

Therapeutic Management of Oral Mucosal Diseases and Xerostomia

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This handout is intended to offer guidance in the management of selected oral mucosal diseases and xerostomia. It is assumed that the treating clinician will consider each patient on an individual basis to assure safe and appropriate treatment.

Considerations for Prescription of Drug Therapy

- Contraindications and precautions
- Drug interactions
- Side effects
- Cost/Insurance coverage
- Location, distribution and severity of condition
- Prevention or maintenance vs. treatment of active disease
- Response to previous treatment
- Co-morbidities

Commercial vs. Compounded Medications

Benefits of compounded medications

- Can specify the strength of the medication
- Can specify sugar-free
- Can combine two or more medications in one preparation to simplify treatment without diluting final strength of each medication

Drawbacks of compounded medications

- Often more expensive
- Insurance companies may not cover or cover less of the cost
- Time required to prepare
- May have shorter shelf-life
- Need to be sure you are working with experienced compounding pharmacist

Compounded medications are particularly useful

- For severe cases
- When commercial medications have failed
- When commercial products are unavailable
- When sugar-free is essential: Poorly controlled diabetes, xerostomia, long-term treatment of dentate patient
- When alcohol-free is essential: Alcoholics, xerostomia, mucositis

Dosage Forms

- Mouthrinses: For generalized or multifocal disease (ease of use), for prevention and maintenance
- Gels, creams and ointments: For localized disease and for more severe disease (available in higher potencies)
- Mouthrinses are often used in combination with a gel, cream or ointment

Treatment of Non-Microbial Mucositis

Aphthous Stomatitis, Lichen Planus, Lichenoid Mucositis, Mucous Membrane Pemphigoid, Pemphigus Vulgaris, Erythema Multiforme, Lupus erythematosus, Non-specific Mucositis

Baseline Initiatives to Help Therapies Work

- Decrease common possible irritants: Avoid pyrophosphates, cinnamon, menthols, phenols, irritating foods, etc...
- Maintain “salivary pellicle”: Avoid SLS (sodium lauryl sulfate), avoid alcohol if possible
- Maintain saliva: Reduce or eliminate xerogenic agents if possible, maintain good hydration (see Management of Xerostomia section below)
- Manage microbes: Bacteria, fungi (see Treatment of Candidiasis section below)

Topical corticosteroids are the first line therapy

Maintenance therapy is often needed to maintain control of disease

Corticosteroids and Candidiasis

When prescribing corticosteroids patients should be educated regarding signs and symptoms of candidiasis as a potential side effect (new and different burning or soreness, new red or white patches, or change in taste). If patient has other significant predisposing factors for candidiasis may perform cytology to evaluate *Candida* status prior to prescribing corticosteroids or may include antifungal in regimen as preventive.

Moutrinses

- Directions are 5 mL mouthrinse 1-2 minutes and spit out, then NPO ½ hour after
- Usually use QID (PC and HS) for active disease and then decrease to frequency required for maintenance therapy

Medication	Potency	Notes
dexamethasone 0.5 mg/5 mL oral solution*	Low	<ul style="list-style-type: none">• For sugar-free, dye-free and only trace of alcohol prescribe Roxane brand: NDC # 00054-3177-57 for 240 mL bottle NDC # 00054-3177-63 for 500 mL bottle• If candidiasis is a concern, can have patient dissolve clotrimazole 10 mg oral troche slowly in mouth immediately after mouthrinse and then begin NPO ½ hour
triamcinolone acetonide aqueous suspension mouthrinse 0.1% or 0.2%	Intermediate	<ul style="list-style-type: none">• Must be prepared by a compounding pharmacist• Specify sugar-free• Usually use 0.1% but may need 0.2% for more severe cases• If candidiasis is a concern, can have pharmacist compound in <u>sugar-free</u> nystatin 100,000 units/mL or amphotericin-B 25 mg/mL suspension, or have patient dissolve clotrimazole 10 mg oral troche slowly in mouth immediately after mouthrinse and then begin NPO ½ hour

*Oral solution preferred to elixirs, which contain sugar, alcohol and often dye

Gels, Creams and Ointments

- Directions are apply thin film to involved oral mucosa, then NPO ½ hour after
- Usually use QID (PC and HS) for active disease and then decrease to frequency required for maintenance therapy
- May be more effectively delivered in medication trays for gingival involvement: Apply thin film to inner surface of medication tray(s) and leave in place for 30 minutes (QD-BID depending on severity). Spit out residual medication and brush teeth upon removing trays.

Medication	Available Forms	Notes
desonide 0.05%	cream, ointment	<ul style="list-style-type: none"> • Low potency • Best for use on lips where epithelial atrophy can be a problem
triamcinolone acetonide 0.1% or 0.5%	cream, ointment	<ul style="list-style-type: none"> • Intermediate potency
fluocinonide 0.05%	gel*, cream, ointment	<ul style="list-style-type: none"> • High potency
clobetasol 0.05%	gel*, cream, ointment	<ul style="list-style-type: none"> • Super-high potency
misoprostol 0.003% in Aquaphor	must be compounded	<ul style="list-style-type: none"> • Prostaglandin E1 analog • <u>Should not be prescribed for women of childbearing potential</u> • Excellent for painful ulcerated mucosa • Can be compounded with topical steroid and/or antifungal • Use alone in situations where steroids should be avoided

* Gel is better tolerated when applied to oral mucosa and is easier to clean out of medication trays

- Commercial corticosteroids can be mixed with commercial antifungal cream (see Treatment of Candidiasis section below) and/or antibacterial cream (mupirocin 2%)
- Corticosteroids can be compounded with antifungal agent and/or misoprostol

Medications in Mucoadhesive Base (e.g. triamcinolone acetonide dental paste, Kenalog in Orabase):

Patients often report these to be difficult to use, particularly if large areas of mucosa require treatment

Patient Education Regarding Use of Corticosteroid Gels, Creams, and Ointments

- Use on oral mucosa is appropriate off-label use
- Used properly systemic absorption is minimal
 - With QID use, 15 gram tube should last at least 4 weeks depending on size of area being treated
- Can use long-term on oral mucosa if necessary
 - Abnormal thinning is not a problem with oral mucosa as it is with skin and vermilion of lips

Signs and symptoms of candidiasis as a potential side effect (see Corticosteroids and Candidiasis above)

Prednisone

- Use with cautions and consult with or refer to physician
- Numerous contraindications and precautions, drug interactions, possible side effects
- More common side effects are insomnia, nervousness, increased appetite, indigestion
- To maximize effectiveness and minimize side effects, use burst therapy (40-60 mg QAM for five days) followed by alternate day therapy (10-20 mg QOAM for 10 days) with AM dosing 1½ hour after arising

E.g. Rx: prednisone 10 mg tablet

Disp: 25 tablets

Sig: Take 4 tablets PO QAM 1½ hours after arising for 5 days, then take 1 tablet PO QOAM 1½ hours after arising for 10 days.

- May increase or decrease dosages depending on age and/or health status of the patient, severity of disease, and response to previous treatment
- May repeat burst or continue alternate day therapy if needed and tolerated
- Alternate day dose ÷ 4 = equivalent daily dose

Intralesional Corticosteroid Injection

- May be used for solitary lesions recalcitrant to topical or systemic steroids
- Area must be anesthetized before injection (best to use local anesthetic with vasoconstrictor)
- Use triamcinolone acetonide injectable 40 mg/mL (Kenalog®) diluted with local anesthetic to 10 mg/mL or 20 mg/mL
- Inject total of 10-40 **mg** around base of lesion
- May require serial injections over a period of weeks and/or combined use with topical medication

Non-Microbial Mucositis Special Considerations

Mucous Membrane Pemphigoid

- Topical corticosteroids first line drug for oral lesions, which are often confined to gingiva so medication trays can be used to more effectively deliver medication
- May need to add doxycycline 50-100 mg QD-BID for anticollagenase activity
 - Increases risk of candidiasis
 - Should be taken with food (while administration with food may decrease GI absorption by up to 20%, administration on an empty stomach is not recommended due to GI intolerance)
 - Of currently available tetracyclines, doxycycline has the least affinity for calcium
 - May be able to decrease frequency and amount for maintenance therapy
- For severe cases may need prednisone (consult with or refer to physician) and/or other systemic immunosuppressive agent such as azathioprine, dapsone, or methotrexate (refer to physician)
- Refer to ophthalmologist to evaluate for ocular involvement
- Optimal oral hygiene and frequent prophylaxis (Q3-4 months) improves response to treatment

Pemphigus Vulgaris

Usually requires treatment with prednisone, often combined with other immunosuppressive agent, such as methotrexate, azathioprine or cyclophosphamide (refer to physician)

Treatment of Candidiasis

Determine and, if possible, eliminate predisposing factor(s)

May need maintenance therapy to prevent recurrence

Antifungal Mouthrinses

- Directions are 5 mL mouthrinse 1-2 minutes and spit out, then NPO ½ hour after
- Usually use QID (PC and HS) for active disease and then decrease to frequency required for maintenance therapy

Medication	Notes
nystatin oral suspension 100,000 units/mL*	<ul style="list-style-type: none">• Commercial products usually contain 30-50% sucrose• Should not be used long term or in patients with xerostomia (unless edentulous)
sugar-free nystatin 100,000 units/mL*	<ul style="list-style-type: none">• Must be compounded• Must be refrigerated• Shorter shelf-life
sugar-free amphotericin-B oral suspension 25mg/mL *	<ul style="list-style-type: none">• Must be compounded• Better tasting than nystatin• More efficacious than nystatin• More expensive than nystatin

*Can be compounded with triamcinolone acetonide 0.1% or 0.2% if needed

Antifungal Creams and Ointment

- Directions are apply thin film to involved oral mucosa and/or to corners of mouth and/or to inner surface of denture(s), then NPO ½ hour after
- Usually use QID (PC and HS) for active disease and then decrease to frequency required for maintenance therapy

Medication	Notes
ketoconazole 2% cream	<ul style="list-style-type: none">• Also has mild anti-inflammatory properties• Excellent for denture candidiasis• Use alone or mix 1:1 with mupirocin 2% ointment or cream for angular cheilitis• Commercial product can be mixed with commercial topical steroid• Can be compounded with topical steroid and/or misoprostol
clotrimazole 1% or 2% cream OTC or Rx	<ul style="list-style-type: none">• OTC labeled for athlete's foot, jock itch or vaginal use• Can be used for denture candidiasis or angular cheilitis• Can be mixed with commercial topical steroid
nystatin 100,000 units/gram cream or ointment	<ul style="list-style-type: none">• Can be used for denture candidiasis or angular cheilitis• Yellow color not ideal for angular cheilitis

Antifungal Troche or Tablet

- Directions are dissolve slowly in mouth, then NPO ½ hour after

Medication	Notes
clotrimazole 10 mg oral troche	<ul style="list-style-type: none"> • Need to use 5 per day for active infection • Can dose with 2 AM, 1 midday and 2 PM for better compliance • Decrease to minimum number and frequency as needed for maintenance therapy • Difficult to use with significant xerostomia • Contain dextrose
OTC Mycelex-7 Combo Pack: clotrimazole vaginal tablet 100 mg (7) and vaginal cream 1% (7 g)	<ul style="list-style-type: none"> • Dissolve ½ tablet slowly in mouth BID • Use cream for angular cheilitis up to QID

Systemic Antifungals

- Use with caution and consult with physician. Hepatotoxicity reported for both medications.

Medication	Notes
ketoconazole 200 mg tablet Sig: Take 1 tablet PO QD for 7-14 days. Do not take antacids within 2 hours of this medication.	<ul style="list-style-type: none"> • Less expensive than fluconazole • Many contraindications, precautions, drug interactions and side effects • Requires acidic stomach for absorption and should be avoided in patients that are on H2 blockers, proton pump inhibitors etc...
fluconazole 100 mg tablet Sig: Take 1 tablet PO <u>BID for first day</u> , then take 1 tablet PO daily for 7-14 days.	<ul style="list-style-type: none"> • More expensive than ketoconazole • Fewer contraindications, precautions, drug interactions and side effects than ketoconazole but still these are a concern

Antiviral Therapy for Immunocompetent Patients

Primary HSV Gingivostomatitis, Recurrent Localized HSV Gingivostomatitis, Recurrent Herpes Labialis, Recurrent Varicella Zoster (Herpes Zoster)

Most effective if started within 48-72 hours of onset of symptoms

Systemic Antiviral Therapy Warnings

- Acyclovir (Zovirax or generic)
 - Use with caution in renal function impairment or dehydration
 - Adjust dosage for pediatric patients
- Valacyclovir (Valtrex or generic)
 - Use with caution in renal and hepatic disease
 - For use in patients ≥ 12 years of age
 - Can cause headache, nausea
- Famciclovir (Famvir or generic)
 - Use with caution in renal function impairment
 - For use in patients ≥ 18 years of age
 - Can cause headache, nausea

Treatment of Primary HSV Gingivostomatitis

Medication	Directions	Notes
acyclovir 400 mg tablet	400 mg TID daily for 7-10 days	<ul style="list-style-type: none"> • See warning above • For children use 15 mg/kg (max 200 mg/dose) 5 times daily for 7 days
valacyclovir 1 gram caplet or tablet	1 gram BID for 7-10 days	<ul style="list-style-type: none"> • See warnings above
famciclovir 250 mg tablet	250 mg TID for 7-10 days	<ul style="list-style-type: none"> • See warnings above

Treatment of Recurrent Localized HSV Gingivostomatitis

Medication	Directions	Notes
acyclovir 400 mg or 800 mg tablet	400 mg TID daily for 5 days <u>or</u> 800 mg TID for 2 days	<ul style="list-style-type: none"> • See warning above
valacyclovir 500 mg or 1 gram caplet or tablet	500 mg BID for 3 days <u>or</u> 1 gram QD for 5 days	<ul style="list-style-type: none"> • See warnings above
famciclovir 125 mg, 250 mg or 500 mg tablet	1 gram BID for 1 day or 125 mg BID for 5 days	<ul style="list-style-type: none"> • See warnings above

Treatment of Recurrent Herpes Labialis

Systemic Medication	Directions	Notes
acyclovir 400 mg tablet	400 mg 5 times daily for 5 days	<ul style="list-style-type: none"> • Increasing dose to 400 mg 5 times daily decreases duration of pain by 36% and time to loss of crust by 27% compared to 200 mg 5 times daily • See warning above
valacyclovir 1 gram caplet or tablet	2 grams at onset of symptoms then 2 grams 12 hours after first dose	<ul style="list-style-type: none"> • 3 times more bioavailable than acyclovir • See warnings above
famciclovir 500 mg tablet	1500 mg at onset of symptoms	<ul style="list-style-type: none"> • Symptom duration decreased by 1.7 days if taken with 1 hour of onset of prodrome • See warnings above
Topical Medications		
acyclovir 5% cream (Zovirax) 2 gram tube Rx	Apply thin film every 3 hrs (at least six times daily) at onset of symptoms until lesions healed	<ul style="list-style-type: none"> • For extra-oral use only • Much less effective than systemic medications • Rx not available as generic
penciclovir 1% cream (Denavir) 1.5 gram tube Rx	Apply thin film every 2 hrs during waking hours at onset of symptoms for 4 days	
docosanol 10% cream (Abreva) 2 gram tube OTC	Apply 5 times daily at onset of symptoms until lesions heal	

Prophylaxis for Recurrent HSV Infections

- Long-term prophylaxis is for patients with at least 6 or more outbreaks per year
- Reassess need every 6-12 months
- May be helpful for short term prophylaxis for patients with predictable triggers

Medication	Directions	Notes
acyclovir 400 mg tablet	400 mg BID	• See warning above
valacyclovir 500 mg caplet or tablet	500 mg QD	• See warnings above • QD compliance easier but otherwise no advantage over less expensive acyclovir
famciclovir 500 mg tablet	500 mg BID	• See warnings above

Treatment of Recurrent Recurrent Varicella Zoster (Herpes Zoster)

- Efficacy: valacyclovir > famciclovir = acyclovir

Medication	Directions	Notes
acyclovir 800 mg tablet	800 mg every 3 hours (5 times daily) for 7-10 days	• See warning above
valacyclovir 1 gram caplet or tablet	1 gram TID for 7 days	• Drug of choice • See warnings above
famciclovir 500 mg tablet	500 mg TID for 7 days	• See warnings above

Cost of Antiviral Medications

- Generic systemic acyclovir is relatively inexpensive
- Abreva is relatively inexpensive but often not effective
- All of the other antiviral medications are expensive even in generic forms

L-lysine for Prevention and Treatment of Recurrent HSV

- May be helpful for some patients
- Contraindicated with renal or hepatic impairment
- Dietary supplements aren't regulated for purity or efficacy

Prevention	500-1000 mg daily If 500 mg/day is not effective, dose should be increased to 1000 mg/day
Treatment	1000 mg every 6 hours

Management of Xerostomia

Management of xerostomia should be proactive and include identification and, if possible, elimination of the cause(s), patient education, salivary gland stimulation, moisturizing of mucosa, and prevention of sequelae.

Causes of Xerostomia

Medications <ul style="list-style-type: none"> ▪ Anticholinergics ▪ Antiparkinsonian ▪ Antidepressants ▪ Antineoplastics ▪ Antipsychotics ▪ Antihypertensives ▪ Central nervous system stimulants ▪ Diuretics ▪ Systemic antihistamines 	Medical Conditions <ul style="list-style-type: none"> ▪ Sjögren's disease ▪ Connective tissue disorders ▪ Diabetes mellitus ▪ Diabetes insipidus ▪ Sarcoidosis ▪ HIV-disease ▪ Hepatitis C virus infection ▪ Graft vs. host disease ▪ Parkinson's disease ▪ Psychogenic disorders 	Other <ul style="list-style-type: none"> ▪ Inadequate fluid intake ▪ Excessive caffeine or alcohol use ▪ Vomiting and diarrhea ▪ Mouth breathing ▪ Decreased mastication ▪ Smoking
		Radiation Therapy
		Developmental Abnormality <ul style="list-style-type: none"> ▪ Salivary gland aplasia

The Role of the Patient in Xerostomia Management *

<ul style="list-style-type: none"> ▪ Ensure adequate hydration by frequently sipping water ▪ Limit caffeine ▪ Avoid alcohol ▪ Use a cool air humidifier (clean daily) ▪ Sleep on side if possible to reduce mouth breathing ▪ Avoid sugars and refined carbohydrates ▪ Practice optimal oral homecare (plaque control) ▪ Use supplemental fluoride as directed ▪ Seek professional dental care at least every 6 months

*See last page of this handout for patient information handout that can be duplicated for patients

General Oral Hygiene Products and Mucosal Moisturizers

Use of SLS-free tooth paste with sodium fluoride is recommended.

Mouthwashes should be alcohol-free.

Products sweetened with xylitol, which is cariostatic, are preferred

Saliva Substitutes: There are numerous OTC liquids and sprays on the market and individual patient acceptance varies widely

Biotene Products

Contain antibacterial enzymes normally found in saliva (lysozyme, lactoferrin glucose oxidase lactoperoxidase), are sweetened with xylitol, are widely available, and generally well accepted by patients

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| <ul style="list-style-type: none"> ▪ Biotene toothpastes- SLS-free ▪ Biotene Oral Rinse- alcohol-free ▪ Biotene Oral Balance Liquid | <ul style="list-style-type: none"> ▪ Biotene Moisturizing Mouth Spray ▪ Biotene Dry Mouth Gum ▪ Biotene Oral Balance Gel |
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Saliva Stimulants

Agent	Directions for Use	Approximate Cost Per Dose	Medical Considerations
Pilocarpine 5 mg tablet (Salagen or generic)	1 tablet PO TID	Salagen ≈ \$1.95 Generic ≈ \$1.10	Contraindications <ul style="list-style-type: none"> ▪ Hypersensitivity ▪ Uncontrolled asthma ▪ Narrow angle glaucoma ▪ Acute iritis ▪ Patient taking beta-blockers ▪ Patient taking anticholinergics Precautions <ul style="list-style-type: none"> ▪ Cardiac disease ▪ Controlled asthma ▪ Chronic bronchitis ▪ Chronic obstructive pulmonary disease ▪ Cholelithiasis ▪ Biliary tract disease ▪ Nephrolithiasis Drug interactions Side effects
Cevimeline 30 mg capsule (Evoxac)	1 capsule PO TID	≈ \$3.20	
Pilocarpine 4% ophthalmic solution = 2 mg/drop (generic)	2 drops TID, in 1-2 tablespoons water, swish and swallow or 2 drops place on sugarless gum	≈ \$0.38	
SalivaSure Buffered citric acid lozenge, (Scandinavian Formulas)	Dissolve one lozenge slowly in mouth up to every hour as needed	≈ \$0.10	None

Prescription Neutral Sodium Fluoride Supplementation

Neutral sodium fluoride is non-irritating to soft tissue

Brush-On One Step: SLS-Free <ul style="list-style-type: none"> ▪ Prevident 5000 Dry Mouth ▪ Other brands available for in office distribution 	Brush with thin ribbon QD-BID. Spit out excess. NPO ½ hour after.
Brush-On One Step <ul style="list-style-type: none"> ▪ Prevident 5000 Plus ▪ Fluoridex ▪ Control Rx 	Brush with pea-sized amount twice daily. Spit out excess. NPO ½ hour after.
Brush-On Two Step <ul style="list-style-type: none"> ▪ Prevident 1.1% NaF Gel ▪ NeutraCare 1.1% NaF Gel ▪ Generic 1.1% NaF Gel 	Brush with pea-sized amount twice daily <u>after</u> cleaning teeth. Spit out excess. NPO ½ hour after.
Custom Fluoride Trays <ul style="list-style-type: none"> ▪ Prevident 1.1% NaF Gel ▪ NeutraCare 1.1% NaF Gel ▪ Generic 1.1% NaF Gel 	Apply thin film to inner surface of trays and hold on clean, dry teeth 5-6 minutes daily. Spit out excess. NPO ½ hour after.

XEROSTOMIA (Dry Mouth)

PATIENT INFORMATION HANDOUT

DEFINITION: Xerostomia (pronounced “zero-sto’me-ah”) is the medical word for dry mouth due to decreased or absent saliva. This problem is common and is caused by a variety of medical conditions, medications and other treatments.

HELPFUL HINTS:

- Sip cool water throughout the day, let ice chips melt in mouth (don’t chew ice!)
 - Most people do not drink enough fluids and this will contribute to a dry mouth
- Try drinking milk with meals
 - Milk has moisturizing properties and helps some people to swallow their food
- Restrict caffeine intake – caffeine is a MAJOR cause of dry mouth.
 - Use caffeine-free tea, coffee and sodas
 - Eliminating caffeine from your diet will have a significant effect on the symptoms of dry mouth
- Avoid alcohol and alcohol-containing mouthwashes (read labels of commercial products carefully)
 - Alcohol has a drying effect and can also irritate the tissues
- Use a cool air humidifier in the bedroom
 - Start the humidifier an hour or two before bedtime and let it run through the night
 - Clean and change water daily
- If possible, sleep on your side in order to reduce mouth breathing
- For dry lips, use hydrous lanolin (Lansinoh or Purelan) during the day and especially at bedtime
 - Avoid-petroleum based lip balms
- Use sugar-free candy, gum and beverages, look for products that contain xylitol, a sweetener that helps prevent cavities
 - Chewing gum will stimulate saliva flow
 - Overuse of acidic candies and foods can cause a sore mouth and over time can cause erosion of teeth
- See your dentist frequently
 - People with dry mouth are more prone to dental cavities, gum disease and oral yeast infections
 - Excellent oral hygiene is necessary to prevent dental cavities and gum disease
 - Report any unusual oral soreness or burning sensations to your dentist

COMMERCIAL PRODUCTS USEFUL FOR MANAGEMENT OF DRY MOUTH

The products listed below are available without a prescription and can be found in or ordered from many pharmacies or online. These products can be very helpful in alleviating the symptoms of dry mouth. They can be used as often as needed, do not interfere or react with other prescription drugs and do not have side-effects.

TABLETS:

SalivaSure Tablets by Scandinavian Formulas, Inc.

- To stimulate saliva flow, dissolve one tablet slowly under tongue up to every hour as needed
- Highly recommended, will not cause cavities or sore mouth, easy to carry, mild mint flavor, no drug interactions

GEL:

Biotene Oral Balance Gel (Laclede)

- Moisturizing water-based gel, especially useful at nighttime, spread on tissues and under dentures as needed

TOOTHPASTE:

Biotene Toothpaste (Laclede)

- Mild tasting, gently cleaning detergent-free toothpaste, contains fluoride, also available in a gel formulation

LIQUID:

Biotene Oral Balance Liquid (Laclede)

- Squirt directly into the mouth as often as moisture is needed

SPRAY:

Biotene Moisturizing Mouth Spray (Laclede)

- Spray into the mouth as often as moisture is needed

For more information about dry mouth, look on the internet: <http://www.nidcr.nih.gov/OralHealth/Topics/DryMouth/>

Kleinegger/OHSU Rev 1-21-12 (Adapted from: Cindy L. Marek, Pharm D., Clinical Associate Professor, The University of Iowa Colleges of Dentistry & Pharmacy, ©2005 C. Marek)