counter for the management of dry mouth occurring during the day. These include various mouthwashes and oral rinses, sugar-free chewing gums, saliva substitute gels, dry mouth toothpastes, saliva substitute sprays, and lozenges. Oral adhering discs/patches/melts are available for both daytime dryness and dryness occurring during sleep.

In addition, dissolvable tablets, gels, and mouthwashes have been studied.^{8, 9, 10} Slowly dissolving oral adhering discs (OraCoat XyliMelts, OraHealth) used during sleep have been found via study to significantly improve perceived oral wetness and significantly decrease perceived morning discomfort.¹¹

Moreover, a study involving a mucoadhesive disc for relief of dry mouth (OraMoist, Axiomedic, Zurich) also found a significant increase in salivary flow with daytime disc application.¹²

Considering strategies involving integrated systems that include toothpaste, gel, and mouthwash as well as oral reservoir devices, the authors of a relatively recent Cochrane systematic review report that these generalized strategies may also be beneficial in reducing perceived dry mouth but in the opinion of the authors there is insufficient evidence to allow a general recommendation for use in the management of dry mouth. They further indicate that even though “chewing gum is associated with increased saliva production in the majority of those with residual capacity, there is no evidence that gum is more or less effective than saliva substitutes” in altering dry mouth¹³.

Some of the above mouthwash and saliva substitute products have been formulated for daytime use and have not been assessed for uncomfortable dry mouth occurring during sleep. The only dry mouth product that has been assessed for use during sleep is OraCoat XyliMelts (OraHealth).¹¹

Effectiveness Ratings for Dry Mouth Products

Given research supporting use of a number of products aimed at improving the perception of dry mouth, although limited, we are left with several choices to consider for over-the-counter treatments. The March 2016 issue of Clinicians Report provides helpful guidance.¹⁴ The report summarizes responses by 1168 dentists whose patients suffer from dry mouth to a questionnaire on effectiveness of over-the-counter products for managing dry mouth.

In terms of general management, behavioral changes were recommended by 97% of dentists while prescription medicines were prescribed by only 28.8% of dentists. The most popular behavioral approaches included recommendations to increase water intake (86% of respondents) and increase use of fluoride (77% of respondents).

The commonly recommended over-the-counter remedies included:

- mouthwash/oral rinses such as Biotene dry mouth oral rinse,
- sugar-free chewing gum (any gum or Trident Xtra Care),
- saliva substitute gels (Biotene OralBalance Moisturizing Gel),
- dry mouth toothpastes (Biotene Dry Mouth Fluoride and Prevadent 5000 Dry Mouth Fluoride),
- saliva substitute sprays (Biotene Moisturizing Spray),
- lozenges (ACT Total Care Dry Mouth Lozenges or any type of lozenge), and
- oral adhering discs/patches/melts (OraCoat XyliMelts for Dry Mouth).

Most of the above products (the exceptions being sugar-free chewing gum and lozenges) were rated very or moderately effective in managing dry mouth by at least 40% of the respondents. Among all of the dry mouth remedies known to the 1168 dentists, based on their assessment of patient experience, XyliMelts oral adhering discs were rated ‘very effective’ by more dentists than any other dry mouth remedy, including prescription drugs which came in second. XyliMelts discs were also rated ‘very

effective or moderately effective' by more dentists (56%) than any other dry mouth remedy. Prescription drugs, saliva substitute gels, and mouthwashes and oral rinses were tied for second at 50%.

Conclusion

Published clinical studies show that a number of over-the-counter products are effective in managing dry mouth but effectiveness varies. Dentists rate XyliMelts slowly dissolving oral adhering discs as very effective for addressing dry mouth more than any other product including prescription drugs. The published studies show that dry mouth during the day is effectively relieved by a variety of over-the-counter remedies and that XyliMelts adhering discs are also effective when used for dryness during sleep.

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***Corresponding author:** Jeff Burgess, DDS, MSD, (Retired) Clinical Assistant Professor, *Department of Oral Medicine, University of Washington School of Dental Medicine, USA, Tel: 206 450 2640; E-mail: oral.care.research.assoc@gmail.com*

Jeff Burgess received his DDS from the University of Washington school of Dentistry, Seattle, and his MSD in Oral Medicine from the University of Washington. He completed a 2-year post-doctoral fellowship in the Department of Anesthesiology and the University of Washington Medical Center and served 15 years as a Consultant/Attending at the Medical Center Pain Center. He also practiced general dentistry for 10 years and was a Research and Clinical Research Assistant Professor in the Department of Oral Medicine for 15 years. In addition, he had a private practice in Oral Medicine for 18 years. He has work experience with dental PACS and DICOM. He has been the co-investigator on numerous studies and authored and co-authored multiple chapters in medical and dental texts and articles in peer-reviewed journals.