

Welcome to Module 2

What is dry mouth and what causes it?



WHAT IS DRY MOUTH AND WHAT CAUSES IT?

Xerostomia is the subjective symptom of dry mouth. It is a sensation that is assessed only by directly questioning the individual.¹ It may be due to reduced salivary flow and/or salivary composition.²

A dry mouth can occur when the salivary glands in your mouth do not produce enough saliva. It may be that you don't have enough fluid in your body to produce saliva (dehydration) or it is common for your mouth to feel dry if you are nervous or anxious.

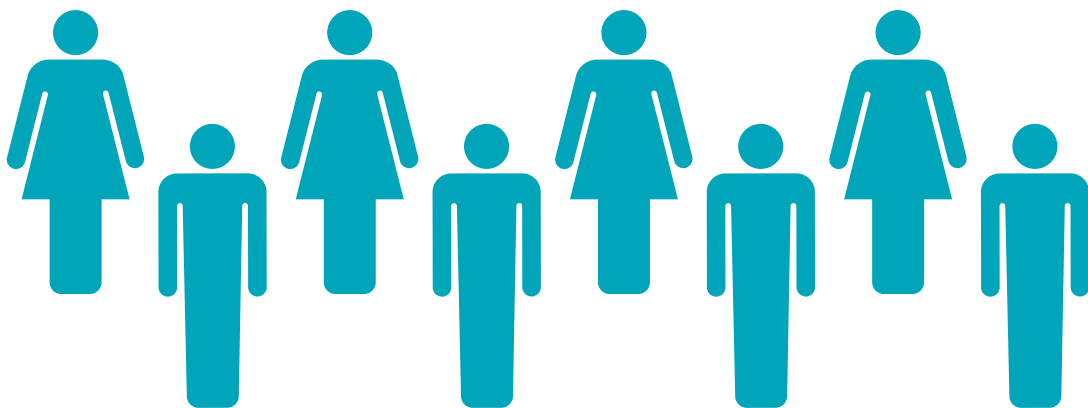
Most studies show that salivary gland hypofunction is not a normal part of ageing. However, salivary flow changes are associated with medical conditions and medications that tend to be more common in middle-aged and older individuals.³



Prevalence of dry mouth

The prevalence in the population ranges from 5.5 to 56%.⁴ There appears to be a difference between the sexes and also dry mouth increases with increasing age.⁴ A possible explanation is that older patients take several xerogenic drugs for chronic conditions and this may lead to an overall reduction of the unstimulated reduction of the unstimulated salivary flow rate.⁴

- A study by Nederfors et al. **amongst 3,313 people aged 20-80 in Sweden found prevalence of xerostomia was 21.3% for men and 27.3% for women.**³ Individuals who reported taking medication had a higher prevalence of the condition (32.5% men and 28.4% women) than those not taking medication (18.8% men and 14.6% women). Prevalence increases with age, continuation of medication and numbers of medications taken
- Another study in Rochester New York amongst 710 American adults aged 19 to 88 observed that 24% of women and 18% of men suffered³
- Amongst a group of patients with rheumatoid arthritis Russell et al. found that 42% showed signs of dry mouth³
- Xerostomia is found in 30% of patients dying with cancer increasing in severity with advance disease.³
- Overall prevalence of dry mouth increases with age and accounts for approximately 30% of the population aged 65 and older.³



Causes of dry mouth

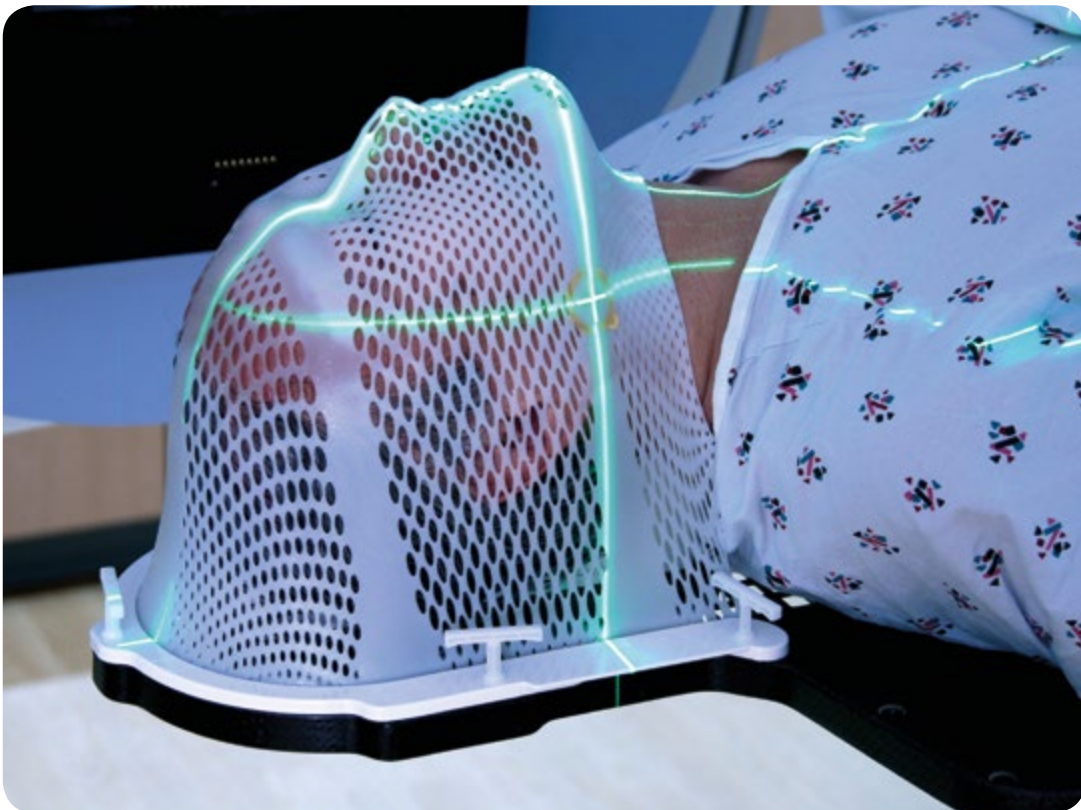
If dry mouth is persistent there may be an underlying cause including:

- **Medication** – most medications associated with a dry mouth affect the sympathetic nervous system, thickening and limiting the amount of saliva. Over 400 medicines, many of them in common use, induce salivary gland hypofunction.⁵ This is more frequent in women and older adults.⁶ Oralieve® research shows, 41% of Dental Healthcare Professionals believe medication is the main factor to cause dry mouth^{7*}
- **Diabetes** – a common reason for people with diabetes experiencing a dry mouth is having consistently high blood sugar levels. It is important to try to keep blood sugars within the recommended range. An oral or dental infection may lead to increased blood glucose levels while your body tries to fight the infection⁸



- **Radiotherapy to the head and neck** – this can cause the salivary glands to become inflamed
- **Sjögren's Syndrome** – a chronic auto-immune disorder in which the body attacks its own moisturising-producing glands⁹
- **A blocked nose** – which may lead to mouth breathing, drying the mouth

An underlying cause of dry mouth should be rectified; for example, dry mouth-producing drugs may be changed for alternatives, and causes such as diabetes should be treated. Patients should be educated into efforts to avoid factors that may increase dryness.²



Medicines and drugs with side effects on salivary secretion^{5,10}

Medicine group	Examples
Anorectic	Fenfluramine
Anxiolytics	Lorazepam, diazepam
Anticonvulsants	Gabapentin
Antidepressants – tricyclic	Amitriptyline, imipramine
Antidepressants – SSRI	Sertraline, fluoxetine
Antiemetics	Meclizine
Antihistamines	Loratadine
Antiparkinsonian	Biperidene, selegiline
Antipsychotics	Clozapine, chlorpromazine
Bronchodilators	Ipratropium, albuterol
Decongestants	Pseudoephedrine
Diuretics	Spirolactone, furosemide
Muscle relaxants	Baclofen
Narcotic analgesics	Meperidine, morphine
Sedatives	Flurazepam
Antihypertensive	Prazosin hydrochloride
Antiarthritic	Piroxicam



UK Medication use

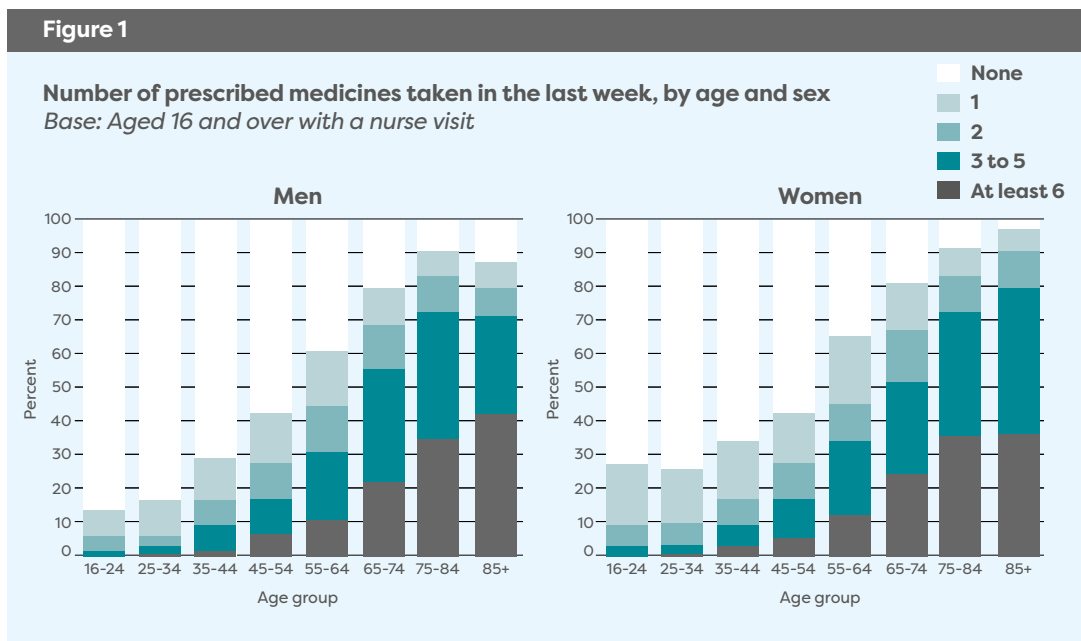
Half of women and 43% of men in England are now regularly taking prescription drugs.¹¹ According to the Health Survey for England 2013 the most commonly prescribed medications include:¹¹

- Cholesterol-lowering statins (16% men and 12% women)
- Medications used to treat high blood pressure such as ACE inhibitors (14% men and 12% women)
- Painkillers including NSAIDs such as diclofenac

Use of multiple medications

22% of men and 24% of women reported they had taken at least three prescribed medications in the last week. The proportion increased with age with more than half of participants aged 65-74 and more than 70% of those 75 and over having taken at least three prescribed medications.¹¹

Women (11%) were more likely than men (6%) to be taking antidepressants.



References

1. Ngo DI Ying and Thompson. Dry Mouth: an overview. Singapore Dental Journal. 2015; 36:12-17.
2. Felix et al. Oral Medicine: 4. Dry Mouth and Disorders of Salivation. Dental Update. 2012; 39(10): 738-743.
3. Cassolato S and Turnbull R. Xerostomia: clinical aspects and treatment.
4. Villa A, Connell C, Abati S. Diagnosis and management of xerostomia and hyposalivation. Therapeutics and clinical risk management 2015; 11: 45-51.
5. Puy CL. The role of saliva in maintaining oral health and as an aid to diagnosis. Med Oral Patol Oral Cir Bucal 2006;11: E449-55
6. Aliko A et al. World Workshop in Oral Medicine VI: Clinical implications of medication-induced salivary gland dysfunction. Oral Surg Oral Med oral Pathol Oral Radiol. 2015 Aug; 120(2): 185-206.
7. Oralieve Data on file 2017.
8. <http://www.diabetes.co.uk/diabetes-complications/dry-mouth.html>.
9. Herrera D & Thompson L. Understanding the complexity of Sjögren's Syndrome. Registered dental Hygienist 23; 7.
10. Singh M and Tonks RS. Management of salivary hypofunction. Pharm Anal Acta 2015; 6(2).
11. Scholes S et al. Use of Prescribed Medicines. Available online at http://healthsurvey.hscic.gov.uk/media/1052/_5-use-of-prescribed-medicines_5th-proof.pdf.

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