

Xerostomia

Dry mouth, usually called xerostomia (zeer-oh-stomia), is a common symptom most often caused by a decrease in the amount of saliva or a change in the quality of saliva. The exact number of people affected by dry mouth is unknown but it appears to be a common condition. Estimates range from 1% to 65%, depending on the types of patient populations studied.

Saliva is an essential body fluid that contributes to the protection and preservation of the oral cavity and plays a major role in maintaining oral health and comfort. It is produced by the three pairs of major salivary glands and hundreds of minor salivary glands. Its value is seldom appreciated until there is not enough. Saliva is necessary to moisten the mouth, to lubricate food for easier swallowing, to protect oral hard and soft tissues, to modulate oral microbial populations, to provide initial digestive enzymes, and to promote soft tissue repair and oral cleansing. Clearly, the lack of adequate saliva can lead to numerous clinical conditions affecting one's oral and systemic health, comfort and quality of life. As a result, detecting the early signs of dry mouth is critical.

Role of Saliva

- protect, lubricate and cleanse the oral mucosa
- aid chewing, swallowing and talking
- protect the teeth against decay
- protect the mouth, teeth, and throat from infection by bacteria, yeasts, and viruses
- support and facilitate our sense of taste

Warning Signs and Symptoms of Dry Mouth

The dentist and dental hygienist are trained to detect dry mouth and can often identify its presence long before the patient becomes aware of its existence. One of the more common signs of a dry mouth is insufficient pooling of saliva under or around the tongue, a phenomenon easily noted by your dentist or hygienist. Other clues to the presence of a dry mouth are cavities (see Left) affecting the necks of the teeth near the gumline or chewing edges of the teeth and a red parched or fissured tongue (see Right). Common patient complaints or symptoms of dry mouth include difficulty swallowing food (especially dry food) without liquids, changes in the sense of taste, a burning sensation or pain in the mouth, and difficulty talking.

Causes of Dry Mouth

Dry mouth is typically caused by a multitude of factors including: medication side effects, various disease states (see Right), head & neck irradiation, dehydration, surgery, smoking, and mouth breathing.

Diseases Associated with Dry Mouth

- Sjögren's syndrome
- HIV / AIDS
- Diabetes
- Hypertension
- Hepatitis C
- Lymphoma

Diagnosing Dry Mouth

The diagnosis of dry mouth is usually made after your dentist or physician carefully assesses your medical history and the clinical findings. Your doctor will want to determine if your dry mouth is caused by a change in salivary function, its severity, and its cause. In some cases, they may need to order more specialized tests to assess your particular situation (see Table below).

Diagnostic Considerations for Dry Mouth

- History — Specifics of the complaint of dry mouth are obtained: duration, frequency, and severity. The history of dryness at other sites (eyes, nose, throat, skin, vagina) is documented. A complete medical and prescription drug history is obtained.
- Examination — Major salivary glands are palpated for the presence of tenderness, firmness, or enlargement. The amount and quality of saliva coming from the ducts inside the mouth is assessed. The presence of dry or reddish oral mucosa is noted. The extent and pattern of dental decay is evaluated.
- Salivary flow rate — In this test, the amount of saliva produced during a specified amount of time may be measured. The test is non-invasive and painless.
- Scintigraphy — Performed in the hospital, this test measures the rate at which a small amount of injected radioactive material is taken up from the blood by the salivary glands and secreted into the mouth. It is another method to measure salivary flow rate.
- Biopsy of minor salivary glands — A small, shallow incision is made inside the lower lip to remove at least four of minor salivary glands. A pathologist then examines them for changes characteristic of the salivary component of Sjögren's syndrome.

QUESTIONS AND ANSWERS ABOUT DRY MOUTH

Q: Which medications are associated with dry mouth?

A: Over 1100 medications, either prescription or over the counter, have the potential to cause dry mouth (Table below). It has been reported that taking more than one medication with dry mouth as a side effect increases one's probability of experiencing dry mouth and / or its severity. Some medications are more drying than others. Your dentist may recommend you speak with your physician to determine if adjusting or changing your medications could help reduce your dry mouth.

Some Drugs that May Cause Dry Mouth

Antiacne agents
Antianxiety agents
Anticonvulsants
Antidepressants
Antidiarrheal agents
Antidysrhythmics
Antihistamines
Antinausea agents
Antipsychotics
Anorexiant
Antacids

Bronchodilators
Decongestants
Diuretics
High blood pressure medications
Muscle relaxants
Narcotic analgesics
Nonsteroidal anti-inflammatory drug
Opioid analgesics
Parkinson's disease medications
Sedatives
Smoking-cessation agents
Urinary incontinence agents

Q: What is Sjögren's syndrome?

A: Sjögren's syndrome is an autoimmune condition characterized by dry mouth and dry eyes. Other potential symptoms include debilitating fatigue and joint pain. An estimated 1 – 4 million people are affected by the syndrome and women are affected nine times more frequently than. Sjögren's syndrome can affect any age group but most patients are diagnosed in their early 50's. It is not unusual for their dryness symptoms to have existed for years prior to the diagnosis. Oral dryness in these patients may progress up to point and then level off; or it may progressively worsen. Further information on this important disease is available at the Sjögren's Syndrome Foundation website: <http://www.sjogrens.org/> .

Q: Is there a relationship between rheumatoid arthritis and dry mouth?

A: Yes, up to 50% of individuals with rheumatoid arthritis also suffer from dry mouth. The term secondary Sjögren's syndrome is used to refer to individuals with a connective tissue disease such as rheumatoid arthritis or systemic lupus erythematosus who also experience dry eyes and dry mouth.

Q: How does radiation treatment cause dryness?

A: Radiation therapy is often used to treat patients diagnosed with head and neck cancer. While the radiation is targeted to destroy only cancer cells, it invariably also destroys other healthy cells in the site being treated. If salivary glands are within that treatment site, they may be irreversibly damaged and no longer able to produce saliva. Patients suffering from radiation-induced dry mouth produce less saliva and their remaining saliva tends to feel thick and ropery. The degree of dryness is directly dependent on the extent of the salivary gland damage and varies from patient to patient. Once the salivary gland has been injured, it cannot repair itself, so the dryness will persist.

Q: How is dry mouth treated?

A: Please see the [PATIENT INFORMATION SHEET: Management of Dry Mouth](#) .

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