

THE SALIVARY GLANDS

The three pairs of salivary glands are the parotid, submandibular, and sublingual glands.

The parotid glands are the largest. They lay one on each side below and slightly in front of the ear. The submandibular glands are present on each side, beneath the Jaw-bone and the smallest sublingual glands lie beneath the tongue on each side.

The function of the salivary glands is the secretion of saliva which is stimulated by the sight, smell, and the presence of food in the mouth. Saliva moistens the mouth, cleanses the tongue, and makes speech easier. The enzyme ptyalin acts on cooked starches in an alkaline medium and converts them to a soluble form called maltose. The action of the enzyme continues till the food is rendered acidic by the action of gastric fluid.

The saliva is the secretion from salivary glands and the mucous is secreted by glands of the mucous membrane of the mouth cavity;

poured into it consists of water, mineral salts, salivary amylase (ptyalin), and mucous. Parasympathetic nerves supplied to salivary glands stimulate the secretion of saliva while sympathetic nerves depress the secretions.

The structure of the alimentary canal follows a consistent pattern from the esophagus onwards.

The walls of the alimentary canal are made up of the following four layers of tissues.

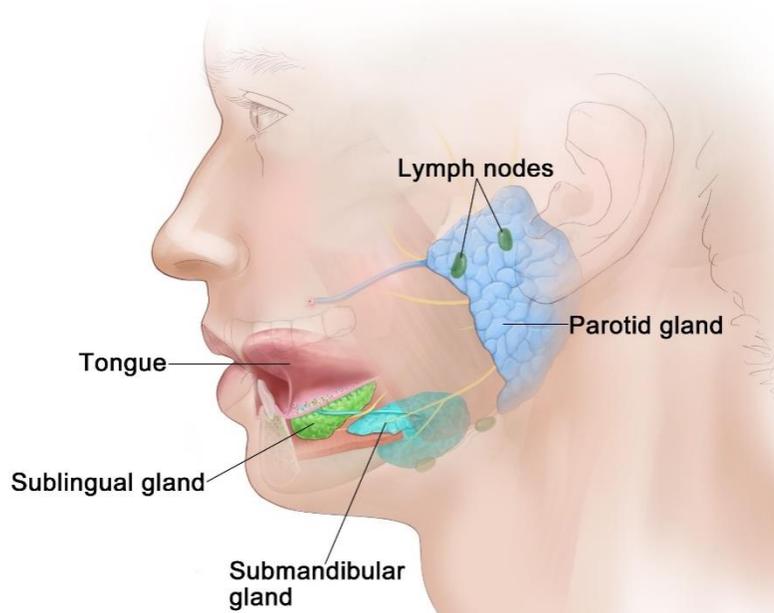
1. Adventitia, the outer covering consisting of the Peritoneum in the abdomen.
2. Muscle layer consisting of both longitudinal and circular muscles.
3. Submucous layer of loose connective tissue.
4. Mucous membrane lining consisting of epithelial cells.

At different regions of the digestive tract, there are certain modifications in these basic layers.

The general structure of these layers is as follows:

a) Adventitia

The outermost layer of the digestive tract is primarily composed of connective tissue. In the thorax region (i.e. in the case of the esophagus) this connective tissue merges into the connective tissue of surrounding structures. In the abdomen, this covering forms the peritoneum. The peritoneum consists of two layers the parietal and the visceral. In this case, the outer layer is called the serosal.



(b) Muscle Layer

It consists of double layers of muscles, the inner layer in which the muscles are arranged circularly around the tube while in the outer layer, the muscles are arranged longitudinally along the long axis of the tube. At different points along the tract, the fibers of a circular layer are thickened to form sphincters that guard the movement of food from one region of the tract to the other. The rhythmic contractions of these muscles produce peristalsis that propels the food onward.

(c) Submucous Layer

It is composed of a thick layer of areolar connective tissue and contains blood vessels, lymphatics, and nerves.

(d) Mucous Membrane

This innermost lining of the tract has three distinct layers:

- (a) The epithelial layer that borders on the lumen. It is a simple columnar epithelium throughout the tract except in the esophagus where it is a stratified squamous epithelium.
- (b) The areolar connective tissue to which the epithelial cells are attached and
- (c) Outside of areolar tissue, a thin layer of smooth muscle fibers called the muscularis mucosa.