

Oral Hygiene Recommendations from a SS patient who is also a Dental Hygienist

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I am a dental hygienist with Primary Sjogren's Syndrome, and have been a Sjogren's Syndrome Advocate for the past 12 years. There is no lecture that can convey the frustration and discomfort of a Sjogren's -dry mouth, but it second only to dry eyes as the most common symptom of Sjogren's patients. Normal flavors can burn or sting. We know that enamel breaks down when the pH drops to 5.5, but exposed root surfaces may demineralize at 6.7. The pH of plaque is only 2.5, so it's no wonder that Sjogren's patients get into trouble.

I. Overview

Dry mouth is second only to Dry eyes as the top symptoms for Sjogren's patients. Dry mouth can affect the quality of life and prove devastating to the teeth, sometimes in a very short period of time.

Dry mouth is a personal sense of dryness caused by inadequate saliva production or inadequate components in the proper proportion. You may experience dry mouth even with adequate saliva flow because of changes to the composition. Oral pH or acid levels can change rapidly after eating and cause a flow of minerals out of the tooth surfaces. Buffering the oral pH can improve mineral uptake and create harder more decay resistant surfaces.

Oral manifestations of dry mouth

- Soft tissues
 - Increased risk of oral yeast infections, either red or white
 - Dry wrinkly or fissured tongue; burning tongue especially the tip
 - Black Hairy tongue (most common in smokers)
 - Angular cheilitis - yeast infection in the corners of the mouth; easily treated with topical anti-fungal creams like the OTC Tinacin in the early stages.
 - Denture stomatitis - bright red tissue under a denture or partial denture. Must treat the appliance and the oral tissues for a cure.
 - Oral Mucositis - severe inflammation; "Gums gone wild!"
- Hard tissues
 - Erosion at gum line; staining or rapid breakdown of white fillings
 - Incisal decay - at the edges of front teeth
 - Interproximal decay - between teeth
 - Rapid root decay or amputation decay
- Functional Impairment
 - Difficulty chewing
 - Difficulty swallowing
 - Keratosis
 - Canker sores, ulcers
 - Overt sensitivity
 - Taste loss
 - Frequent yeast infection

Specific Suggestions

Patients can do everything right, and still may not have the right results. Any very dry patient needs to be on an aggressive prevention program to maintain their teeth. This letter is a summary of the steps that are working for me and my patients with severe dry mouth.

- According to Dr. Troy Daniels, co-director of the SICCA Sjogren's study at UC San Francisco, sipping water too frequently can actually dry out the mouth so ask your patients not to overdo it. I've seen patients who literally had their teeth turn to chalk and break off at the gum line in as little as three months with too frequent sips of water. The fine line between enough and too much is difficult to determine, so suggest sipping water to help with swallowing, eating, and counteracting what I call "Velcro Throat," and then an oral moisturizer like Oral Balance, or sugar-free gum after drinking water to replace minerals and enzymes that were rinsed away. We don't use water to moisturize dry hands, so it makes sense that water won't be as good as saliva for our mouth either.
- Recommend Biotene moisturizing products or the new Biotene PBF formula for Sjogren's patients or anyone with excessive plaque or calculus buildup. The unique enzyme complex reduced plaque and buildup by 90% when used twice a day, either as a rinse or the toothpaste. You can request sample kits by calling 1-800-652-5625.
- Prescribe and construct custom fluoride trays for patients who have uncontrolled decay. According to the *SSF Handbook*, they should be worn for five minutes a day until the patient has at least **one** year of decay-free exams. I've listed several mild or unflavored fluoride gels to use with the custom trays on the enclosed product sheets. For patients who can't tolerate fluoride, MI Paste can be applied to the teeth before inserting the trays.
- Maintain the patient once the decay is under control, with brush-on fluoride like the 1.1% neutral sodium fluoride gels in mild flavors. Fluoride varnishes are being reinvented with new white or clear products that are well accepted and effective. The patient can expect 3 - 6 months of decay prevention from each application. More frequent hygiene visits and a little encouragement are also very helpful.
- If your patient has normal saliva, just not enough, have them increase saliva production by sucking on sugar-free candies, cough drops or chewing sugar-free gum several times a day. I keep some sugar-free cough drops in my drawer and give out samples to patients to remind them to avoid hidden sugars. Stimulated saliva contains more minerals to neutralize acids and to provide for tooth repair.
- If your patient has acidic saliva or severe dry mouth, MI paste with or without fluoride has excellent buffering capabilities, with a half-life of three hours to help restore oral pH and protect teeth. Applying a pea-sized dose every 3-4 hours will reduce acid damage and may restore white spot lesions. For longer action, a bleaching or fluoride tray can be placed over the teeth to hold the MI Paste in place longer. Dispensing it through the office makes it easier for patients to comply. It is available from your dental supplier. The new CariFree kit or GC America's Saliva Check kit can be valuable tools in your office to help determine

which patients are the most at risk from acidic saliva or extremely low volume. Mineral rinses are available from several companies to provide buffering as well. Products with Xylitol provide additional benefits by interfering with the metabolism of *Strep, mutans* group which makes them less sticky, and by reduces the overall bio-burden. Xylitol is added to several brands of gum but can also be purchased with higher concentrations from several companies (see product list.) A therapeutic dose is 6 - 10 grams a day. Call Nuvora and ask about their office purchasing program for Salese oral health lozenges with Xylitol. Their new Lemon flavor is pH balanced and very mild. The Spearmint is fine for all but the most severely dry patients.

- Recommend a power toothbrush. Any brand is better than hand brushing. I use the new Flexcare from Philips and add another 30 seconds at the end to brush my palate and the inside of my lips. An NIH study proved this stimulates increased salivary output for up to 90 minutes, and a significant increase in the mucin and proline-rich glycoproteins that provide the relief from dryness that we crave. Any power toothbrush provides more strokes per minute with less pressure to reduce tissue damage and excess wear.
- Soft floss like Reach Gentle Gum Care may be more comfortable than regular floss, and can remove more crevicular plaque than waxy floss. For non-flossers, Water Pik studies show that their oral irrigator is twice as effective as flossing. If your patient is only willing to make one change, a new WaterPik Water Flosser is gentle and more effective than anything else. Have them aim at the tooth to avoid forcing debris farther into the pocket.
- Recommend oral moisturizers to help with the dryness symptoms and increase acid control. In general the sprays and rinses provide transient relief, while products like Oral Balance gel and prescription Numoisyn liquid can provide up to four to eight hours of relief which makes them great for night time use.
- Consider prescribing a sialogogue, like Pilocarpine (Salagen) or Cimeviline (Evoxac.) According to Dr. Phil Fox, former Director of the NIH Sjogren's clinic and Past-Chairman of the SSF Board, "the jury is still out on whether these drugs can improve the function of the remaining salivary glands, but the benefits of increased output is significant and reduces overall risk of decay." Check with their physician to rule out any contraindications, like uncontrolled asthma or some types of glaucoma.
- Using a thin ultrasonic tip on a lower setting to deplaque your Sjogren's or other dry mouth patient reduces gum trauma and increases patient comfort. I love the oscillating prophylaxis angles from Crosstex too. Because they don't rotate, they don't scuff gums and can't overheat the tooth. The info to request samples is in the handout. Have alternate prophylaxis paste flavors on hand for patients who are sensitive to mint and cinnamon.
- Check out the Sjogren's Syndrome Foundation website [www.sjogrens.org] for more information on dry mouth including free Dry Mouth brochures for your office.
- Recommend the Sjogren's Syndrome Foundation to your patients. Their monthly patient newsletter, *The Moisture Seekers*, is full of articles on living with this disease, and helpful hints for improving quality of life issues. To find out more about the SSF go to their website or call them at 1-800-475-6473.

III. Product List

Bad breath:

- Transient relief: Sugar-free gum or candies; Listerine breath strips or spray
- Breath-Rx — Gum or rinse; minty flavor <http://tinyurl.com/4rnmdg>
- Clo-SYS - toothpaste is mild mint; unflavored rinse (add flavor or not; it's your choice) <http://tinurl.com/3g6oeal>
- Xylitol tablets or gum {See Xylitol section for more details}
- Salese Xylitol lozenges {See Xylitol section for more details}

Buffering Agents to bind with acids and neutralize oral pH:

- CariFree mineral rinse [www.carifree.com]
- CalphoVess mineral rinse [<http://www.calphovess.com/>]
- Chewing sugar-free or sucking on candies IF saliva is not acidic
 - o Increases salivary flow for up to 90 minutes
- MI Paste mineral paste (available through dental suppliers) -
 - o Use every 3-4 hours as directed. <http://www.gcamerica.com/> click on *Hygiene/Preventive* {MI Paste White Spot Video Animation explains how this works.}

Dry Mouth moisturizing gels, OTC's:

- Biotene Oral Balance gel www.biotene.com
 - o Contains minerals and enzymes, 6+ hour relief
- GC American Dry Mouth Gel [<http://tinyurl.com/2dw2tc2>]
 - o Diglycerin and Carrageenan for slick moist feeling
- Oragel <http://tinurl.com/2201rit1>
 - o Contains glycerin for slick feeling

Dry Mouth lozenges: OTC's

- MedActive Oral Relief Lozenges [www.medactive.com or 1-866-887-4867]
Flavors: Lemon Lime, Ruby Raspberry, Orange Creme
Active ingredients: Ultramulsion® - dispersion of Dimethicone and Poloxamer 407; Spilanthes extract to enhance saliva flow (sialogogue,) Pectin to coat mouth and throat to soothe dryness and irritation.
- OraMoist [www.ora moist.com or 1-800-448-1448]
 - o Use 3 times a day; lasts 2-4 hours; contains Xylitol.
- Salese from Nuvora; Mild lemon (very dry mouth) or Wintergreen [1-877-530-9811]
 - o * Special pricing for orders through a dental office
- Thayer's Dry Mouth Lozenges: [<http://tinurl.com/3vhck6d>]
 - o Tangerine with Rose hips; Slippery Elm with Wild Cherry; & Original. Contains Slippery Elm Bark (150 mg) a natural demulcent; Apple Pectin; Vitamin C); Natural lemonade flavor (to stimulate saliva production); Sorbitol; Potassium Chloride; Stearic Acid; and Calcium stearate

Dry Mouth lozenges: Prescription only

- Numoisyn: tablets [www.alignpharma.com]
 - o Mild flavor ; stimulates saliva ; samples available for dental offices

Dry Mouth Liquids - 2-4 hour relief of symptoms:

- Oral Balance Liquid — OTC
 - Non-mint; oils can become rancid past expiration date.
- Numoisyn liquid [www.alignpharma.com] - by Prescription only
 - May be covered by insurance ; mild flavor

Dry Mouth Sprays - transient relief, 1-2 hours:

- Entertainer's Secret, formerly Moi-Stir [<http://entertainerssecret.com/1>]
- Glandosane (UK product) Lemon, Unflavored; (AKA Aquoral or Caphosol.)
- MedActive Dry Relief Spray [<http://www.medactive.com/oral-relief-spray.php>]
 - Lemonade , Orange Crème, Ruby Raspberry , Natural Spring, VanillaMint, & Butterscotch; Ultramulsion® - dispersion of Dimethicone and Poloxamer 407; Spilanthes extract to enhance saliva flow; Alcohol-free; Diabetic approved; Also contains: Water, Xylitol, Potassium Sorbate, EDTA, Sodium Saccharin, Sucralose, Glycerin, Xanthan Gum. Safe to use as needed (3-4 sprays per dose)
- Mouth Kote® Dry Mouth Spray [<http://tinurl.com/34xz9ii>]
 - Lemon-lime flavor; Yerba Santa and Xylitol; lasts about 2 hours
- Oasis spray [Gerbauer ~ www.oasisdrvmouth.com]
 - decidedly mighty for some patients
- Salavart - Gerbauer bought Oasis and discontinued Salavart
- Spry Rain Dry Mouth Spray with Xylitol [www.xlearusa.com]
- Thayer's Dry Mouth Spray [<http://tinyurl.com/2vtmprwl>]
 - Purified Water; vegetable Glycerin, Calcium Gluconate, Tris Amino (buffers saliva to normal levels naturally), Citric Acid, Potassium Chloride,
 - Citrus or Peppermint flavors

Dry Mouth Rinses - relief for up to two hours is average.

- Biotene, Original [www.biotene.com]
 - Mild mint flavor, enzymes and minerals
- Biotene, PBF [www.biotene.com]
 - Added enzymes to reduce plaque and tartar build-up
- Oasis Moisturizing Mouthwash [www.oasisdrymouth.com]

Floss that is soft and gentle to gum tissues:

- Reach Gentle Gum Care [www.reach.com].
- Reach CleanPaste dental floss

Fluoride, brush-on:

- Clinpro 5000 Plus toothpaste; 1.1% NaF, Vanilla-Mint is very mild. [3M ESPE]
- Prevident 5000 Plus toothpaste or gel; 1.1% NaF, Fruitastic [Colgate]
- ProDentRx 5000; Cool mint, Berry fresh, and Citrus splash. [Zila]

Fluoride gel for custom fluoride trays:

- Denti-Care 1.1% neutral sodium fluoride gel [<http://tinurl.com/24ifh5aVI>]
- Denti-Pro Gel (1.1 % Neutral Sodium Fluoride) [<http://tinurl.com/2aft8551>]
- Omni .4% Stannous Fluoride, 12106N, Natural Flavor 1 [<http://tinurl.com/2e7mx2b>]
- Gel-Kam .4% stannous fluoride, Fruit & Berry flavor [<http://tinyurl.com/cdsmu>]

Fluoride Rinses: OTC

- ACT Restoring rinse or ACT Total Care - mint and other flavors
 - alcohol-free versions for children and the "Total Care" ◦
 - use twice a day if no decay
- Phos-Flur from Colgate; only comes in mint.

Fluoride Rinses: Prescription

- CariFree .05% NaF with Xylitol in Mint, Citrus; Kids flavors: Watermelon or Grape [www.carifree.com; 1-866-928-4445 or info@carifree.com]
- CaviRinse .02% NaF, Vanilla-Mint weekly rinse [3M ESPE]
- ProDentRx .63% SnF in Cool Mint, Berry and Citrus [Zila]

Fluoride Varnish: These are white or clear; non-mint flavors are best for dry patients.

- Duraflor Halo, Mint, Berry, Bubblegum; White; [Medicom]; 3-4/year
- EnamelPro w/ACP; Bubblegum, Strawberry; White; [Premier]; 3-4/year
- Prevident; Raspberry; Clear; [Colgate;] 2-3/year
- Vanish; Cherry, Melon, Mint; Clear; Omni [3M ESPE]; 2-3/year
- UltraThin; Melon; Clear; [WaterPik]; 3-4/year

Nasal Moisturizing sprays or gel, OTC's:

- Ayr saline gel; also comes in gel swabs [<http://tinurl.com/26pilb8>]
- NeilMed Saline Gel [<http://tinurl.com/2c5qspq>]
- Pretz Spray [www.yslabs.com]
- Saline nasal spray

Oral Irrigators, non-reservoir:

- Hydrocare (attaches to shower) [<http://tinyurl.com/2e596g8>]
- Oral-Breeze (attaches to water source) [<http://www.oralbreeze.com/>]

Oral Irrigators, reservoir, which can be used with oral rinse added; adjustable power settings:

- Hydrofloss [<http://www.hydrofloss.com/1>]
- Water Pik - [<http://www.waterpik.com/oral-health-products/>]
 - WP-100 or WP-60 (basic model)

Prophy angles -

- "Twist it" from Crosstex
 - Oscillating 'i'-turn action; less friction
 - Request samples (second item down) [<http://tinyurl.com/2bx6ahel>]

Reduce bioburden:

- GUM® Alcohol-free Chlorhexidine Gluconate Oral Rinse USP, 0.12%
 - Use for 2 weeks several times a year as necessary
 - [<http://sunstaramericas.com/n/profprods/index.php>]
- Biotene PBF rinse and toothpaste [www.biotene.com]
- WaterPik Water Flosser [<http://www.waterpik.com/oral-health-products/>]

Toothbrushes, battery:

- Sonicare —\$35 retail;
 - o replaceable heads and batteries;
 - o Older technology; same 31,000+ stroke per minute
- OralB/Braun: ~ \$18 retail
 - o Round head; smaller than other brands; 8000 strokes per minutes
- Sonic Spin Brush: ~* \$25 retail

Toothbrushes, electronic/rechargeable:

- Essence and Xtreme from Sonicare: [www sonicare.com]
 - o Retails from \$50 - \$ 99
 - o Older technology; same 31,000+ strokes per minute
- Flexcare from Sonicare:
 - o With or without the ultraviolet light sanitizer unit — \$ 129-\$ 150 retail;
 - o Replacement brush heads are less than the E-series brushes.) [<http://tinvurl.com/27jguzxl>]
 - o Requires 80 grams of pressure/cm²
- Crest electronic brush are still called "Oral B" [<http://tinvurl.com/2eo4ev31>]
 - o Wide variety of choices and prices
- Sensonic from WaterPik, ~\$80 <http://tinvurl.com/283nhz11>

Toothpaste, mild:

- Biotene PBF - green label; Biotene gentle mint; Biotene Regular [www.biotene.com]
- Tom's of Maine Apricot for Dry Mouth; Silly Strawberry or Orange-Mango for kids

Toothpaste, quite minty:

- Arm & Hammer with baking soda to neutralize acids, very mild polishing action
- Colgate Total with Triclosan to reduce inflammation (not for super sensitive folks!)

Toothpaste for sensitive teeth, mild:

- Biotene Sensitive [www.biotene.com]
- Pronamel for Children - milder mint flavor than regular version [www.sensodvne.com]

Toothpaste for sensitive teeth, minty:

- Colgate Sensitive Enamel Protect [<http://tinvurl.com/2fmiekwl>]
- Crest Sensitivity Protection [<http://tinvurl.com/vfxhezwl>]
- Sensodyne, variety of very minty flavors [www.sensodvne.com]

Xylitol (where it is the primary ingredient in gum or candies):

- 3MESPE: Mild fruit or Vanilla-Mint
 - o Theramints, <http://tinvurl.com/2brv35bl> o
 - o Theragum [<http://tinvurl.com/2vrzhw91>]
- Biotene gum (Original; PBF in limited markets) [www.biotene.com]
- Dr. John's Xylitol candies: [<http://tinvurl.com/29vmuazl>]
- Salese [www.nuvorainc.com] -
 - o Lemon for very sensitive dry mouth; pH balanced; Xylitol; stimulates saliva
 - o Spearmint for moderately dry mouth; anti-inflammatory with Xylitol
 - o Peppermint for mildly dry mouth; antibacterial with Xylitol
- Spry: gum and compressed tablets [www.xlearusa.com] (Xylitol from corn)
- Xylimints (Orahealth) [<http://orahealth.com/products/XyliMelts.html>]
 - o Lasts for hours; can be used at night; "mild mint" stimulates saliva

Dr. Fred Vivino's treatment for oral Candida:

Fluconazole (Diflucan®) 100mg daily for 21 days (preferred method)

Clotrimazole (Mycelex®) troches 5x/day x 21 days

Angular cheilitis from *Candida* alone:

OTC: Miconazole cream; Clotrimazole cream

Prescription: Nystatin, or Ketoconazole cream Angular cheilitis

from mixed infection: *Candida* and *Staph. Aureas*

Topical Miconazole Nitrate 2%

Hydrocortisone 1%-Iodoquinol 1% topical cream

Additional Resources:

Sjogren's Syndrome Foundation Handbook

The Moisture Seekers (Online archived copies available to members only)

www.sjogrens.org

www.nih.gov

www.adha.org

www.ada.org

www.agd.org

II.

Oral Chemistry 101:

- A. Effects of Oral pH on mineral loss
 - 1. More rapid in acid environment
 - 2. Bacteria need acid to grow quickly
- B. Water helps dilute acids but doesn't protect our teeth.
- C. Saliva contains many protection elements not found in water.

III. Simplifying Dry Mouth Management

- A. Plaque control is #1 - For best result, power up!
 - 1. Enhanced tooth brushing: Any power toothbrush works better and is less abrasive than a hand toothbrush.
 - 2. Enhanced tooth paste: Biotene toothpaste is SLS free which means less irritation to sensitive gums. It contains moisturizers, enzymes and minerals to improve oral health.
 - 3. Biotene products for the minerals and enzyme protection.
 - 4. PBF Formula fights plaque attachment up to 12 hours.
 - 5. Sensitivity Protection: Biotene Sensitivity or Pronamel are the mildest choices
 - 6. Tom's of Maine Dry mouth Apricot toothpaste; very mild for severe dryness
 - 7. Fuzzy dental floss like Reach Gum Care.
 - 8. Power flossers: Reach and WaterPik as effective as floss
 - 9. WaterPik Water Flosser: twice as good as floss (WP 100)
- B. Stay well hydrated
 - 1. Water is not spit, so don't expect it to protect your mouth. You may need to sip water to help chew and swallow food, or to relieve "Velcro throat" during the day time. Sipping too frequently increases your risk of decay by washing out important components like minerals necessary for tooth maintenance.
 - 2. You can't stimulate more saliva without adequate daily water intake.
 - 3. You need at least 5 glasses of non-caffeine fluids a day, preferably water.
- C. Replace lost protection
 - 1. Stimulated saliva contain extra minerals to protect your teeth.
 - a. Sugar-free candies
 - b. Sugar-free gum
 - c. Xylitol gum - reduces bacteria and prevents decay
 - d. Xylitol compressed tablets may work even better.
 - 2. Moisturizing Sprays
 - a. Biotene w/enzymes, minerals and Xylitol
 - b. Rain with Xylitol
 - c. Oasis with glycerin
 - 3. Salese Xylitol lozenges from Nuvora
 - Peppermint for mild dry mouth; Wintergreen or Lemon for moderate - severe dryness.