



Xerostomia

The Oral Implications

**Brought to you by Bioxtra
Recommended by Dentists and Hygienists in 28 Countries**

Clinical Signs of Dry Mouth

More than 1 in 4 Adult patients suffer from DRY MOUTH and the numbers are increasing as the population ages. Over 90% of patients suffering from advanced Cancer suffer from DRY MOUTH.

- **Clinical signs of DRY MOUTH include:**

- Inflammation/Redness
- Tissue appears tight and shiny
- Secondary Infections
 - Mucositis
 - Candida
- Sudden increase in caries
- Halitosis
- Painful, cracked lips
- Dry or sticky feeling in the mouth
- Difficulty swallowing
- Loss of Taste



What *is* Dry Mouth?

Dry mouth is clinically known as “Xerostomia”

- The term ‘Xerostomia’ refers to the patient’s perception of oral dryness and is measured by the reduction or loss of salivary flow

The *Impact* of Dry Mouth

Medical/Dental Implications

- Tooth loss, high rate of decay
- Secondary infection
- Periodontal disease leading to further health risks:
 - Stroke
 - Pre-term Labor
 - Heart disease

Psychological Implications

- Quality of life
- Nutritional impact
- Non-compliance with medications



Risk Factors For Dry Mouth

- **Hundreds of OTC and prescribed medications can cause Dry Mouth, such as:**
 - Antidepressants
 - Heart Medications
 - Antihistamines
 - Narcotics
- **Cancer Therapies**
 - Head and Neck Radiation Therapy
 - Chemotherapy
- **Diabetes**
- **Changing Hormones and Stress**
- **Autoimmune Disorders**
 - Sjogrens
 - AIDS
 - Rheumatoid Arthritis
 - Lupus



What is Saliva?

Saliva is a clear solution primarily consisting of water that is secreted from the major and minor salivary glands.

- **Saliva Contains:**

- Enzymes
- Electrolytes
- Small Organic molecules
- Other Proteins
- Constituents of Non-salivary Origin



What is Saliva?

- **Saliva Benefits:**

- Saliva has antibacterial, antifungal and antiviral agents to balance the oral micro-flora and inhibit bacterial colonization
- Saliva protects the teeth and promotes re-mineralization
- Maintenance of the ecological balance of oral micro-flora is essential in preventing damage to the oral mucosa



Why is Saliva important?

Saliva promotes an optimal oral cavity and contributes to overall health and wellness. It's benefits are wide ranging.

Aids in:

- Speech
- Taste
- Digestion

Provides first defense against attacks:

- Chemical (Medication)
- Mechanical (intubation)
- Infection (Disease)



Salivary Proteins and Enzymes Essentials For Healthy Saliva

Lactoferrin

- Lactoferrin is an iron binding glycoprotein secreted by salivary glands and gingival fluids. It can also be found in tears, bronchial and gastrointestinal secretions.
- Lactoferrin aids in the primary defense system against invading pathogenic bacteria by depriving them of iron, which the bacteria requires for growth.



Salivary Proteins and Enzymes Essentials For Healthy Saliva

Lysozyme

- An enzyme capable of splitting the cell wall of bacteria.
- Since it kills bacteria, it is commonly known as the “**Body’s Natural Antibiotic**”.
- It is found naturally in saliva and tears.
- Leaves healthy oral flora undisturbed.
- Known to have an effect on oral yeast.



Salivary Proteins and Enzymes Essentials For Healthy Saliva

Lactoperoxidase

- Lactoperoxidase is an enzyme extracted from premium quality bovine milk. It has been shown to be bacteriostatic against gram-positive organisms and exhibits pH dependent bactericidal action against gram-negative organisms in the presence of thiocyanate and hydrogen peroxide.
- Lactoperoxidase offers the following benefits:
 - Antimicrobial properties
 - Resistant to proteolysis (Digestion of proteins)



Salivary Proteins and Enzymes Essentials For Healthy Saliva

Glucose Oxidase

- An enzyme which acts upon glucose produced from food ingestion.
- Used in the production of hydrogen peroxide, it helps to recreate the salivary peroxidase system. (LP3 Complex System)
- Enzymes in saliva activate a reaction between thiocyanate (a substance found in saliva), hydrogen peroxide (produced by bacteria in the mouth) and oxygen. This reaction creates hypothiocyanate, a natural anti-bacterial agent found in healthy saliva!





Our proven chemistry, support from hospitals and institutions, dentists, physicians, hygienists and patient results have made Bioxtra a recommended product worldwide for the relief and treatment of DRY MOUTH.

- Only bioXtra contains 3 enzymes and one protein found naturally in healthy saliva. Together, these ingredients recreate and boost the natural defense system found in the mouth to provide antibacterial protection and healing properties.
- Helps maintains a healthy balance of oral flora, reducing harmful bacterial while sustaining beneficial bacteria.





Bioxtra is a breakthrough in treatment of Xerostomia

How does Bioxtra work?

- In the past several products have been developed to deliver a daily dosage of bacteria fighting agents in order to promote a stable, balanced oral environment.
- However, studies, performed on saliva samples showed that the products do not significantly affect the accumulation plaque and bacteria organized in and under the biofilm.
- 70% of the bacteria in the mouth is in the biofilm masses.

The Bioxtra products have been shown to be effective in dislodging bio-film masses in the mouth so that the anti-bacterial agents in the formulation can isolate and dispel the harmful bacteria. Colostrum Extract is the key enzyme in the innovation.



90% of advanced cancer patients have Dry Mouth – 93% of those patients have little chance of recuperation.

77% of hospital patients have Dry Mouth.

Introducing a Simple, Effective Solution for Dry Mouth



Recommended by Dentists and Hygienists in 28 Countries.





- Effective in dispersing bio-film bacteria
- Provoking the mouth's natural healing mechanisms.
- BioXtra is recommended and prescribed by physicians for the prophylactic care of dry mouth.
- BioXtra is also beneficial to anyone who has difficulty in maintaining good oral hygiene.
- Regular, daily application of the Bioxtra products provides a unique oral care regime that eases the effects of a lack of saliva and helps promote oral health by ***helping maintain a more natural ph balance in the mouth.***



Mouth Moisturizing Gel - Long Lasting

- Contains a complete salivary enzyme protection which kills unhealthy bacteria while maintaining a very healthy bacteria
- Provides long-lasting comfort
- Safe to ingest
- Contains Aloe Vera to soothe and protect dry oral tissues from minor irritations, itching and burning sensations
- Neutralizes unpleasant odors
- Non-drying formula also helps mouth breathers
- Improves retention under dentures
- Sweetened with Xylitol to fight cavities





Long Lasting Moisturizing SPRAY

- **bioXtra** Moisturizing Spray provides immediate relief of Dry Mouth, providing a coating for eating and swallowing
- Soothes, moistens and coats inflamed mouth tissues for long-lasting protection from dryness
- Contains ingredients which form a COMPLETE salivary enzyme protection film which kills unhealthy bacteria while maintaining healthy bacteria
- Contains essential amino acids to recreate the natural protection found in the mouth
- bioXtra Moisturizing Spray inhibits the causes and effects of odor causing bacteria





Mouthrinse

100% Alcohol- FREE & 100% CPC-FREE

- Contains our complete salivary enzyme protection formulations which continually kills unhealthy bacteria while maintaining healthy bacteria
- Contains Aloe Vera to sooth and protect dry oral tissue
- Sweetened with Xylitol to fight cavities
- Acts quickly to help neutralize mouth odors at a pH of 5.5, close to the pH of the mouth.
- Promotes gingival health without staining, detergents, strong flavors, CPC, artificial colors and the stinging of alcohol.





Daily Dry Mouth Gentle Toothpaste

- Contains our complete salivary enzyme protection formulation which continually kills unhealthy bacteria while maintaining healthy bacteria
- **No Sodium Lauryl Sulfate**
- Sweetened with Xylitol to fight cavities
- Contains Aloe Vera to heal damaged and irritated tissues
- Clinically proven to inhibit harmful microorganisms associated with gingivitis, oral irritations and inflammation
- Fights both the causes and effects of Halitosis (bad breath)
- So gentle, yet effective, it can be used when desired.



Why is Toothpaste Sodium Lauryl Sulfate-FREE?

- Recent research suggests that the use of products that contain sodium lauryl sulfate (SLS), a **foaming agent** found in most toothpaste and mouthwash formulations **as well as** dishwashing soaps can be associated with an increased recurrence of canker sores. This may be due to a drying effect SLS has on the protective surface of oral tissue.
- Once this protective layer has been compromised, the underlying tissue is more vulnerable to irritants, canker sores, tooth decay and infections.
- In a recently published study, an 83.7% reduction in mouth sores was found in participants when using a non-SLS toothpaste.



TIPS FOR CONSULTING XEROSTOMIA PATIENTS

- Conduct a full medical history on your patient, including current medications (OTC and Prescription) and herbals.
- After you conduct a full mouth exam, checking the inside of the cheeks, the roof of the mouth, the gums, and the tongue show the irregular areas to the patient
- Visit your dentist regularly for prophylactic maintenance. (3-6 Months) Request fluoride treatments. Have periodontal scaling and root planning if recommended. Discuss oral and locally administered antibiotics.
- Maintain meticulous oral hygiene



TIPS FOR CONSULTING XEROSTOMIA PATIENTS...

- Drink liquids with meals and use gravies, sauces, yogurt or broth to make food easier to swallow
- If it's too difficult to eat a full meal, try eating smaller, more frequent meals
- Carry a small water bottle so you can take frequent sips during the day
- Apply lip lubricants or balms as required
- Chew sugarless gum sweetened with xylitol



TIPS FOR CONSULTING XEROSTOMIA PATIENTS...

- Avoid alcoholic, carbonated, citrus and caffeine-containing drinks
- If acidic juices irritate your mouth, substitute fruit-flavored drinks or milk
- Suck sugarless hard candies (avoiding those with citric acid)
- Avoid overly salty foods
- Avoid alcohol, CPC or peroxide based mouthwashes
- Moisten your mouth with artificial saliva as needed



FINAL THOUGHTS

- **Bioxtra helps regulate the ph levels to a healthy level. Acidic mouths are about 7. Normal healthy mouths are regulated to a 2-3 level by the bodies natural saliva creation. Bioxtra returns those unhealthy acidic mouths to a 4-5 range while patients continue to use the products.**
- **Bioxtra helps to reduce cavities and periodontal disease.**
- **Bioxtra is all natural and safe for long term use.**
- **Bioxtra will improve the patients quality of life.**
- **Bioxtra is preferred by doctors and patients due to its effectiveness and it's gentleness and mild flavors.**



