



# **Xerostomia**

## **The Oral Implications**

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

# Clinical Signs of Dry Mouth

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**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?

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## 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

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## **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

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- **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?

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**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?

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- **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?

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**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

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## 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

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## 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

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## 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

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## 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?

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- 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

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- 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...

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- 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...

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- 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

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- **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.**





