Objectives
Discuss oral conditions associated with systemic diseases
Review clinical observations
Identify the components and functions of saliva
Patient management ideas
Explain successful treatment options and products available to help achieve oral comfort.

Oral Conditions Because of:
Side effects of certain medications
Side effect of certain diseases
Side effect of certain medical treatments
Nerve damage
Dehydration
Surgical removal of the salivary glands
Lifestyle

Medications to treat:
Depression
Anxiety
Pain
Allergies and Colds
Obesity
Acne
Epilepsy
Hypertension
Urinary Incontinence

Top Ten Drugs and Medications Causing Xerostomia

<table>
<thead>
<tr>
<th>Drug</th>
<th>Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avinza (Morphine)</td>
<td>78%</td>
</tr>
<tr>
<td>Kadian (Morphine)</td>
<td>78%</td>
</tr>
<tr>
<td>MS Contin (Morphine)</td>
<td>78%</td>
</tr>
<tr>
<td>Diptropan (Oxybutynin)</td>
<td>61-71%</td>
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<tr>
<td>Catapres (Clonidine)</td>
<td>40%</td>
</tr>
<tr>
<td>Detrol (Tolterodine)</td>
<td>35%</td>
</tr>
<tr>
<td>Wellbutrin (buproPion hydrochloride)</td>
<td>27%</td>
</tr>
<tr>
<td>Busulfex inj (Bulsufan)</td>
<td>26%</td>
</tr>
<tr>
<td>Motofen (Difenoxin w/ Atropine)</td>
<td>26%</td>
</tr>
<tr>
<td>Orap (Pimozide)</td>
<td>25%</td>
</tr>
</tbody>
</table>

More Drugs >10%

Incidence

<table>
<thead>
<tr>
<th>Drug</th>
<th>Incidence</th>
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<tbody>
<tr>
<td>Effexor</td>
<td></td>
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<tr>
<td>Paxil</td>
<td></td>
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<tr>
<td>Flexeril</td>
<td></td>
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<tr>
<td>Cymbalta</td>
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<td>Accutane</td>
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<td>Zoloft</td>
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<td>Xanax</td>
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<td>Strattera</td>
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<tr>
<td>Pamelor</td>
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<tr>
<td>Librium</td>
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<tr>
<td>Celexa</td>
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<tr>
<td>Elavil</td>
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</tr>
</tbody>
</table>

Diseases and infections
Sjogren’s Syndrome
HIV / AIDS
Alzheimer’s Disease
Diabetes
Anemia
Cystic Fibrosis
Rheumatoid Arthritis
Hypertension
Parkinson’s Disease
Sjögren’s Syndrome
Autoimmune disease in which the body’s immune system mistakenly attacks its own moisture producing glands. Striking more than 4,000,000 Americans and more than 430,000 Canadians. Nine out of ten patients are women. Average onset is late 40’s. 50% occurs alone and 50% occurs in the presence of another connective tissue disease.

Symptoms of Sjögren’s Syndrome
Dry, gritty or burning sensation in the eyes.
Difficulty talking, chewing or swallowing.
A sore, cracked tongue.
Dry or burning throat.
Change in the sense of taste or smell.
Dental decay.
Digestive problems.
Sjögren’s Syndrome

Diagnosing Sjögren’s Syndrome
Ophthalmologist Tests:
Schirmer Test (Measures tear production).
Rose Bengal (Uses dyes to observe abnormal cells on the surface of the eye).
Slit-Lamp Exam (indicates the volume of tears by magnifying the eye and viewing it in its resting state).
Schirmer Test
Rose Bengal
Slit lamp exam
Uses dyes to observe abnormal cells on the surface of the eye and can detect scratches on the surface of the eye.
Diagnosing Sjögren’s Syndrome
Dental Tests:
Parotid Gland Flow (Measures the amount of saliva produced over a certain period of time). ***SALIVA CHECK***
Salivary Scintigraphy (Measures salivary gland function).
Sialography (X-ray of the salivary-duct system).
Lip Biopsy (Used to confirm lymphocytic infiltration of the minor salivary glands).

Normal Saliva Production
Salivary glands secrete about 2 to 4 pints (or about 1 to 2 liters) of spit into your mouth every day! Can we test saliva flow???

YES WE CAN!
SALIVA TESTING
KNOWLEDGE IS
POWERFUL
PREVENTION

Four Most Common Diagnoses that co-exist with Sjögren’s Syndrome
Rheumatoid Arthritis
Systemic Lupus
Systemic Sclerosis (Scleroderma)
Fibromyalgia
Rheumatoid Arthritis
A chronic, inflammatory autoimmune disease that causes the body’s immune system to attack the lining of the joints.
The process can lead to severe damage and disability. Average onset is between 20 and 45 yrs. More prevalent among women. Is controllable with a number of medicines directed against specific inflammatory processes.

**Systemic Lupus Erythematosus**  
(Lupus)  
Autoimmune disorder affecting women 8 to 10 times more than men. Symptoms include joint pain, abnormal skin rashes and abnormal blood tests. The heart, lungs, kidneys and blood can all be affected.

A patient with discoid lupus

**Systemic Lupus Erythematosus**  
(Lupus)  
The oral mucosa, is one of the most common targets in lupus erythematosus (LE) patients. Internists, rheumatologists, and even dermatologists commonly omit examination of the mucous membrane when taking a patient's medical history and during the physical examination. This medical oversight may certainly delay appropriate medical care for LE patients, as LE mucosal lesions often give clues for a correct diagnosis and prognosis.

**Systemic Lupus Erythematosus**  
(Lupus)  
Oral candidiasis  
Herpes simplex labialis  
Canker Sores  
Xerostomia  
Scleroderma

Scleroderma, or systemic sclerosis, is a chronic connective tissue disease generally classified as one of the autoimmune rheumatic diseases. The word “scleroderma” comes from two Greek words: “sclero” meaning hard, and “derma” meaning skin. Hardening of the skin is one of the most visible manifestations of the disease. A rare, chronic, degenerative disease that can cause loss of mobility, fatigue and skin tightness.

**Scleroderma**  
It’s estimated that about 300,000 Americans have scleroderma. As many as 40,000 Canadians affected. Overproduction of collagen. The exact cause or causes of scleroderma are still unknown.

**Fibromyalgia**  
A type of soft tissue syndrome that causes musculoskeletal pain and fatigue. Affects about 6 million Americans, and 1.2 million Canadians, where women are seven times more likely to have it. Characterized by tender points of the body, fatigue and sleep disorders. Mouth Sores, xerostomia, jaw pain.

**Diabetes**  
Xerostomia caused by elevated blood sugar levels. Tissues can become inflamed and sore. Chewing, tasting and swallowing are difficult. Reduces interest in eating, making controlling diabetes more challenging because of not eating properly and keeping the blood sugar in control.

**Diabetes**  
Gingivitis with diffuse gingival erythema, swelling, and blunted interdental papillae in a patient with diabetes mellitus. Diabetes and Oral Health  
Patients suffering from diabetes, especially uncontrolled diabetics, have a higher risk of developing bacterial infections of the mouth. These infections may impair your ability to process insulin, resulting in greater difficulty with controlling your diabetes. Diabetes and Oral Health  
Periodontal disease: Tend to be more severe Rapidly progressive in uncontrolled diabetics.

The most common reasons for a dry mouth in a diabetes patient are
Side effects of medication

Neuropathy (autonomic)
- Lack of hydration
- Kidney dialysis
- Hyperglycemia
- Mouth breathing
- Smoking

Parkinson’s
Because of poor motor function, nearly half of all people with PD have difficulty with their daily oral hygiene regimen. People with Parkinson’s are less likely than others in their age group to clean their dentures daily.

Parkinson’s
Parkinson’s symptoms — such as tremor, rigidity and abnormal posture — may make a dentist’s examination more difficult. Weakened swallowing ability can increase the risk of aspiration (choking) from some treatments typically used by dentists. May also experience dry mouth, which can contribute to or worsen already-existing chewing difficulties or denture discomfort.

Tips for Maintaining and Improving Dental Health
- Use an electric toothbrush
- Apply stannous fluoride gel treatments, as directed by a dentist
- Mouthwashes are generally discouraged because they present the risk of choking, but in cases where they are still an option, it is best to look for those that are non-alcohol based.
- Visit your dentist in the morning
- Take levodopa (Sinemet) 60-90 minutes before your visit
- Plan several, shorter dentist visits, rather than fewer, longer ones

HIV / AIDS
A wide spectrum of oral ulcerative lesions
HIV disease itself may cause dry mouth because HIV-related salivary disease causes swollen salivary glands, that in turn, reduces the amount of saliva in the mouth.

A dry mouth is also a side effect of some anti-HIV drugs and other medications like antihistamines and antidepressants.

Allergies and infections may also cause dry mouth.

Celiac Disease

An autoimmune digestive disease that damages the villi of the small intestine and interferes with absorption of nutrients from food.

The body is attacks itself every time a person with celiac consumes gluten.

Gluten is a protein which is found in wheat, barley and rye.

Left untreated, people can develop further complications such as other autoimmune diseases, osteoporosis, thyroid disease, and cancer.

3 million Americans have celiac disease, but only about 17 percent of them are accurately diagnosed.

Celiac Disease
Teeth and gums can show signs of celiac disease.
- Enamel defects
- Delayed eruption
- Recurrent aphthous ulcers
- Cheilosis
- Oral lichen planus
- Atrophic glossitis

Lichen planus

The most common dermatological disorder that gives rise to oral ulcers.

Lichen planus is an immunologically mediated disorder that is histopathologically characterized by an intense dermal infiltrate of T-lymphocytes.

The precise trigger for this immunological reaction is unclear.

Lichen planus only warrants treatment in patients who are having painful symptoms and/or signs of erosion, ulcers, or blister formation. Typical treatment involves topical corticosteroids.

It has been suggested that oral lichen planus may be potentially malignant. (1-3%)

CDC: Half of American Adults Have Periodontal Disease

The findings are based on data collected as part of CDC’s 2009-2010 National Health and Nutrition Examination Survey (NHANES), designed to assess the health and nutritional status of adults and children in the United States.

The 2009-2010 NHANES included for the first time a full-mouth periodontal examination to assess for mild, moderate, or severe periodontitis, making it the most comprehensive survey of periodontal health ever conducted in the U.S.

Periodontal Disease
Be at risk for delivering preterm, and/or low-birthweight babies.
The increase in the infant mortality rates due to PLBW has been on the rise.

Approximately 75 percent of pregnant women experience gum bleeding due to the hormonal changes during pregnancy. Bleeding associated with the gingivitis allowed the bacteria, normally contained to the mouth because of the body's defense system, to enter the blood and work its way to the placenta.

Yiping Han, a researcher from the Department of Periodontics at Case Western Reserve University School of Dental Medicine, reports the first documented link between a mother, 35, with pregnancy-associated gum disease to the death of her fetus. After questioning the mother about her health during the pregnancy, Han arranged for her to visit a periodontist, who collected plaque samples from her teeth. Using DNA cloning technologies, Han found a match in the bacterium in the mother’s mouth with the bacterium in the baby’s infected lungs and stomach. Han also ruled out by testing bacteria from the vaginal and rectal areas, which did not show the presence of *F. nucleatum.* "The testing strongly suggested the bacteria were delivered through the blood," Han said. With preventative periodontal treatment and oral health care, the mother has since given birth to a healthy baby.

**Periodontal disease and cardiovascular disease**

Several studies have shown that periodontal disease is associated with heart disease. While a cause-and-effect relationship has not yet been proven, research has indicated that periodontal disease increases the risk of heart disease. Scientists believe that inflammation caused by periodontal disease may be responsible for the association.

**Diabetes**

Almost 26 million Americans have diabetes and face a greater risk of periodontal disease. Diabetes does make you more susceptible to infection – any infection – including periodontal disease. Several studies have shown that the more poorly controlled the diabetes, the more severe the periodontal disease is likely to be.

**Diabetes**

Diabetes is a risk factor for many health conditions, but periodontal disease is one that is often overlooked. According to the American Diabetes Association, research has indicated that gum disease is more prevalent among people who have diabetes. Diabetics tend to be more susceptible to infections in general, including the gum infection that causes periodontal disease.

**Inflammatory bowel disease**

There are two main forms of inflammatory bowel disease - ulcerative colitis and Crohn’s disease. Both are characterized by abdominal pain and diarrhea, sometimes with bleeding.

**Ulcervative colitis typically involves only the colon (large bowel).**

**Crohn’s disease can affect any part of the gastrointestinal tract from the lips to the anus with scattered lesions.**

**Signs of Crohn disease**

The oral mucosa is commonly affected in Crohn disease with up to one third of patients reported to have oral changes, and even higher in children. In some studies, the oral changes preceded the diagnosis of Crohn disease in 60%. There may be a male predominance.

Oral ulcers arise in approximately 9% of patients with undiagnosed Crohn’s disease and can be the first and/or only clinical features of this disorder. Crohn’s disease is a systemic chronic inflammatory disorder that may involve any part of the gastrointestinal tract, including the oral cavity. The prevalence rates of oral manifestations vary between 5 and 20 per cent; however, in pediatric patients, the prevalence is much higher (48% to 80%).

Two types of oral ulcers can arise in orofacial granulomatosis (OFG) and Crohn's disease – chronic deep linear ulcers, usually of the buccal vestibules, which often have a rolled edge because of mucosal tags; and superficial oral mucosal ulcers (Fig. 10) presumably resulting from hematonic deficiency. The diagnosis of such ulcers requires establishing the presence of non-caseating granulomas and the exclusion of other granulomatous diseases, such as sarcoidosis.
Signs of Crohn disease

Angular cheilitis
Aphthous ulcers/aphthous stomatitis – has been reported to affect up to 20-30% of patients with Crohn disease, although some studies show no increase in this compared to the general population. These cannot be distinguished clinically from the common aphthous ulcers.

Recurrent abscesses
Redness and scaling around the lips
Pyostomatitis vegetans – very rare in Crohn disease
Dry mouth – can result in dental decay, denture discomfort and infection
Bad breath (halitosis)
Recurrent vomiting and regurgitation can cause oral pain and the acid result in dental decay.

Signs of ulcerative colitis

Minor and major aphthous ulcers/stomatitis – reported in at least 10%, usually worse with flares of the bowel disease and improving with treatment of the bowel inflammation. However this is probably no more common than the general population.

Glossitis (inflamed tongue)
Cheilitis (inflamed lips)
Bad breath (halitosis)

Medical Treatments
Radiation to the Head and neck

Chemotherapy

Head and Neck Cancer
In 2013, approximately 42,000 people will be diagnosed with oral and oral pharyngeal (posterior/rear of the mouth) cancer in the U.S. (4300 in Canada)

Because a large number of these individuals will be diagnosed as late stage cancers (66%), only 57% of them will survive five years.

More than 25% of oral cancers occur in people that do not smoke or have other risk factors.

Rates twice as high in men than women.

Greatest occurrence in men over age 50.

Types of Head and Neck Cancers
Oral Cavity (Lips, gums, floor of mouth, oral tongue, cheek mucosa, hard palate)
Oropharynx (Base of tongue, tonsils, soft palate, oropharyngeal wall)
Larynx (Vocal cords and supraglottic larynx)
Salivary Glands (Parotid, submandibular, sublingual and minor salivary glands.

Risk factors for Head and Neck Cancer
Alcohol consumption
Smoking or use of smokeless tobacco, (“Chew” or “Dip”)

When tobacco and alcohol are combined, the risk of oral cancer increases 15 times.

Excessive exposure to sun.

Plummer-Vinson syndrome (Disorder from nutritional deficiencies)

Exposure to viruses, including HPV and Epstein Barr.

**Human papillomavirus (HPV) is the fastest growing oral cancer population**

Three out of four people are infected with HPV at some point in their lives

Oral HPV increases your risk for oral cancer fiftyfold

Any prior infection with HPV-16 increases your risk for oral cancer ninefold

Having six or more oral sex partners makes you 8.6 times more likely to get oral cancer

60 percent of oropharyngeal cancer is HPV related

90 percent of HPV+ oral cancers are HPV-16

HPV can be transmitted from mother to child
HPV and oral cancer have increased 225 percent in the past three decades

“At 33, I was a hard working, career oriented, family man with my whole life ahead of me. I was living a wonderful life enjoying my family and according to my wife, the healthiest man alive.

That all changed when on a routine dentist appointment my dentist found what looked to be late stage Oral Cancer. After following up with an Ear Nose & Throat Dr, I was told that I had stage 4 metastatic Oral Cancer and it didn’t look good.

In order to live I had to subject myself to radiation to the head and neck and chemo therapy to shrink the massive tumors in my face and neck. Following radiation and chemo I had to undergo a 14 hour surgery that removed half of my jaw and over 40 lymph nodes from my neck. My jaw and face were rebuilt with a bone and muscle from my leg however due to the size and location of my primary tumor the right half of my face became paralyzed.

After chemo, radiation and several surgeries I was disfigured, my body devastated after losing 70 pounds and the ability to eat most foods, and I was unable to return to work. I had lost hope to regain the life I’d once loved. I suffered daily pain from the side effects of treatment and surgery and was dependent on an opiate pain medication 100x stronger then heroin. I felt broken and alone.

Today I am a 4 year survivor of this horrible disease. With the guidance and support of the Oral Cancer Foundation I’ve been able to find myself again. I’ve rebuilt my body, freed myself from the opiate pain medications and refocused my life, dedicating myself to raising awareness and helping others with Oral Cancer.

Awareness saves lives and if caught early this disease has minimal side effects. Sadly due to the increase of occurrences in the younger generation because of HPV, more people will die or be disfigured just because they didn’t know the early warning signs or risk factors.”

Eric Statler, HERO
Hockey Night Cleveland Style!

**Warning Signs of Oral Cancer**

- Red, white or discolored lesions, patches or lumps in or around the mouth.
- Typically painless, although as the cancer spreads, lesions become painful.
- Swelling, growth or lump anywhere in or about the mouth and neck.
- Repeated bleeding from mouth or throat.
- Difficulty swallowing and persistent hoarseness.

**“Prevention vs. Prosecution”**
RDHmag.com (Vol. 28, ed. 10)

Failure to diagnose Oral Cancer is one of the top malpractice lawsuits, and is growing larger with the increase in oral cancer cases.

You may be surprised to learn who is at risk of lawsuit...

During each malpractice lawsuit, not only are the office and owner listed as defendants, but the hygienist is listed as well.

So Easy a 4 Year Old can do it!

**Oral Cancer Facts**

- One American dies every hour from oral cancer
- Survival rate has not changed significantly in over 40 years
- Late detection: 70% of oral cancer lesions identified during visual exam alone are detected in stages III and IV
- 59% 5-year survival rate; poor quality of life
- More than 25% of oral cancer victims don’t use tobacco

The Henry Schein Cares Foundation “helps health happen” by expanding access to care for at-risk and underserved populations globally through the support of not-for-profit organizations, institutions, and communities dedicated to increasing the delivery of health education and care.

The work of the Henry Schein Cares Foundation targets those with some of the most limited access to care through a focus on three areas: wellness, prevention, and treatment; emergency preparedness and relief; and capacity building.
Mission Statement

The Global Oral Cancer Forum is an international assembly of passionate professionals focused on building awareness of gaps and innovations in prevention, patient care, technology, and services across the oral cancer continuum by facilitating partnerships that transcend cultural and economic diversity.

Vision Statement

By building these partnerships, The Forum will promote the changes required for a substantial impact on incidence, morbidity, and mortality of oral cancer worldwide.

About the Global Oral Cancer Forum

In the United States, approximately 40,000 patients each year are given a diagnosis of oral and pharyngeal cancer.

Close to 8,000 patients a year die, and many more suffer from the complications of treatment.

Worldwide there are more than 400,000 patients a year diagnosed with oral and pharyngeal cancers and in many parts of the world the statistics are far worse than those in the US.

Intellectual Partners to Date

Dr. Jatin Shah, M.D. Chief, Head and Neck Service, Memorial Sloan Kettering Cancer Center, USA

Professor Saman Warnakulasuriya, DDS, Ph.D. OBE Professor, Kings College London, UK

GOCF Executive Directors

Ashley N. Lenz, MBA Executive Director, Henry Schein Cares Foundation

Shannon Nanne, RDH Executive Director, Global Oral Cancer Forum

GOCF Chairman

John S. Greenspan BDS, PhD, FRCPath
Distinguished Professor of Oral Pathology Associate Dean for Global Oral Health, School of Dentistry University of California San Francisco, USA

GOCF Organizing Committee

Dr. Silvio Gutkind, Ph.D. Chief, Oral and Pharyngeal Cancer Branch and National Institute of Dental & Craniofacial Research,
Early Diagnosis
Feeling for lumps on the neck, mouth and throat.
X-ray, CT, MR and PET scans are often needed to show the location and extent of the cancer.
Biopsy of tissue (tissue is removed and analyzed).
Chemiluminescence

ViziLight TBlue
Below is an image of Squamous cell carcinoma – Normal Light vs ViziLight
TBlue Stained Lesion Biopsy Results

Oral Cancer Screening

Loupes
The magnification and illumination provided by dental hygiene loupes and lights make it easier to navigate your work area and see the critical details that can be missed with the naked eye. Your patients can expect a more thorough exam, and in turn, better oral health.

Oral CDx
Brush firmly and repeatedly (may require 15 or 20 rotations) over the center as well as at the periphery of the spot.
Transfer cells directly from the brush to the slide rotating the brush over the entire length of the slide.
Open the envelope that contains the fixative and apply directly to the entire slide.
Let the slide dry for approximately 15-20 minutes and then place it into the plastic container.
The slide holder and the test requisition form are returned to OralCDx Laboratories by mail in the convenient pre-paid box. Results are faxed to office.
www.thebrushtest.com

Radiation Oncology
External beam radiation therapy involves a series of daily outpatient treatments.
Internal radiation therapy involves surgically implanting radioactive material into the tumor. Usually used in conjunction with External beam radiation.

Side Effects
Redness of skin
Sore throat
Dry mouth
Alteration of taste
Pain in swallowing
Hair loss in treated area
Fatigue
Stomatitis
Stomatitis

Magic Mouthwash:
Maalox (100ml)
Viscous Xylocaine (25-50ml)
Benadryl (25-50ml)
Chemotherapy
Causes acute dry mouth complications that “usually” heal after treatment ends. However, complications can be acute (Occurring only during therapy) or chronic (Occurring for months to years after therapy).
Open sores in the mouth, where half of the patients develop severe lesions that require medical treatment. Usually begins to appear two weeks after treatment, remain until blood counts return to normal.
Mucocitis
Oral ulcers can be caused by local radiotherapy and some cytotoxic chemotherapy regimes (mucositis) (Fig.1).
The mucositis manifests as multiple areas of painful mucosal erythema, ulcers and sloughing.

Kidney Dialysis
When the kidneys do not function properly, dialysis must be performed artificially.
Without this artificial kidney dialysis, toxic wastes build up in the blood and tissues, and cannot be filtered out by the ailing kidneys.
The condition is known as uremia, which means literally “urine in the blood.”
Eventually this waste build-up leads to death.

If you are retaining fluids, you may need to limit liquid intake to 6-8 cups of fluid a day. Goal is not to gain more than 3 kilograms (or 6 pounds) between hemodialysis treatments.
Measure any liquid or any food that melts in your mouth like ice cream, ice, jello, pudding, broth, coffee, tea, milk...
Excess fluid in the body causes difficulty breathing, chest pain, edema, high blood pressure. Your dietitian can share tips on how to control thirst and dry mouth.

Burning Mouth Syndrome
Abnormal sensation of the lining of the mouth which most patients describe as feeling like their mouth has been scalded.
Usually develops in the front part of the mouth, typically affecting the inner surfaces of the lips, the roof of the mouth, and the sides and tip of the tongue.
Some patients may have decreased taste ability or altered taste sensation. In all cases, however, the lining of the mouth clinically appears normal.

BMS Causes
Hormonal changes, postmenopausal women.
Stress
Dry Mouth
Candida Infections
Medication Effects
Nutritional Deficiency (B1, B2 or B6, zinc)

Candida Infections
Uncontrolled diabetes
HIV infection
Cancer
Dry mouth
Pregnancy (caused by the hormonal changes) People who smoke or wear dentures that don't fit properly
Babies can pass the infection to their mothers during breast-feeding.

Candida infections
Candida albicans accounts for about 90% of human yeast infections.
Antifungal medications are prescribed, which are generally taken for 10 to 14 days. These medicines are available in tablets, lozenges, or liquids.
Prescription treatments such as, Oral fluconazole, clotrimazole troches, or nystatin suspension usually provide effective treatment.

Black Hairy Tongue

Refresh® Celluvisc® Lubricant Eye Drops, restores the moisture your eyes crave with a gently protecting and lubricating formula that has some of the same healthy qualities as natural tears.
With use of these drops, you can enjoy long-lasting relief from the irritating, scratchy feeling of dry, irritated eyes.
Thicker formula.

Tongue Scraping
Less saliva means less oxygen.
If there is less oxygen available in the oral environment you have an anaerobic environment, which is perfect for sulfur-producing bacteria.
In essence, the bacteria are now capable of making high levels of sulfur gases, which in turn make the breath and taste worse. Dental research proves that a clean tongue helps maintain fresh breath and optimize oral hygiene. Tongue cleaning is a highly acclaimed adjunct to brushing and flossing.

Why Clean Your Tongue?
Prevent malodor (halitosis)
Lower risk of tooth decay
Lower risk of gum disease
Freshen breath

Biocurv Medical Instruments is a team of Dentists & Specialists dedicated to making the finest tongue cleaners in the world and educating dental professionals of the importance of complete oral health care.

Together we can make a positive difference!

**Why Clean your tongue?**
Organisms on the tongue can contribute significantly to periodontal diseases and tooth decay.

Debris on the tongue has been directly related to oral malodor.
-Gordon Christensen, JADA, Vol. 129, November 1998

Why clean your tongue?
It is now clear that the most important source of oral malodor is the microbial deposits on the tongue. The tongue plays the most important role in harboring organisms that contribute to oral malodor. Oral bacteria residing on the tongue are chiefly responsible for bad breath.

The Tongue Sweepers “Edge”

**REMBRANDT** GENTLE WHITE Toothpaste (formerly Canker Sore)

REMBRANDT Canker Sore Toothpaste has a new look and name, REMBRANDT GENTLE WHITE toothpaste, but the same great formula. It is specially formulated to be gentle enough for mouths prone to canker sores while still providing effective teeth whitening. SLS- and surfactant-free, this gentle formula actively restores and strengthens the enamel on your teeth.

Debacterol

Debacterol is indicated in the topical treatment of Recurrent Apthous Stomatitis (Canker Sores). Debacterol provides relief from the pain and discomfort of oral mucosal ulcers and helps decrease the risk of infection of the ulcerated tissue.

DEBACTEROL
Debacterol is a dark brown, semi-viscous liquid. It contains 50% sulfonated phenolics, which are antiseptic agents with topical analgesic properties, and 30% sulfuric acid, which is a tissue denaturant and sterilizing agent, in a aqueous solution.

Available through Epien Medical (Melissa) Toll Free: 1-888-884-4675 $49.99 / 12
**Aloclair™ Gel & Spray**

Pain-Free Relief from cankers and small mouth sores

No numbing benzocaine, no stinging hydrogen peroxide, no burning alcohol.
Provides immediate pain relief from cankers, braces, dentures and small mouth sores.

Micro-thin, invisible, bioadhesive, protective barrier which adheres to mucosa and seals off the nerve endings, providing instant relief for about 6 hours.

Rincinol

**Fast, pain-free relief from canker and mouth sores**

Forms a thin, invisible, protective coating that promotes healing
Prevents irritation of sensitive nerve endings for hours
No numbing benzocaine
No stinging hydrogen peroxide – No burning alcohol
Aloe Vera helps soothe, hydrate and heal
Swish for 60 seconds
CankerX

CankerMelts, OraHealth

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**Viroxyn**

San Francisco – October 19, 2012 – Quadex Labs, a healthcare research and product development company, announced today the release of Viroxyn Professional Use, a single application cold sore product available exclusively through healthcare professionals.

The patented no-touch system contains 7.5% benzocaine to numb the site of the cold sore, making it possible to address the virus itself. This starts the healing process immediately, and provides the best clinical outcome per dose of any prescription or over-the-counter (OTC) cold sore medication.

**Adults and children over 2 years of age**

Viroxyn

Active Ingredients:
Benzalkonium Chloride 0.3%
Benzocaine 7.5%

Viroxyn® is a unique approach to treating cold sores/fever blisters.
For most people, Viroxyn® is a single-application treatment, and has been proven to shorten the duration of outbreaks from 10 days to three to four days. Many patients report pain relief within minutes of application.

The active ingredient in Viroxyn® is considered by the FDA to be safe and effective when used as a germicidal treatment of open skin wounds. Viroxyn® is applied topically, and works by acting directly on the mature virus.

**AverTea® Topical Ointment**

Natural Treatment for Cold Sores and Fever Blisters
Naturally Relieves Pain and Itching
Specifically Designed for Outbreaks
Contains Powerful Green Tea Antioxidant
Patented Stable Formula with Plant Extracts
Clinical study published*

(*Inflammation & Allergy – Drug Target, May 11, 2012)
Developed by Dr. Stephen Hsu, a professor at Georgia Health Sciences University.
Made in the USA at FDA-Registered Manufacturing Facilities
U.S. Patent 8076484
Varnish

Cervitec Plus

Indications
Protection of exposed root surfaces
Treatment of open dentin tubules
Reduction of bacterial activity on tooth surfaces
Bacterial control in patients with high bacteria counts, e.g. orthodontic patients
Maintaining the quality of restorations, e.g. implant-retained restorations, crowns and bridge abutments.

Advantages

1% chlorhexidine and 1% thymol in a homogenous solution
Selective application
Colourless, transparent clear varnish

XYLITOL

Xylitol is a sweetener found in many fruits and vegetables, and is even produced by the human body during its normal metabolism of glucose. Xylitol is typically manufactured from birch trees, or other natural xylan-rich sources.

Why Xylitol?
It reduces Caries because xylitol alone actually inhibits the growth of Streptococcus mutans, thereby reducing caries susceptibility.
Xylitol’s pleasant sweet taste stimulates salivary flow, which in turn increases plaque pH and neutralizes acids produced from other fermentable carbohydrates.
The increased flow of saliva will also promote the remineralisation of early caries lesions.

Plaque that forms when using xylitol products is less sticky than sucrose-induced plaque. This type of plaque is less adhesive enabling easier removal when brushing and flossing.

Including xylitol in a fluoride toothpaste results in a 12% reduction in decay filled surfaces after three years, compared with the fluoride only toothpaste.

How much xylitol should one eat per day?
The anticariogenic effect of xylitol stems partly from the affected bacteria population in the mouth and partly from the properties of saliva. Xylitol is a natural and convenient way of supplementing daily dental care.
Research shows that a mere 5-10g/ day is enough. In practice, this means 3-8 pieces of chewing gum a day. The pieces should be chewed immediately after a meal or a snack. If you eat more snacks, you of course need more frequent help from xylitol.

Xylitol containing gum:

Dogs and xylitol
The Xylitol causes dogs to secrete insulin so their blood sugar drops very quickly. The second thing that happens is liver failure.
The increase in insulin leads to hypoglycemia (lowered sugar levels). Blood sugar has been known to drop from 90 to 59 in 30 minutes.
Initial signs of toxicosis include vomiting, lethargy, and loss of coordination — and can even result in seizures. Elevated liver enzymes and liver failure can be seen within a few days.

Induce vomit, give a charcoal drink to absorb the toxin, then they would start an iv with dextrose.
Other foods to avoid - Dogs
Alcohol (vomiting, diarrhea, decreased coordination, central-nervous-system depression, difficulty breathing, tremors, abnormal blood acidity, coma and even death)

Avocado (persin = vomiting and diarrhea)

Macadamia Nuts (depression, vomiting, tremors, and hyperthermia)

Grapes & Raisins (kidney failure)

Yeast Dough (intestines to rupture)

Onions, Garlic, Chives (GI irritation)

Salt (excessive thirst and urination)

Chocolate (theobromine = seizures)

Other Sugar Alcohols
Sorbitol is the alcohol form of sucrose, manufactured from corn syrup. It occurs naturally in fruits and vegetables.
Mannitol is the alcohol form of mannose. It occurs naturally in pineapples, carrots and asparagus. Mannitol is extracted from seaweed for use in food manufacturing.

UV Sanitizer

Philips Sonicare FlexCare comes packaged with a UV Sanitizer; the first integrated power toothbrush with a sanitizer. The Sanitizer’s UV Clean technology helps safeguard against up to 99 percent of certain germs found on brush head(s) clinically shown to reduce Streptococcus Mutans, E Coli and Herpes.

Patients have the choice to purchase FlexCare with the integrated UV Sanitizer or a stand-alone sanitizer that is compatible with other rechargeable power toothbrush heads.

Welcome to the Family....

Superior Oral Health
Superior Results

Sonicare for Sensitivity
Sonicare has extra-soft, nylon bristles and an extra-wide sweeping motion, and it’s clinically proven to be gentle yet effective at removing bacteria and keeping your mouth clean and healthy, even if your teeth are sensitive.

Brush heads are extremely important to the effectiveness of a Sonicare. The ADA and Philips Sonicare recommend brush head replacement every three months for optimal plaque removal results.

NEW Sensitive brush head
Gentle, Effective Cleaning

Our latest brush head innovation is designed for patients who have sensitive teeth or gums but still want the dynamic cleaning action of Sonicare.

Ultra-soft bristles at the core of the bristle field — 25% softer than our standard ProResults brush head
Bristles are trimmed in a domed shape, designed to apply less pressure on sensitive teeth and gums
Fits DiamondClean, FlexCare+, FlexCare, HealthyWhite and EasyClean

NEW Sensitive brush head
Gentle, Effective Cleaning
Sensitive brush head removes up to 54% more plaque than a manual toothbrush

New interproximal cleaning device designed to give patients an easy, effective way to clean in between teeth

Product Overview
Clinical Research

Compliance / Ease of Use

Use of a Sonicare toothbrush is helpful in the treatment of saliva hypofunction.

BioSonic® Suvì® Elite
Combination of the Suvì® Premier and the Air Polisher into one versatile appliance.
It can be used for a wide range of ultrasonic and polishing treatments.
It is an ultimate and undisputed power tool for upgrading your working environment to a new level of quality.

BioSonic® Suvì® Elite
Air Polisher adds to the features of the Suvì® Premier to create one versatile tool for a wide range of ultrasonic and polishing treatments.
The LED light in the hand piece provides superb visibility in diagnostics and viewing discoloring and stains.
Its focused powder spray, adjustable power range and the ergonomic hand piece create perfect conditions for achieving the best polishing effect.

ARESTIN®
(minocycline hydrochloride)
Adjunct to scaling and root planing (SRP) procedures for reduction of pocket depth in patients with adult periodontitis.
Clinical studies show that ARESTIN® plus SRP achieves greater pocket depth reduction than SRP alone.

ARESTIN®
(minocycline hydrochloride)
ARESTIN® is the leading locally administered antibiotic (LAA) for the treatment of periodontitis.

A System Approach
No SLS
No Alcohol
No harsh detergents
No Sugar - Xylitol

Camellix has discovered many beneficial properties of compounds obtained from plants, especially from Camellia sinensis (commonly referred to as green tea).
Developed several lines of natural and effective products to improve human health without toxic ingredients that are harmful to humans, animals, or the environment.
Dr. Stephen Hsu, CEO, Inventor

Scientific evidence demonstrates that green tea extract protects the salivary gland cells from inflammation, oxidative stress, and autoimmune reactions.

Xerostom with Saliactive also contains:
Fluoride and Calcium to increase remineralisation.
Vitamin E as an antioxidant. It is effective in the treatment of mucositis.
Allantoin prevents tissues from cracking.
Vitamin B5 soothes and reduces water loss through the epidermis.
Potassium diminishes dental sensitivity and pain.

Xerostom with Saliactive:
Non acidic, does not contain citric acid.
100% detergent free, sugar free and alcohol free.
Suitable for diabetics and vegetarians.
Prevents mouth ulcers.
With Xerostom’s special flavour for dry mouth.

Biotene Dry Mouth Toothpaste
Contains no Sodium Lauryl Sulfate.

WHAT IS MI Paste?
MI Paste
For Xerostomia / High Caries Risk
Stuart Weitzman Boutique in Rome
World famous designer Stuart Weitzman teamed up with a jeweler Le Vian to cut Tanzanite weighing 185 diamonds and 25 carats of diamonds.

**MI PASTE**

**Recaldent technology**
In order for the fluoride ion (- charge) to penetrate enamel, a calcium ion (+ charge) is needed to penetrate enamel. This drives the F ion into enamel. We need to keep enamel out of demineralization. Recaldent technology does just that!

**RECALDENT**
A sticky milk protein, that sticks to bacteria to wait for acid attack.
3 ½ hour half life.
Over 120 research articles.
Others are not stable for remineralization.
ACP (Amorphous Calcium Phosphate) is a desensitizing agent, but needs CPP (Casein Phosphopeptide) to stabilize it. Reverses lesion with subsurface remineralization. Fluoride works from the outside in, not just the superficial top layer.

**MI Paste Plus**

Decalcification

Tom’s of Maine Dry Mouth Soother

**SLS-free**
The foaming properties of glycyrrhizin (from purified licorice root) replace the need for SLS (which may, for some people, occasionally be irritating) or an SLS alternative.

**Soothing brushing experience**
We’ve added xylitol (from birch trees or corn), gentle glycerin, and organic aloe for their soothing properties.

**Prevents cavities**
Naturally sourced fluoride remineralizes soft spots on teeth before they turn into cavities.

**Mild non-mint flavor**
Delicious natural flavor oils leave your mouth feeling clean and fresh.

Colgate Prevident 5000 Toothpaste

Sunstar Butler

The efficacy of non-alcohol CHX rinses is supported by a number of clinical and in vitro studies.

Studies in the US and Europe have shown that a non alcohol CHX rinse is equally as effective as one with alcohol.

The FDA approved the new GUM CHX rinse as therapeutically equivalent to currently available CHX rinses - all which contain alcohol.

FDA-approved alcohol FREE CHX rinse.

"The GUM® brand oral rinse is unlike all the other chlorhexidine gluconate rinses on the market," remarked Michael G. Bava, President of Sunstar Butler. "It is important to note that alcohol does not make CHX more effective; it’s not necessary for any patients, not appropriate for many, and not desirable for most."

All other chlorhexidine gluconate rinses sold in the US contain 11.6% alcohol by volume.

**Listerine Total Care ZERO**

Alcohol FREE

Sodium fluoride 0.02%
Antiseptic comes from a formula of four essential oils - eucalyptol, menthol, methyl salicylate, and thymol
6 years and over

Biotene Oral Rinse

Unlike some harsh mouthwashes that can leave you wincing, Biotene® Oral Rinse gently cleans and soothes minor irritation caused by dry mouth.
Biotene® Oral Rinse is alcohol-free.
CETYLPRIDINIUM CHLORIDE
CPC becomes ineffective when it comes in contact with Fluoride. (JCP Volume 30, issue 3, page 255, 3/03)
0.05% CPC is a category III drug and has not be reclassified to a class I drug to a lack of data to support it’s safety and effectiveness. (59 Fed Reg. 6084) (Feb 9, 1994)
Alters Oral Microflora

Oasis Mouthwash
Glycerin for moisturizing.
Ph 6.0.
Contains Cetylpyridinium Chloride.
Uses Sorbitol for sweetener.
Contains FD&C Blue no. 1 dye.
Contains Sodium Saccharin.

Tom’s of Maine Mouthwash
Crest Pro-Health Rinse
Alcohol-Free.
Contains Cetylpyridinium Chloride.
Contains FD&C Blue no.1.
Contains glycerin.
Contains Sodium Saccharin.

Periosciences
AO ProRinse HYDRATING
SATURATES YOUR MOUTH WITH MOISTURE AS IT REFRESSES BREATH AND ENCOURAGES A BALANCED ORAL ENVIRONMENT.
PERIOSCIENCES CLINICALLY TESTED ANTIOXIDANT TECHNOLOGY IS COMBINED WITH A TARGETED COMBINATION OF PROVEN MOISTURIZERS, BOTANICALS AND BREATH -FRESHENING ZINC COMPOUNDS TO BATHE ORAL TISSUES IN A CASCADE OF FRESHNESS AND HELP REBALANCE MOISTURE LEVELS.

Periosciences
ANTIOXIDANTS PHLORETIN, FERULIC ACID AND SILYMARIN
Phloretin, derived mainly from apples, is an effective polyphenolic antioxidant specific to the sub-group flavonoids.
Ferulic acid, found in the seeds and leaves of most plants, is an effective antioxidant and acts in concert with other antioxidants.
Silymarin is one of the active constituents of the milk thistle plant. A powerful antioxidant by itself, it has been shown to boost the synthesis of superoxide dismutase (SOD), a biological antioxidant present in our bodies.
Combination antioxidants have been shown to work better than one antioxidant alone.

Periosciences
MENTHOL, THYMOL AND ESSENTIAL OILS
In specific ratios, the combination of menthol and thymol has been shown to support antiseptic activity.
Essential oils of sage and clove flower support the effects of menthol and thymol and enhance taste and efficacy.

ZINC GLUCONATE, ZINC LACTATE
Proven against volatile sulfur compounds (VSC), bacterial by-products that are at the root of halitosis.

XYLITOL
Xylitol found in the fibers of many fruits and vegetables is a sugar alcohol sweetener used as a naturally occurring sugar substitute. Xylitol is specific in its inhibition of the mutans streptococci group, bacteria that are significant contributors to tooth decay.
Oral Balance Moisturizing Gel
Small, portable tube is easy and discrete to use. Pleasant-tasting gel formula provides long-lasting dry mouth symptom relief.

bioXtra
Lactoperoxidase, Lactoferrin, Lysozymes and immunoglobulins which are all extracts of natural salivary components.
Other ingredients include Xylitol, Fluoride, Whey Extract, Aloe Vera, Glucose Oxidase and moisturiser.

Oral Balance Moisturizing Liquid
Biotene Oral Balance Liquid provides relief of dry mouth symptoms. Handy, portable bottle can be taken anywhere.

GC America Dry Mouth Gel
GC Dry Mouth Gel:
• Has a neutral pH
• Sugar-free and alcohol free
• Pleasant tasting – comes in five delicious flavors, fruit salad, lemon, mint, orange and raspberry

Polyglycerol (D-glycerol)
Pure water
Sodium carboxymethylcellulose
Carrageenan
Sodium citrate
Flavour
Ethyl p-hydroxybenzoate
More Salivary Substitutes

Salivary Substitutes
Salivart®

ORAL MOISTURIZER
Naturally relieves dry mouth and throat. Salivart® Oral Moisturizer is a gentle, aerosol spray that is non-irritating. The unique aerosol delivery of Salivart coats the oral mucosa thoroughly and efficiently.

Salivary Substitutes
Mouth Kote contains natural mucopolysaccharides, extracted from the Yerba Santa plant. These mucopolysaccharides mimic the glycoproteins in saliva by holding the aqueous component in contact with the epithelial cells, which protects moisture. Mouth Kote is sugar and alcohol free with a pleasant lemon-lime taste, and is sweetened with Xylitol which has been shown to help resist the formation of dental caries. Patients with partial salivary function using Mouth Kote may experience relief for up to five hours.

We have discovered that the labeling of the Biotène 1.5oz Mouth Spray is incorrect because of a misidentified sweetener ingredient. We have issued a voluntary recall of Biotène 1.5oz Mouth Spray from the retail shelf in order to minimize the risk of confusion regarding the sweetener ingredients in this product. However, the product is safe for consumers to use and does not have to be returned.

The reason for the recall is the presence of statements on the packaging indicating “with xylitol” and “Sweetened with xylitol and sorbitol.” Sorbitol is not an ingredient in Biotène’s 1.5oz Mouth Spray. The product should correctly be labeled as containing both xylitol and sodium saccharin. Currently, sodium saccharin is properly indicated in the ingredient list on the carton.

This voluntary retail recall is being conducted with the knowledge of the U.S. Food and Drug Administration. These packaging errors should not create any health or safety issues for consumers unless they are allergic or hypersensitive to any of the ingredients.

Rain Dry Mouth Spray
Xlear, makers of Spry

Ingredients:
Purified Water, Xylitol, Aloe Vera Concentrate, Vegetable Glycerin, Natural Spearmint Flavoring, Calcium Glycerophosphate, Cellulose Gum, and Grapefruit Seed Extract as a preservative.
Numoisyn
Align Pharmaceuticals
TheraSpray
Sweetened with Xylitol
- Vanilla Mint Flavor
- Alcohol - Free
- Fights plaque with Microdent®
- Fits easily in your pocket
- 18 ml. pump dispensed container

Helps to stimulate saliva flow and prevent plaque for a cleaner, fresher feeling mouth.

Delicious sugar free chocolate soft chews that can also be used as a sucking candy.

Supports a sustained and healthy pH on tooth surfaces while supplying a mineral source.

Contains –
Now considered biggest breakthrough in oral care.

As an added benefit, excellent source of calcium.
**Mimics saliva’s natural defenses**

Nourishes good bacteria in dental plaque

**Good Bacteria generate Alkali**

Continued alkali generation supports Sustained Buffering on tooth surfaces

Contains calcium carbonate to coat and support teeth in healthy pH range

Research suggests continued use supports healthy oral biofilm communities

**Super saliva technology**

Mechanism of action
Arginine is a common amino acid found in saliva and is naturally present in many foods.

On the surfaces of the teeth, arginine helps produce sustained base or alkali generation.

This sustained buffering helps support pH levels on tooth surfaces already in the normal range.

Any person with plaque

Dry Mouth sufferers

Patients prone to acid attacks

People with exposed dentin

Individuals who are seeking natural nutrient based oral care products
Delicious BasicBites coat the teeth with a unique blend of vital and natural nutrients; excellent for patient compliance.

Designed for retention on tooth surfaces.

These nutrients were discovered to be present in healthy saliva and mimic saliva’s supportive, natural benefits.

If you have dry mouth, it is critical to support your existing healthy oral pH

Pilocarpine
Pilocarpine is a "cholinergic" drug, that is, a drug that mimics the effects of the chemical, acetylcholine which is produced by nerve cells. Acetylcholine serves as a messenger between nerve cells and between nerve cells and the organs they control. For example, acetylcholine is responsible for causing the salivary glands to make saliva and the lacrimal glands to make tears to lubricate the eyes.

SIDE EFFECTS: Excessive sweating (diaphoresis) is a frequent side effect of pilocarpine. Other side effects include chills, dizziness, excessive tearing, flushing, voice change, stuffy nose, tremor, increased need to urinate, visual disturbances, diarrhea, difficulty swallowing, abdominal pain, nausea, vomiting, and slow heart rate.

Pilocarpines
Evoxac (generic name cevimeline) is a newly approved drug for treating dry mouth. In studies involving people with Sjogren’s Syndrome, Evoxac reduced dry mouth symptoms in about 75 percent of those who used it. The most common side effects of Evoxac are excessive sweating, headaches, blurred vision, and nausea.

Salagen (pilocarpine), a prescription tablet, can also be used to treat dry mouth. In studies, most people had significant relief of dry mouth symptoms. Each dose of Salagen increases salivary-gland output for up to two hours. The most common side effects of Salagen include sweating, headache, and nausea.

Biotene Dry Mouth Gum
Relieves oral dryness
Effectively fights the cause and effects of bad breath
Protects between brushings
Reduces plaque and mouth sugars
Doesn't stick to dental work
Sugar-free, sweetened with xylitol
2 Pieces recommended

XyliMelts, OraHealth

XyliMelts
• Lasts for hours
• Stimulates saliva flow
• Can be used while sleeping
• Suppresses harmful bacteria which flourish in a dry mouth
• Moisturizes and coats the mouth for optimal comfort
• Mild mint flavor freshens breath & stimulates saliva

Salese / Nuvora
Xanthan gum: A natural polymer with a "slippery, saliva feel" when it makes contact with the oral mucosa. Salese’s slow release technology maintains this moist mouth-feel for prolonged periods.

Essential oils: peppermint, eucalyptol, thymol and wintergreen.

Xylitol:

Sodium Bicarbonate: Brings the pH balance of the mouth back to neutral and helps prevent demineralization.

Zinc: Neutralizes the sulfur containing compounds that causes bad breath. The basis of the polymer lozenge is cellulose.

Note: For those with very dry mouth conditions it is recommended that Salese be taken with a sip of water to activate the lozenge.

More...
Play as though you were a child

Love like you have never been hurt

Dance like you do when no one is watching

A BIG THANK YOU TO OUR SPONSORS!!!!