

1st lecture
In
Anatomy
For
1st Class
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Anatomy

It is a descriptive science

- It describes the shape, structure, location, of the organs and systems in the body and also it describes the relation of each organ with others.

Division of the anatomy

Mainly we study two types of anatomy:

1. **Gross anatomy:** It needs naked eye to describe the organs.
2. **Histology (microscopic anatomy):** it needs microscope to describe the tissue and cells.

Physiology

- Physiology studies **the function** of cells, tissue, organs, and systems. i.e. what the organs do?
- In other wards it tell us how body organs work?

Histology : is the science that study the structure of cells and tissues

The cell: Is the smallest structural and functional unit in the body .

Tissues: are groups of cells that are similar in structure and function

There are four basic tissue types:

- 1) **The Epithelial tissue: covering**
- 2) **The Connective tissue: support**
- 3) **The Nervous tissue: control**
- 4) **The Muscular tissue : movement**

Types of Epithelium

- **Simple** – single layer of cells; typically found where absorption and filtration occur or a single layer of epithelial is needed

Types of Simple Epithelium

1. simple squamous
2. simple cuboidal
3. simple columnar

- **Stratified** – layers of cells; common in areas where protection is needed like the skin.

Types of Simple Epithelium

1. stratified squamous
2. stratified cuboidal
3. stratified columnar

Two Types of Stratified Columnar

- **Ciliated**

cilia →



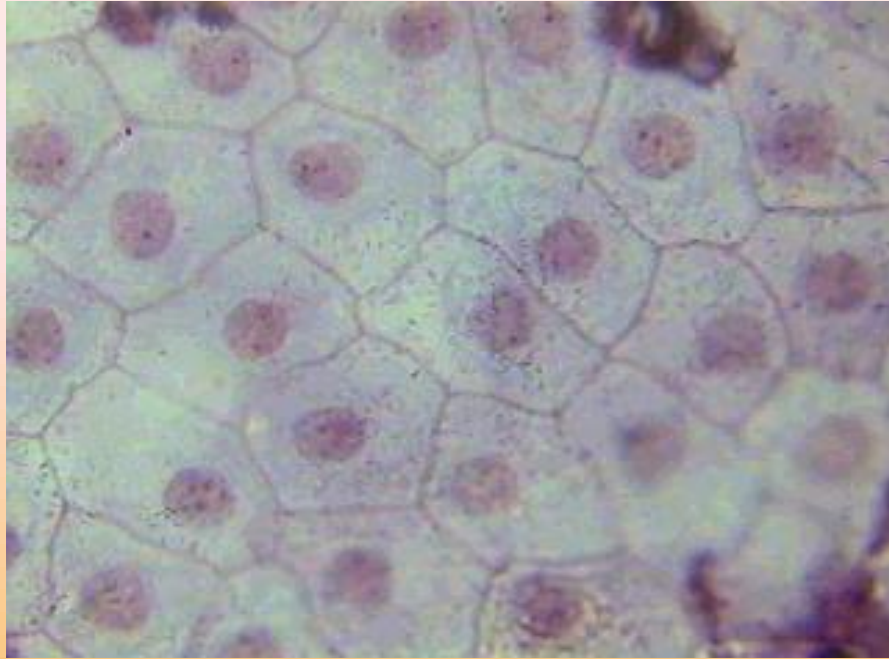
- **Unciliated**

No cilia →

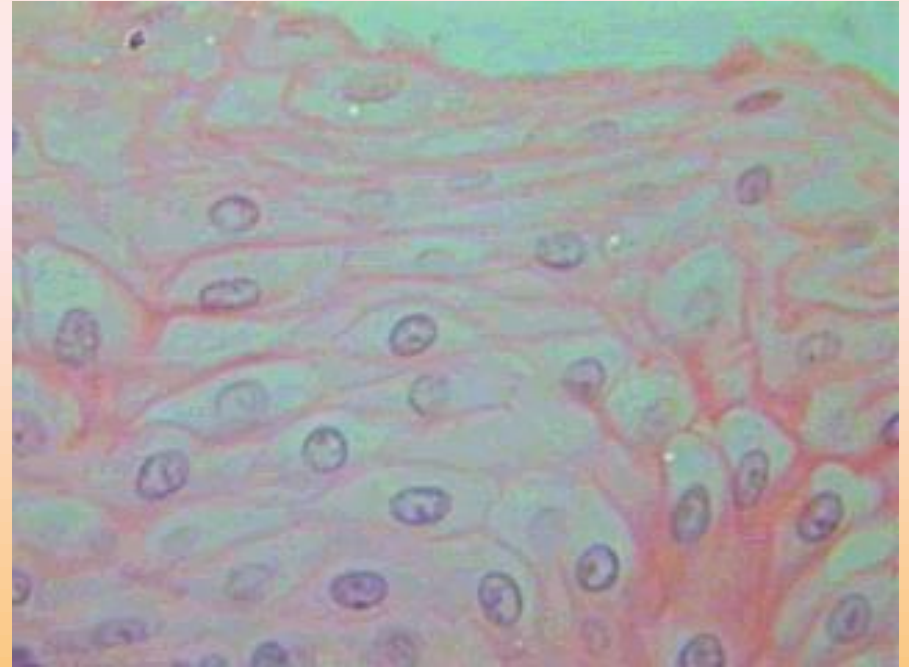


Squamous Epithelium

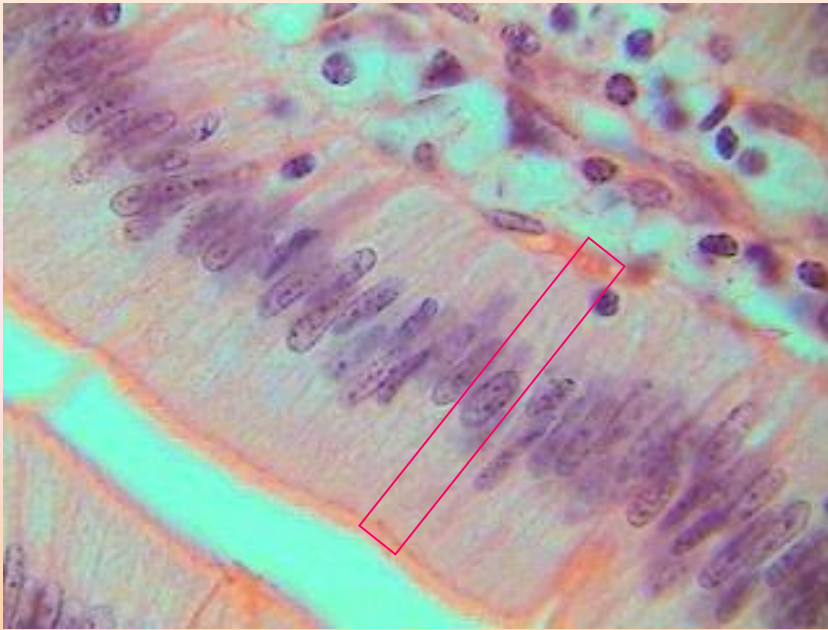
Simple



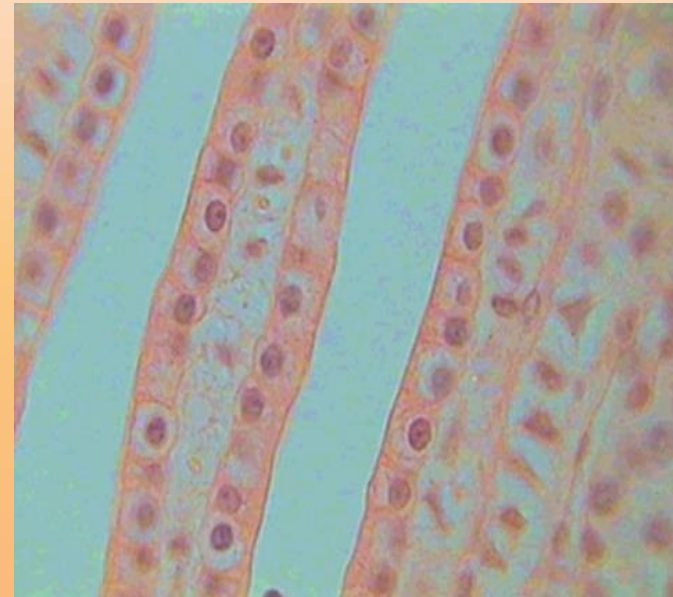
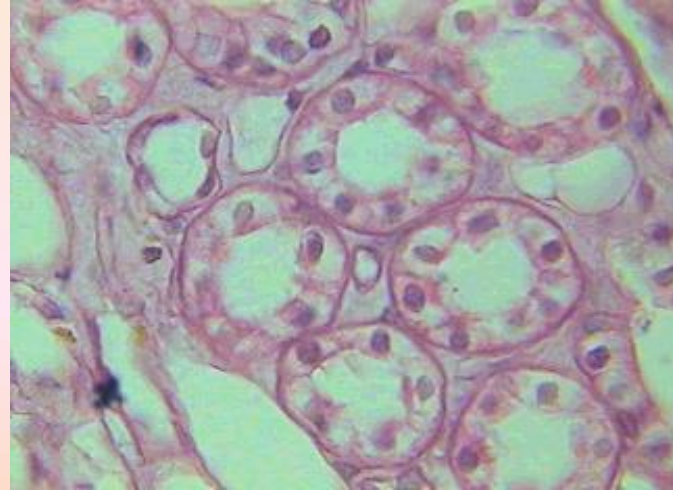
Stratified



Columnar Epithelium



Cuboidal Epithelium



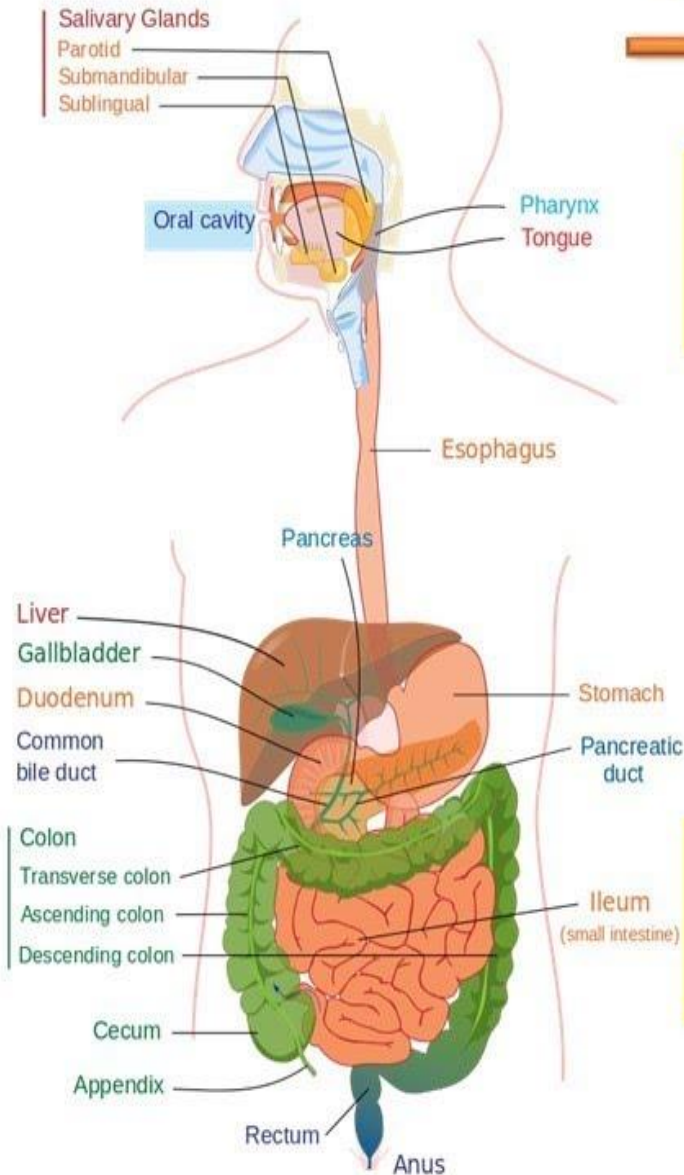
Digestive System

**Gastrointestinal tract
(GIT)**

GIT

UPPER GIT

LOWER GIT



- Consist mainly two parts:

1. Tube or tract consist:

- a). Oral cavity
- b). Pharynx
- c). Oesophagus

Upper GIT

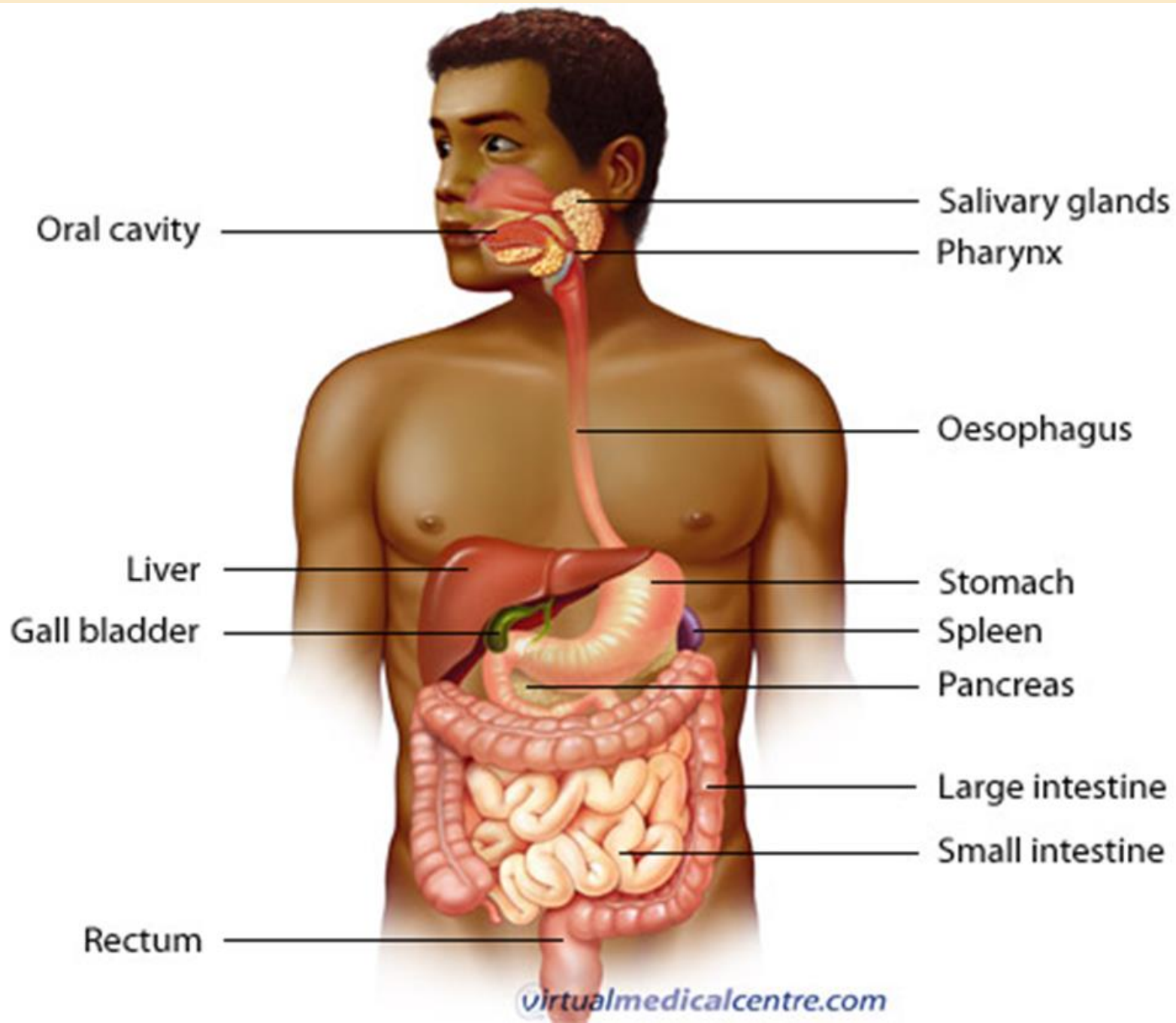
- d). Stomach
- e). Small intestine
- f). Large intestine

Lower GIT

- g). Anus

2. Accessory organs

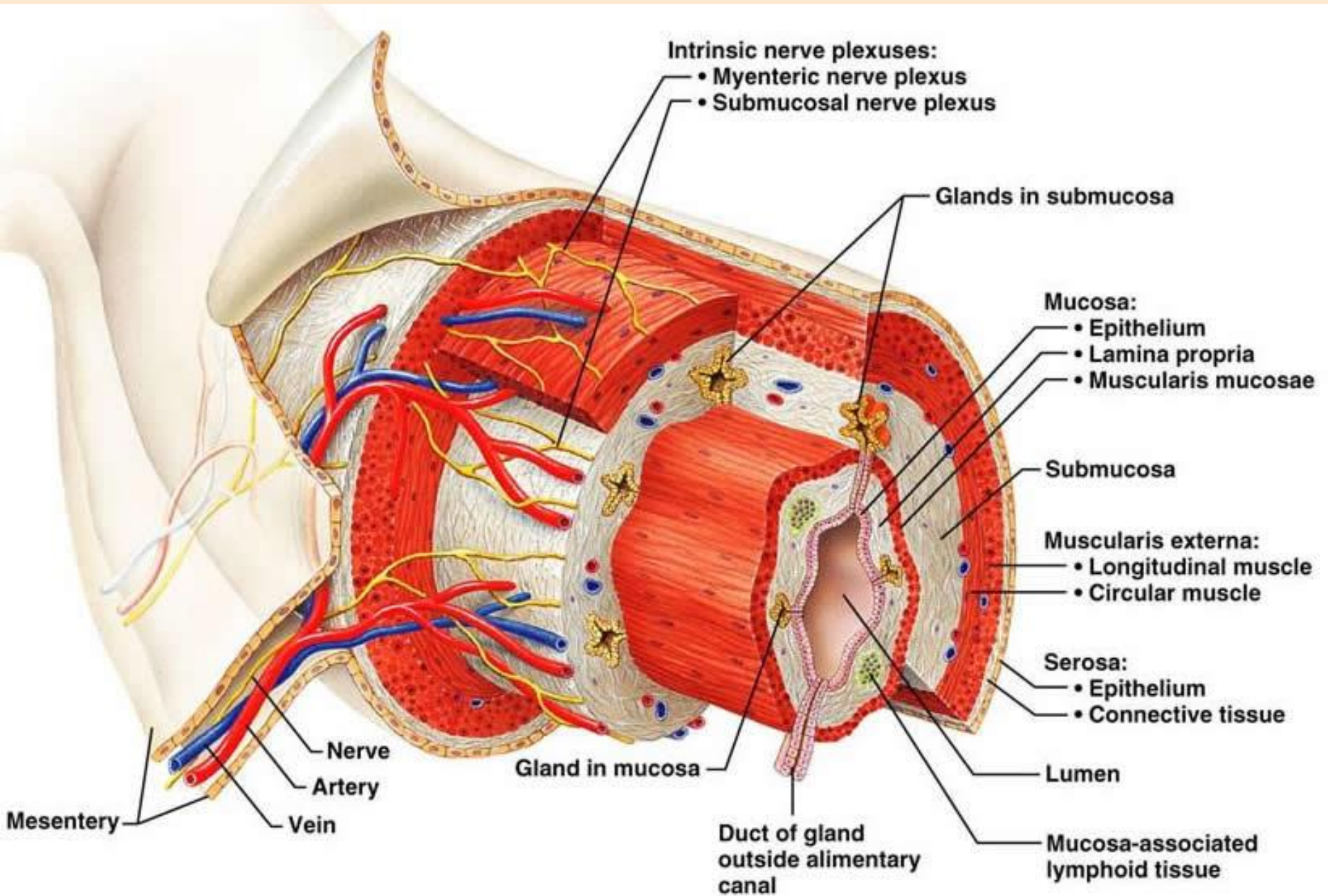
- a). Salivary glands
- b). Liver and gall bladder
- c). pancreas

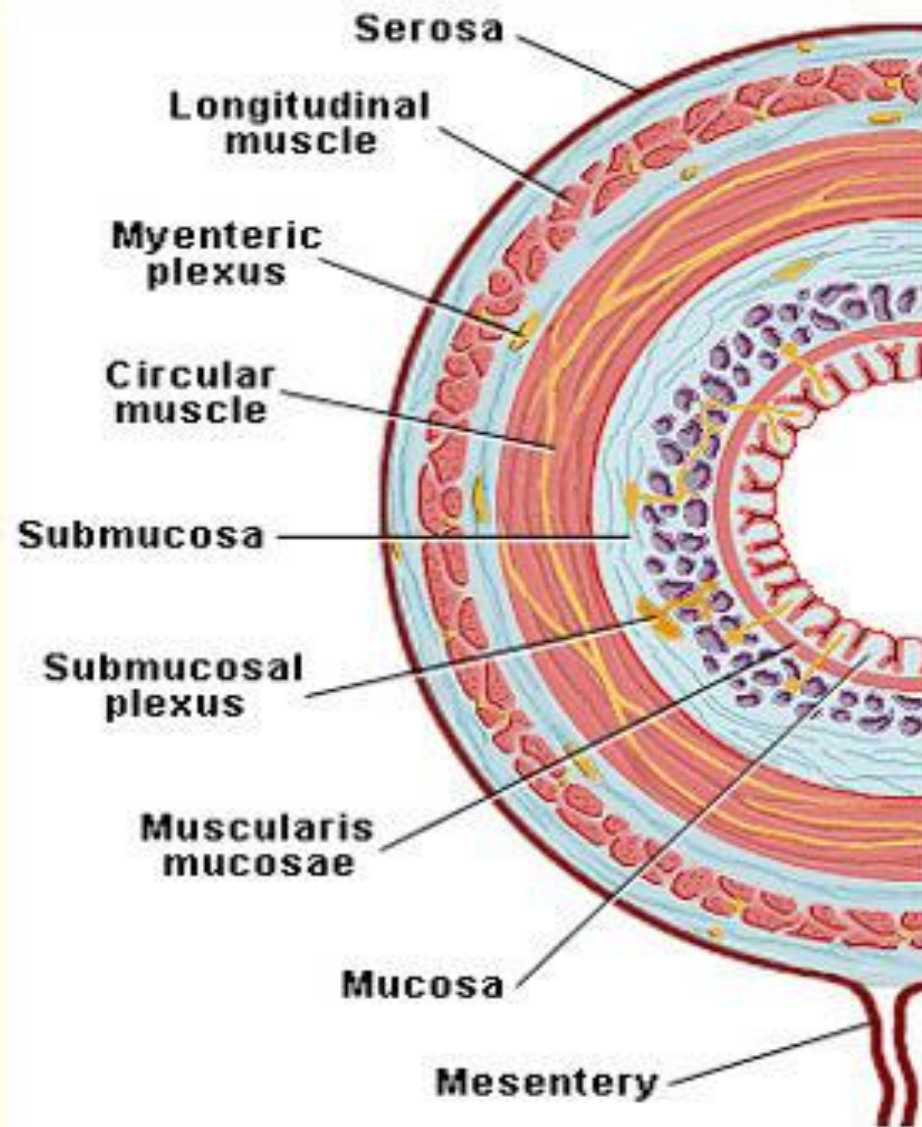


General Structure of the Digestive Tract

The wall of GIT is made up 4 principal layers:

1. Mucosa
2. Submucosa
3. Muscularis
4. Serosa or Adventitia





1. Mucosa (Mucous Membrane)

It consists of:

1. Epithelial lining
2. Lamina propria (loose connective tissue rich in blood and lymph vessels, and sometimes containing glands smooth muscles).
3. Muscularis mucosae thin muscular layers separate the mucosa from submucosa.

2. Submucosa

- It is composed of dense connective tissue with many **blood** and **lymph** vessels and also **nerve plexus** which called “**Meissner’s plexus**”.

3. Muscularis

- It is composed
- Inner circular smooth muscular layer
- **Myenteric nerve plexus** (*Auerbach's nerve plexus*).
- Outer longitudinal smooth muscular layer.

4. Serosa

It is composed

- A thin layer of loose connective, rich in blood and lymph vessels and adipose tissue
- Layer of simple squamous epithelium.