



# **DIGESTIVE TRACT**

# GENERAL STRUCTURE OF THE DIGESTIVE TRACT

## Consists :-

- 1- Oral cavity
- 2- Esophagus
- 3- Stomach
- 4- Small and large intestines
- 5- Rectum
- 6- Associates glands such as salivary glands , liver and pancreas.

## Functions :-

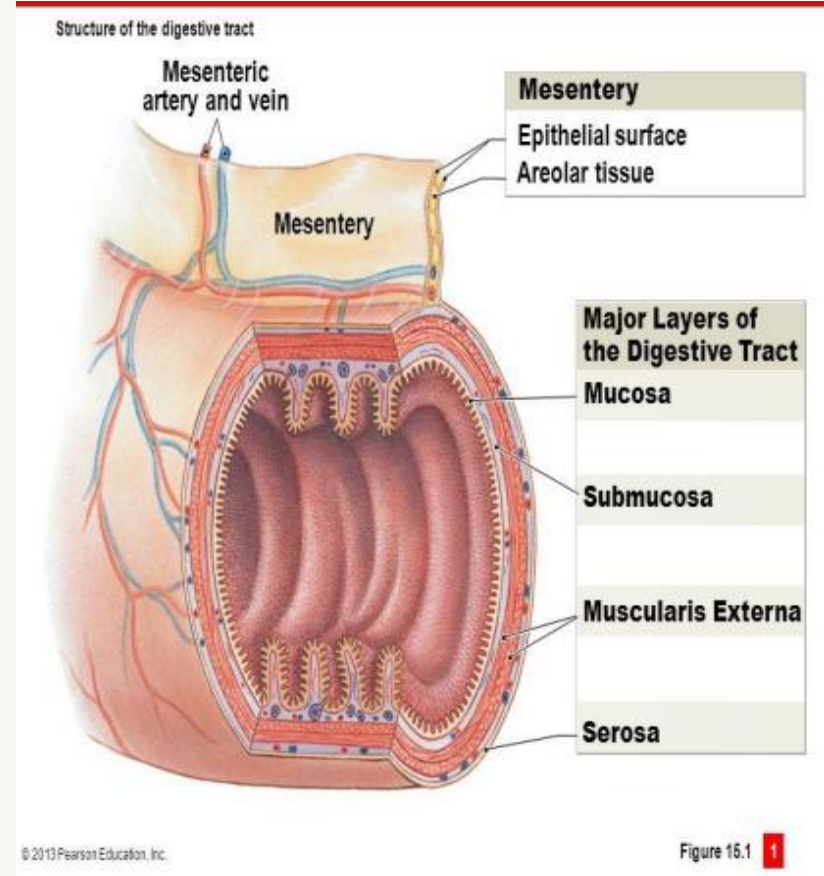
Obtains from ingested food molecules necessary for maintenance and growth of the body .

## Quiz:-

What is digestion ? and what is the type of tissue lining the inner surface of digestive system ?

## General structure

- Digestive system is a hollow tube with a lumen of variable diameter
- The wall of any organ made up of four layers :-
  - a- Mucosa
  - b- Submucosa
  - c- Muscularis
  - d- Serosa

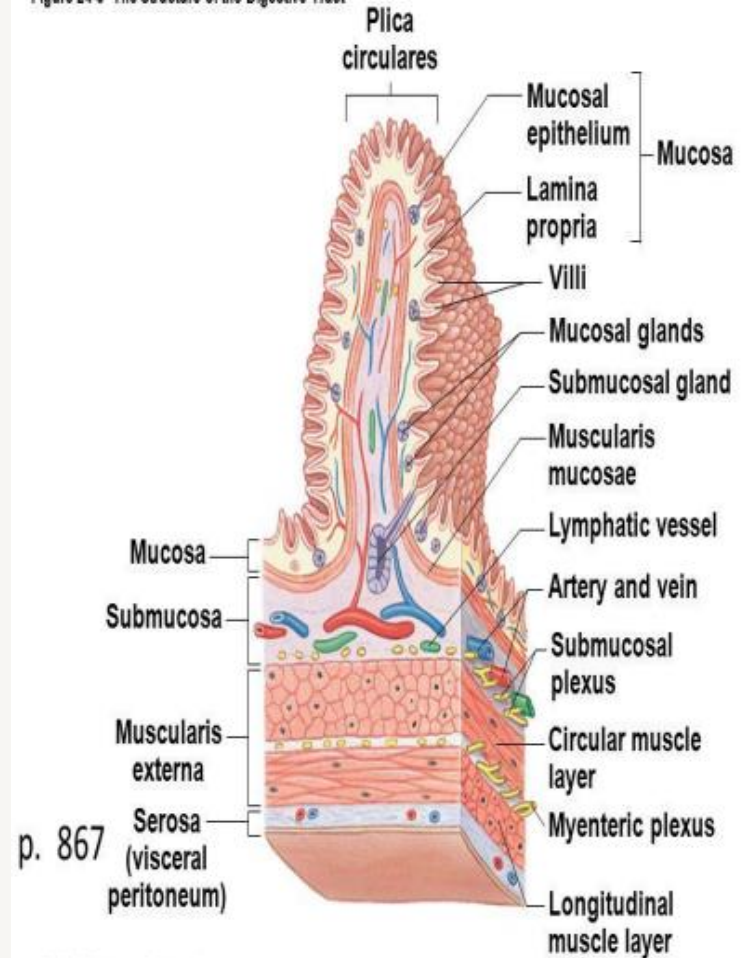


# Mucosa

Consist of

- Mucosal epithelium epithelial lining of the digestive tract ,moistened by glandular secretions
- Lamina propria :- underlying layer of loose connective tissue rich with blood vessels and lymphocytes and smooth muscle cells with glands.

Figure 24-3 The Structure of the Digestive Tract



## Submucosa

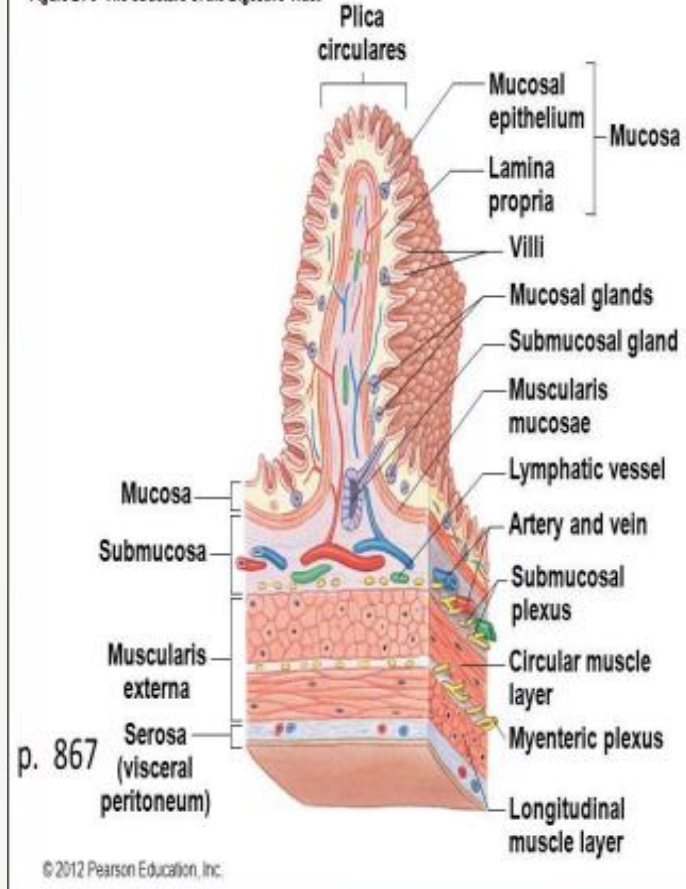
contains :-

1- very dense connective tissue with blood , lymph vessels and autonomic nerves

**Muscularis** is a thick layer composed of spirally oriented smooth muscle usually

- divided into two sub layers , in the internal sub layer , the orientation is circular but the external layer is longitudinal
- blood vessels , nerves and lymph are in the connective tissue between muscles sub layers

Figure 24-3 The Structure of the Digestive Tract



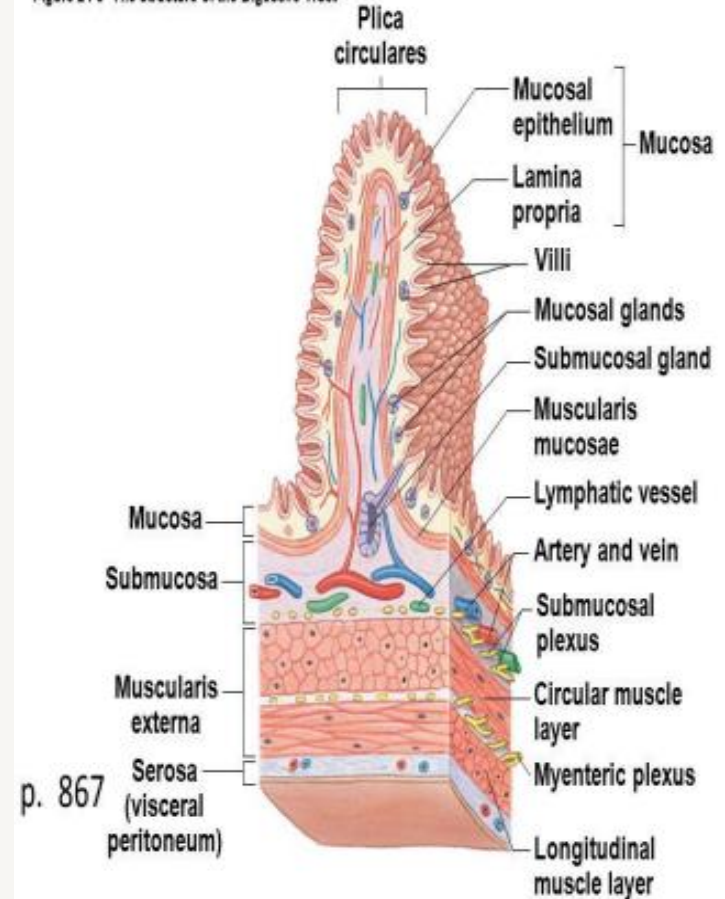
**Serosa** consists of

1- a thin layer of loose connective tissue , rich in blood vessels , lymph and adipose tissue

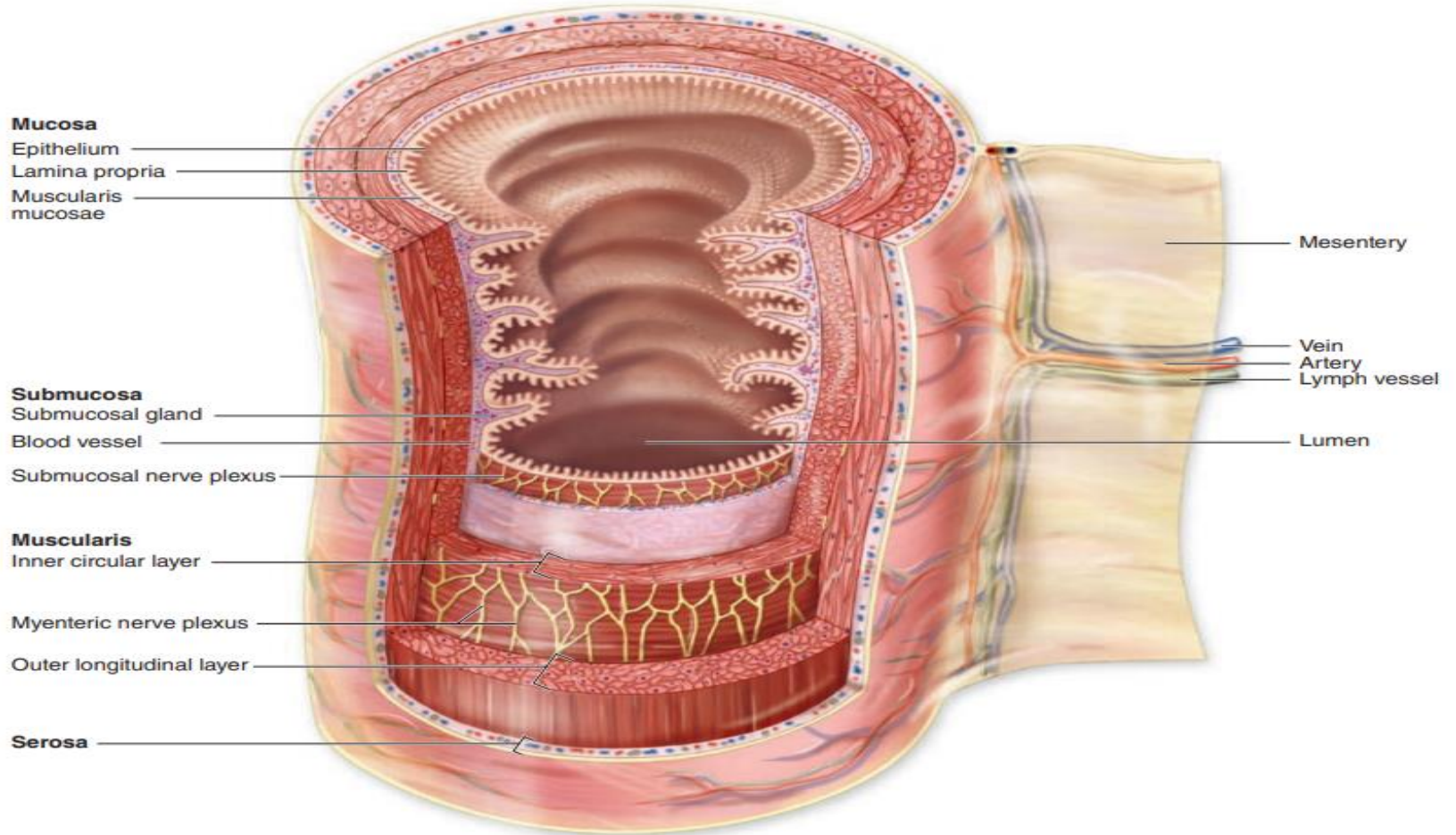
2- a simple squamous epithelium covering ( mesothelium )

Note :- in some structures like esophagus , the serosa is replaced by adventitia , that consisting of connective tissue with blood vessels and nerves .

Figure 24-3 The Structure of the Digestive Tract







Major layers and organization of the digestive tract

## Main functions of the epithelial lining are :-

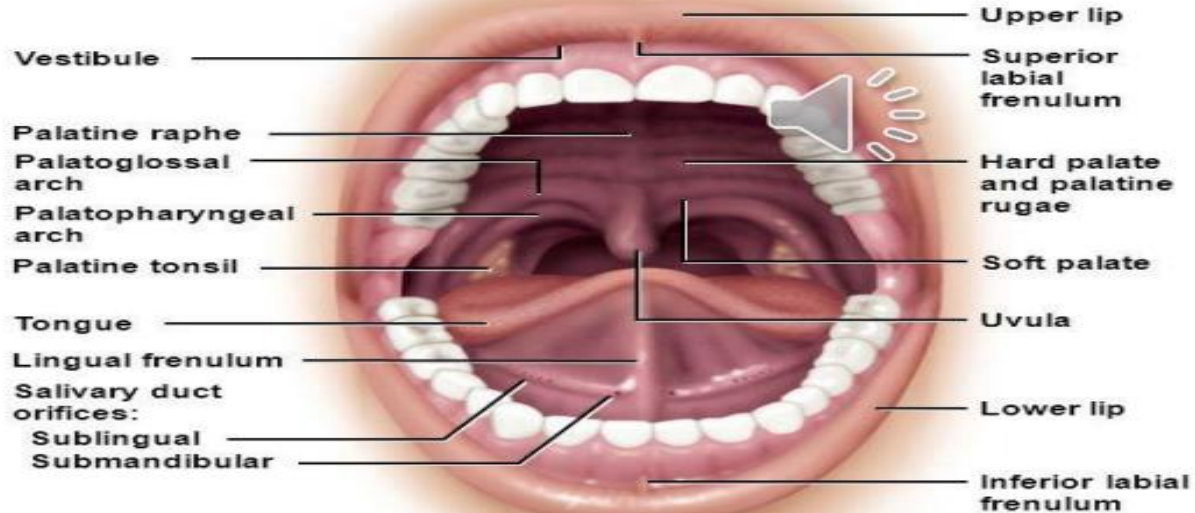
1. provide a selectively permeable barrier between the contents and the tract and the other tissues .
2. facilitates the transport and digestion of food .
3. promotes the absorption of the products of digestion .
4. produces the hormones that affect the activity of digestive system .
5. produces mucus for lubrication protection
6. the presence of lymphatics in that tissue protect the system from the bacterial infection .



# Oral Cavity

## The Oral Cavity

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## Histology structure of oral cavity

- oral cavity is lined with stratified squamous epithelium.
- That epithelium is keratinized or non – keratinized
- The lamina propria has many papillae rests on bone
- There are many salivary glands .

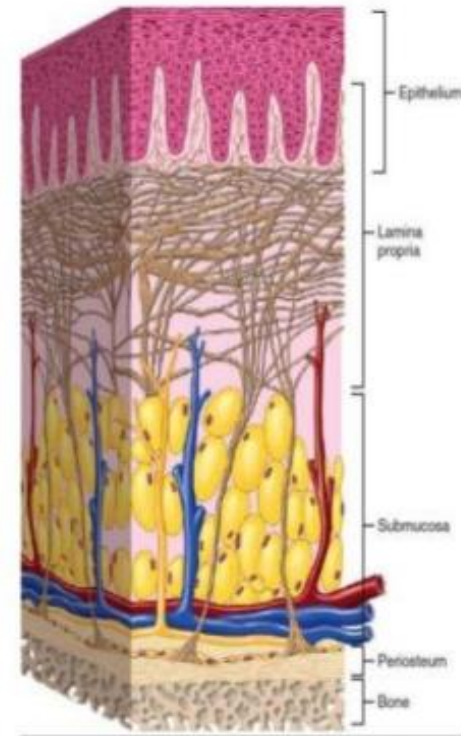
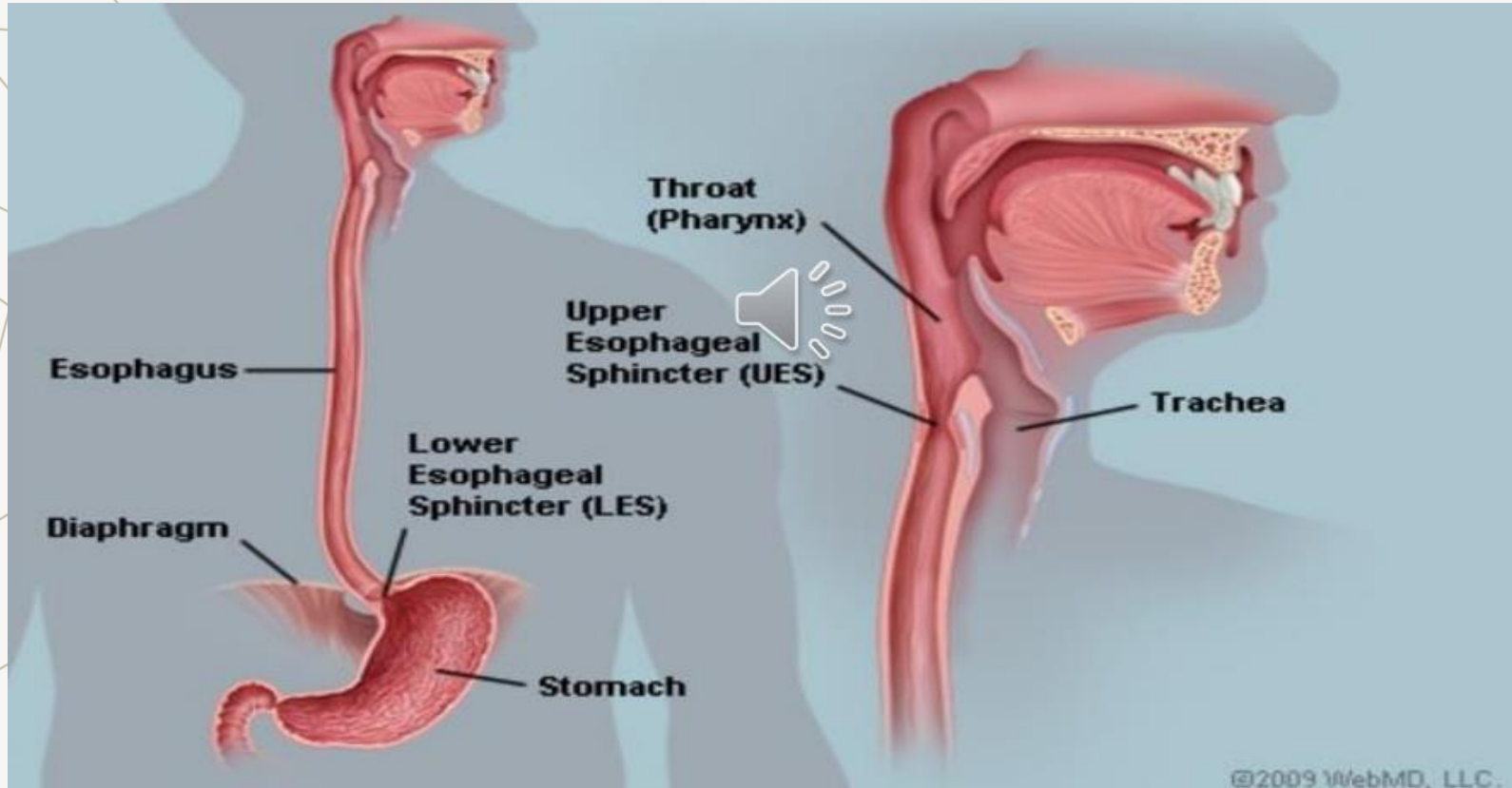
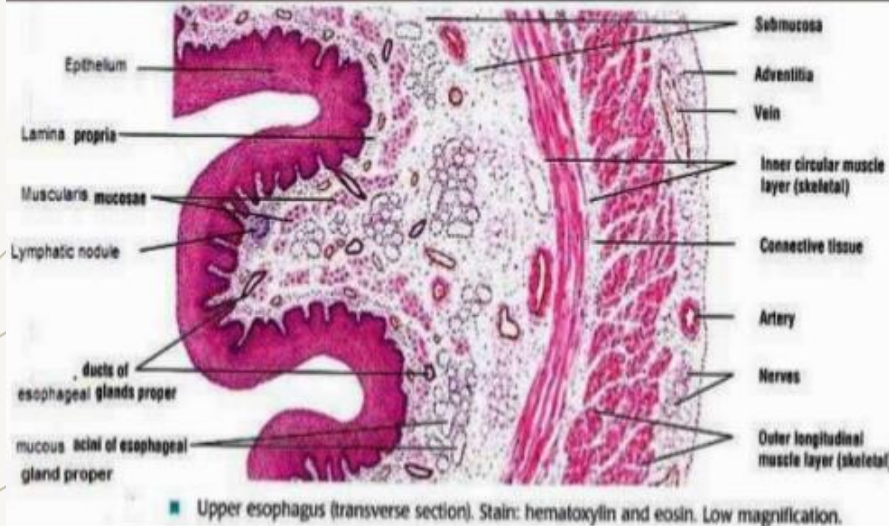
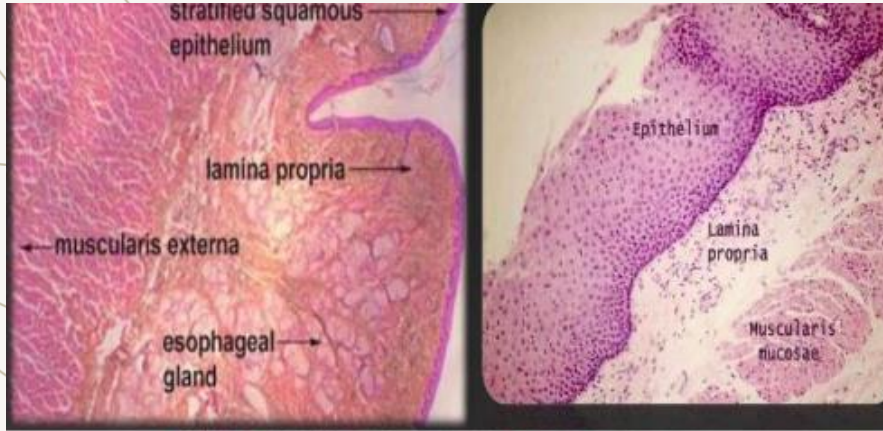


FIGURE 12-4 Main tissue components of the oral mucosa.

# Esophagus



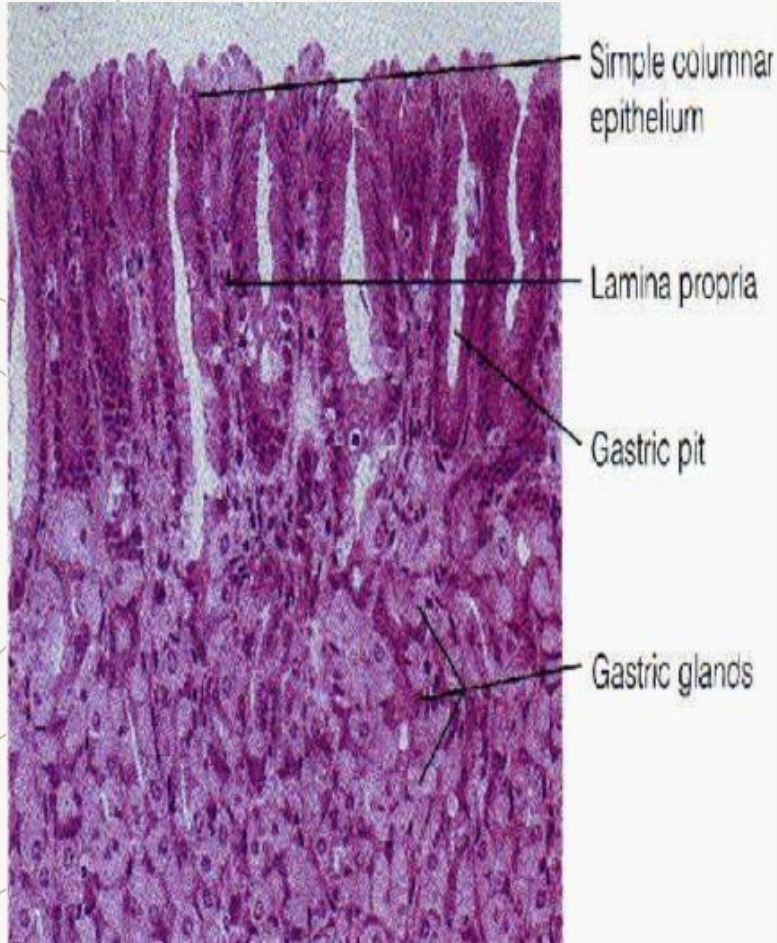


## Esophagus Histology

Function : Transport food from the mouth to stomach.

- lined by non keratinized stratified squamous epithelium
- The sub mucosa with group of mucus – secreting glands facilitate the transport of food and protect mucosa.
- In approximately the upper one-third of the esophagus, the muscularis is exclusively skeletal muscles
- serosa is covering the distal part
- Adventitia is one layer of loose connective tissue .





## Stomach histology

- functions :- continue digestion (mostly chemical digestion) by several enzymes

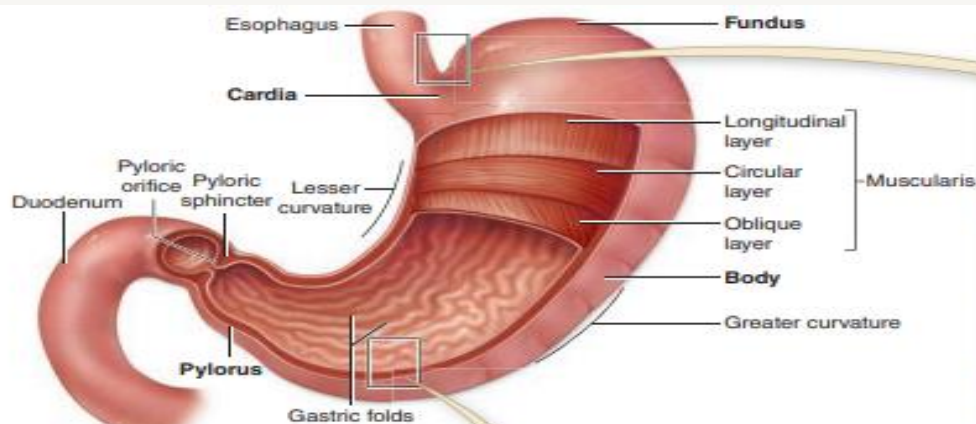
- composed of four regions : cardia , fundus , body , pylorus with four histological layers .

1- Mucosa consists of simple columnar epithelium with glands and stem cell .

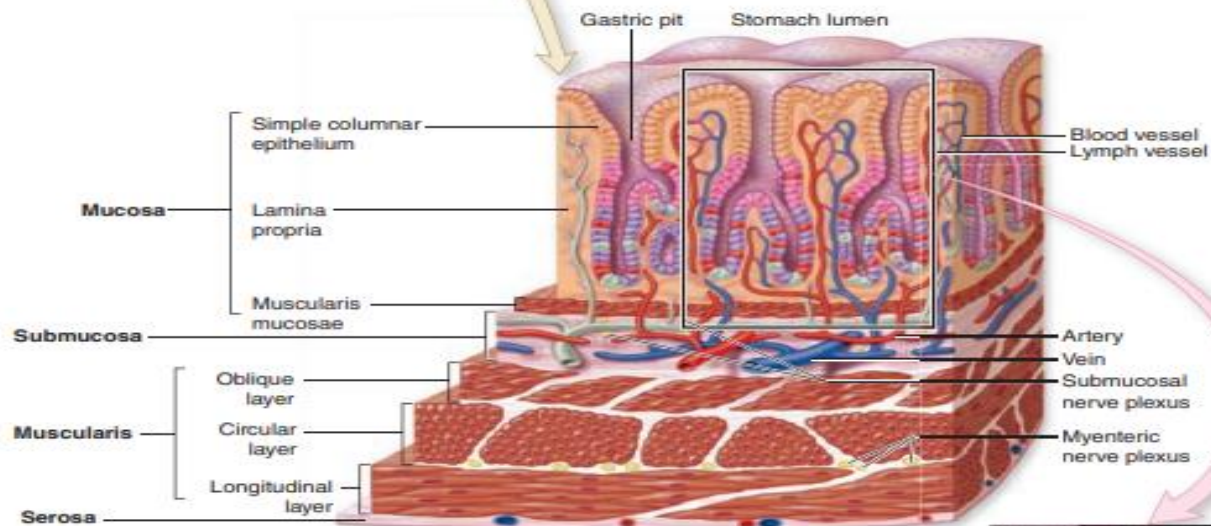
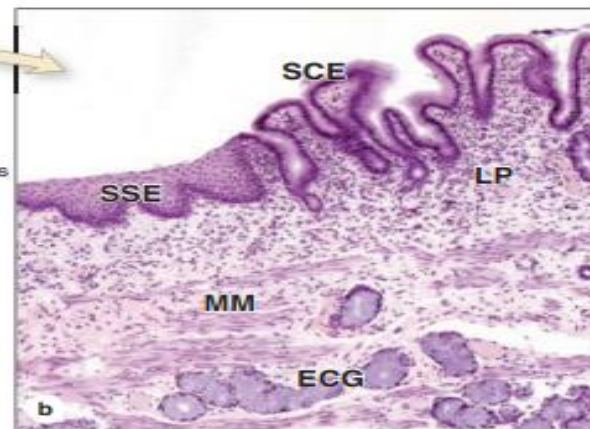
2- Submucosa is consisted of connective with blood and lymph vessels .

3- Muscularis composed of smooth muscles fibers function for rythmic contractions .

4. Serosa



(a) Stomach regions, anterior view





**THANK YOU**

