



## Mucosal Layer Functions and its Adaptations

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### Editorial Note

Oral mucosa includes the oral cavity, nasal passages, pharynx, gastrointestinal tract and urogenital regions. In the oral cavity, this lining is called the oral mucous membrane or oral mucosa. The outer layer of the body has a dry covering, the skin, which continuous towards oral mucosa at the lips. Structurally, the oral mucosa resembles the skin in some respects and is very similar to the mucous membranes of the oesophagus, cervix and vagina but is totally different from the gastrointestinal mucosa.

Skin and the different mucosae all consist of two structurally different tissue components a covering epithelium and an underlying connective tissue. All these tissues function together so the various mucosae and skin can be considered as organs.

It is easy to understand the complex structure of a tissue or organ when its function is known. This is majorly unknown function of the oral mucosa, whose structure reflects a variety of functional adaptations. The major changes are a result of evolutionary changes that have taken place over a long time. However, few reversible changes in structure of oral mucosa is seen in response to function during the lifetime of an individual, which are not heritable.

Oral mucosa has variety of functions of which includes protection of the deeper tissues and glands of the oral cavity. Other functions include sensory perception, synthesis and secretion from glands located in the mucosa and an esthetic role presented by the mucocutaneous junction.

Outer lining, the oral mucosa separates and protects deeper tissues and organs in the oral region from the environment of the oral cavity.

The normal activities of seizing, biting and chewing food expose the oral soft tissues to mechanical forces and surface abrasions. The oral mucosa shows a number of adaptations of both the epithelium and the connective tissue to withstand these mechanical insults. Furthermore, there is a resident population of microorganisms within the oral cavity that would cause infection if they gained access to the tissues. Many organisms also produce substances which have more impact or toxic effect on tissues. The epithelial layer of the oral mucosa acts as the major barrier for penetration and also contributes to the immune-protective system of the mucosa. The sensory function of the oral mucosa is important because it provides considerable information about events within the oral cavity, whereas the lips and tongue perceive stimuli outside the mouth. In the mouth, pharynx and epiglottis are receptors in the oral mucosa probably respond to the taste of water and signal the satisfaction of thirst. Reflexes such as swallowing, gagging, retching and salivating are also initiated by receptors in the oral mucosa.

The major secretions of oral mucosa is saliva produced by salivary glands which contributes to the maintenance of a moist surface. The major salivary glands are situated distant from the mucosa and their secretions pass through the mucosa via long ducts; however many minor salivary glands are associated with oral mucosa. Sebaceous glands are frequently present in the oral mucosa and their secretions may have anti-microbial properties. Salivary glands secrete histatin, a family of low molecular weight histidine rich proteins with anti-microbial activities.