

**Abstract:**

Xerostomia has become a prevalent issue among dental patients, causing them a large amount of distress in being able to cope with this condition. Dry mouth, also known as xerostomia, is caused by a number of etiological factors, most commonly affects the elderly, and significantly diminishes patient’s quality of life. Dental professionals have encountered a true challenge coming up with a treatment modality that fits all patients’ needs and whose side effects and contraindications are minimal to none. Therefore, the focus has shifted towards non-pharmacological methods such as Transcutaneous Electric Nerve Stimulation (TENS), which continues to gain importance as an alternative to the existing modalities. As dental professionals it is our responsibility to be informed of new treatment modalities that seek a solution to this condition.

**What is TENS?**

- Non-invasive technique that delivers pulsed electrical currents across the surface of the skin to activate the superficial nerves in the area.
- The TENS unit was first introduced in 1965 and was approved by the FDA as a reliable pain relief method of in 1972.
- Electrical currents stimulate salivary glands upon direct stimulation of the secretomotor-auriculotemporal nerve bundles.
- The nerve bundles have sensory paths that carry action potentials to the salivatory nuclei in the medulla oblongata. This activates reflexes responsible for salivation.

**Benefits of TENS:**

- Economical
- Non-invasive
- No systemic effects
- Extraoral/Intraoral placement
- May be used while eating or sleeping.

**TENS previously tested on:**

- Oral cavity and oropharyngeal cancer patients
- Postmenopausal women
- Post radiotherapy-induced xerostomia patients
- Diabetic patients
- Patients on antidepressant or antipsychotic drugs

Extraoral placement of TENS
Current Treatments:

**Acidic lozenges and sugar lemon drops** increases susceptibility to caries and acid erosion.

**Pilocarpine and Cevimeline** have unfavorable side effects such as blurred vision, profuse sweating, bronchoconstriction, bradycardia, gastrointestinal discomfort, and urinary incontinence.

**Salivary substitutes** to increase salivary flow provide partial relief but no long-lasting effects after the treatment is discontinued.

**Xylitol gum** must be avoided in patients with TMJ disorders.

**Ice chips** are avoided in patients suffering from xerostomia due to dentinal hypersensitivity.

References


