

Saliva - its role in maintaining oral health and preventing dental disease

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Saliva has major attributes as follows:

1. Protection to the oral and peri-oral tissues

- **Lubrication** with mucins and glycoproteins
- **Antimicrobial and cleansing activity** degrading bacterial cell walls and inhibiting growth
- **Buffering acid production** with bicarbonate and controlling plaque pH
- **Remineralisation of enamel** with calcium and phosphates.

2. Facilitating eating and speech

- **Food preparation**, enhancing chewing, the clearing of residues and swallowing
- **Digestion**, initiation with enzymes
- **Enhancing taste**
- **Enabling speech** by lubricating motor functions.

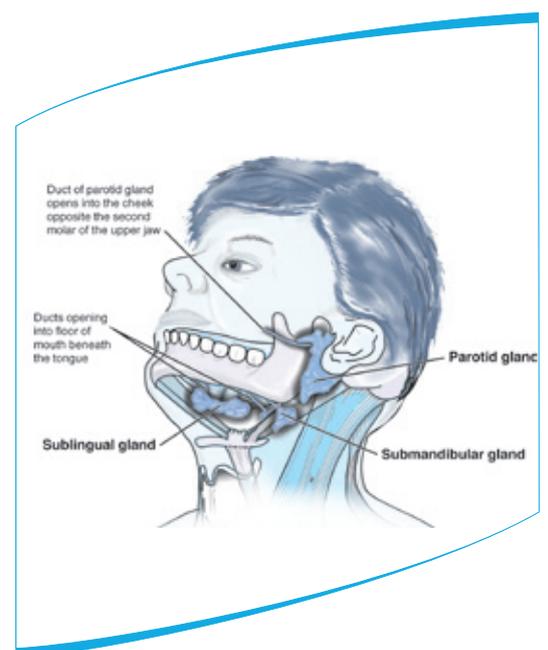
3. Uses in diagnostic testing

- **Bacterial, yeast and viral counts** indicating caries activity and altered immune responses as well as many diagnostic tests for oral and systemic diseases
- **Hormonal balance** to identify steroids, sex hormones.

Saliva consists of 99% water with the remaining 1% for the most part organic molecules (glycoproteins, lipids) and electrolytes (calcium, phosphates).

Saliva is normally secreted continuously at about 500ml per day but can be stimulated by masticatory or gustatory activity. Chewing sugarfree gum can increase the initial salivary flow rate by a factor of 10¹. It has also been shown that this stimulated saliva is more effective in its ability to buffer and remineralise².

Three pairs of major glands, the parotid, the sublingual and the submandibular are responsible for the majority of salivary production as well as minor glands distributed around the oral cavity. They are controlled by the autonomic nervous system. Reduction in the amount of saliva is most commonly caused by



medication side effects, systemic disease or pathologic changes in the salivary glands. The true value of saliva can best be seen when it is absent. Therefore, patients seriously deficient in saliva with Sjogren's syndrome or suffering from the effects of irradiation for head and neck cancer have difficulty in eating and swallowing, increased tooth decay, mouth ulceration and infections. Medications and drugs may cause xerostomia as can various psychogenic, neurologic and hormonal disorders.

Dry mouth can be extremely distressing and with ageing, an increasing proportion of the population is affected.

Referencias:

1. Dawes C, Macpherson LMD (1992) Effects of Nine Different Chewing Gums and Lozenges on Salivary flow rate and pH. *Caries Res.* 26:176-182
2. Edgar WM (1990) Saliva and Dental health. *Br Dent J.* 169: 96-98