

Medicine for Managers

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Dry Mouth

Dry mouth is an annoying and rarely serious symptom which results from inadequacy of saliva production to keep the mouth wet. It may be the result of a number of different reasons and will be resolvable in most cases with appropriate changes or treatment.

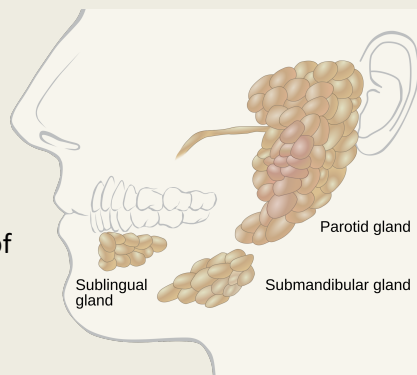
The medical term for dry mouth is **xerostomia** (it is pronounced **zee-ro-sto-me-ah**). The word 'xero' comes from the Ancient Greek word **xeros** meaning 'dry'.

The word 'stoma' is also Greek and means '**mouth**' or '**opening**'.

The salivary glands in the mouth aid digestion, lubricate the mouth and protect against bacteria.

Humans have three paired sets of glands, the **Parotid Glands**, the **Submandibular Glands** and the **Sublingual Glands**.

Each gland is linked to the mouth by a duct (simple tube). In addition there are a very large number of minor salivary glands in the lips, cheeks, palate and throat, each producing small amounts of saliva.



Commonly the problem is simply that the salivary glands fail to make sufficient saliva, sometimes because the glands are not working as they should. Common causes include:

- **Aging**. It is a natural age change, exacerbated by medication, poor nutrition and long-term health disorders
 - **Medication** commonly produces the side-effect. Such drugs include
 - Antidepressants
 - Opioids e.g. morphine
 - Muscle relaxants
 - Antihistamines e.g. promethazine (Phenergan)
- It may also be the result of combination of different drugs
- **Cancer therapy**. Anti-cancer drugs cause dry mouth during usage. Radiotherapy in head and neck cancers may damage salivary glands temporarily or permanently

- **Other medical conditions** such as diabetes or stroke
- **Auto-immune diseases** such as rheumatoid arthritis, inflammatory bowel disease, or type 1 diabetes
- **Tobacco and alcohol consumption**
- **Illicit drugs** such as marijuana

Symptoms

Apart from the actual symptom of a dry mouth, people may notice a range of other symptoms.

- Sensation of **stickiness** in the mouth due to altered consistency of saliva
- **Bad breath**
- **Sore mouth, throat** and **hoarse voice**
- **Snoring**
- Changes in **taste perception**
- Difficulty in **chewing, speaking** and **swallowing**
- **Sore, dry** or **grooved tongue**
- Difficulty in wearing **dentures**
- Increased risk of **dental decay**
- **Thrush** in the mouth
- **Sjögren's syndrome** (see below)
- **Cracking at the corners of the lips** (angular cheilitis)

Sjögren's Syndrome is thought to be an **auto-immune** condition where the salivary glands (and other glands such as the tear glands) stop working properly. There may be other symptoms too. The cause is unclear but symptoms can be reduced with treatment.

Diagnosis

Xerostomia is diagnosed by identification of symptoms and clinical signs.

It begins by:

- **History** evaluating frequency and symptoms, together with possible medical causes including medication
- **Clinical Examination** of the mouth. The glands should be examined to identify any swelling or other abnormality
- **Sialography** to measure flow of saliva may be appropriate. It is a radiographic examination, usually where a radio-opaque dye is injected through the duct into the gland to assess structure and function
- **Imaging scans** may be undertaken
- Occasionally **biopsy of glandular tissue**

Treatment

Initial treatment includes care to alleviate the symptoms and will include:

- **Increased hydration**
- **Reduction of alcohol intake** and **cessation of smoking**
- **Artificial saliva** or **moisturisers** to lubricate the mouth. They are available as sprays, lozenges and gels
- **Mouthwashes** such as Biotene©

In patients taking a number of drugs, the nature of those medications should be reviewed and substitutes introduced where possible if suspected of causing or aggravating the symptoms

If symptoms persist pharmacological options are available such as :

- **Pilocarpine** (cholinergic agonist)
- **Physostigmine** (cholinesterase inhibitor)

Both drugs stimulate salivary flow and production.

In addition, it is important good oral hygiene is maintained with regular toothbrushing, ensuring good fluid intake and, where necessary, using lip lubricants.

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