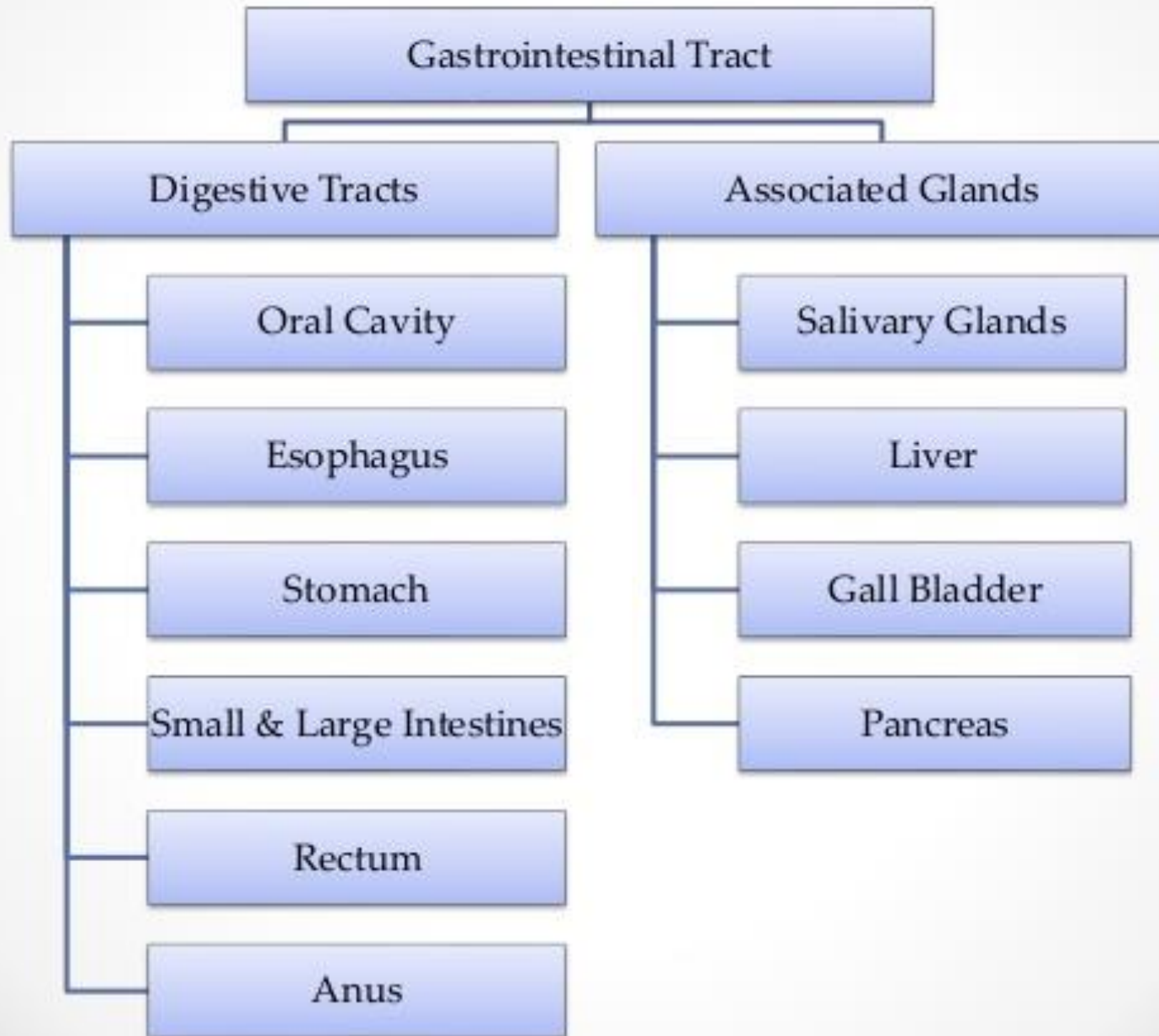


INTRODUCTION OF GIT & HISTOLOGY
OF ESOPHAGUS
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Introduction



Digestive Tract (Function)

- **Ingestion** , or introduction of food and liquid into the oral cavity.
- **Mastication** , or chewing, which divides solid food into digestible pieces.
- **Motility** , muscular movements of materials through the tract.
- **Secretion** of lubricating and protective mucus, digestive enzymes, acidic and alkaline fluids, and bile.
- Hormone release for local control of motility and secretion.
- Chemical digestion or enzymatic degradation of large macromolecules in food to smaller molecules and their subunits.
- **Absorption** of the small molecules and water into the blood and lymph.
- **Elimination** of indigestible, unabsorbed components of food

GENERAL STRUCTURE OF THE DIGESTIVE TRACT

- ❑ GI tract is a hollow tube
- ❑ With a lumen of variable diameter

Wall made up of four main layers:

- ❖ Mucosa
- ❖ Submucosa
- ❖ Muscularis
- ❖ Serosa/Adventitia

Digestive Tract

The four principle layers are

I. Mucosa :

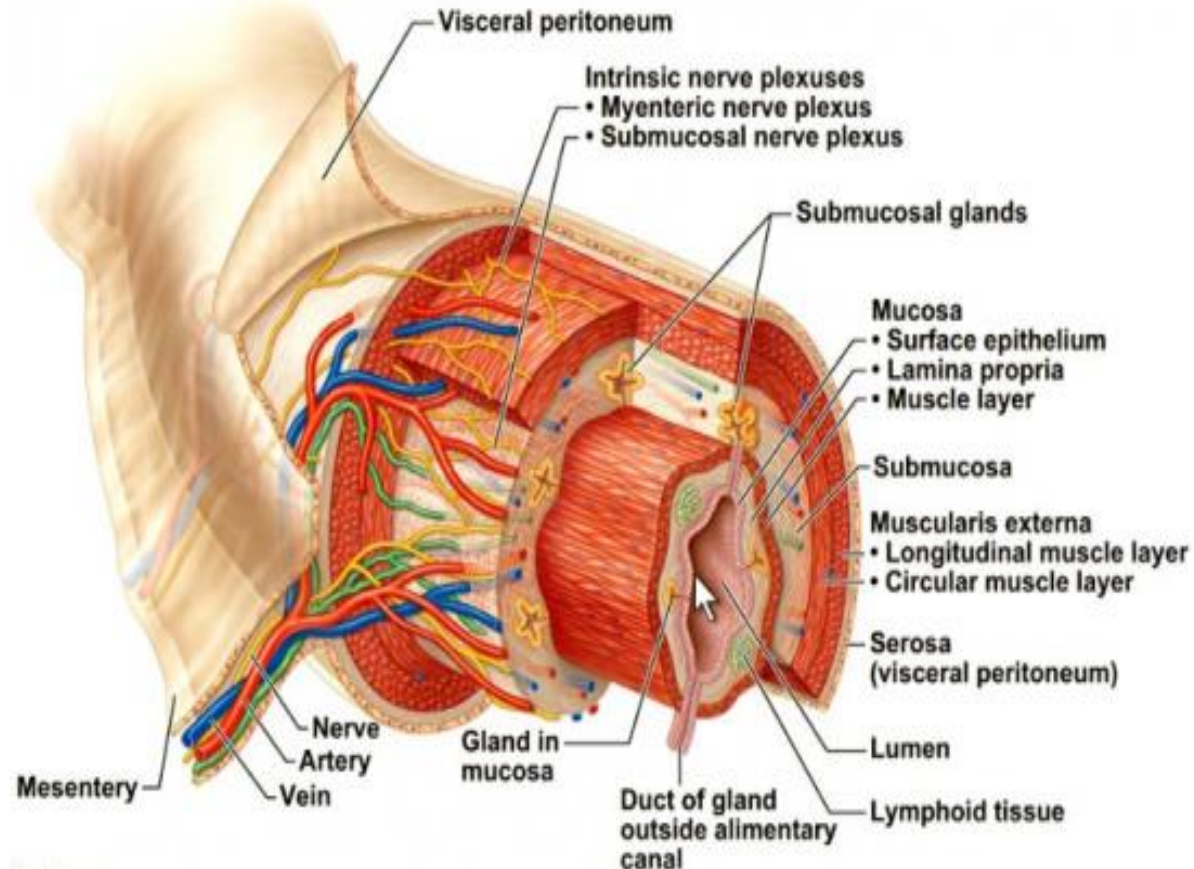
Inner most coat

Further it has three layers

a- Epithelial layer

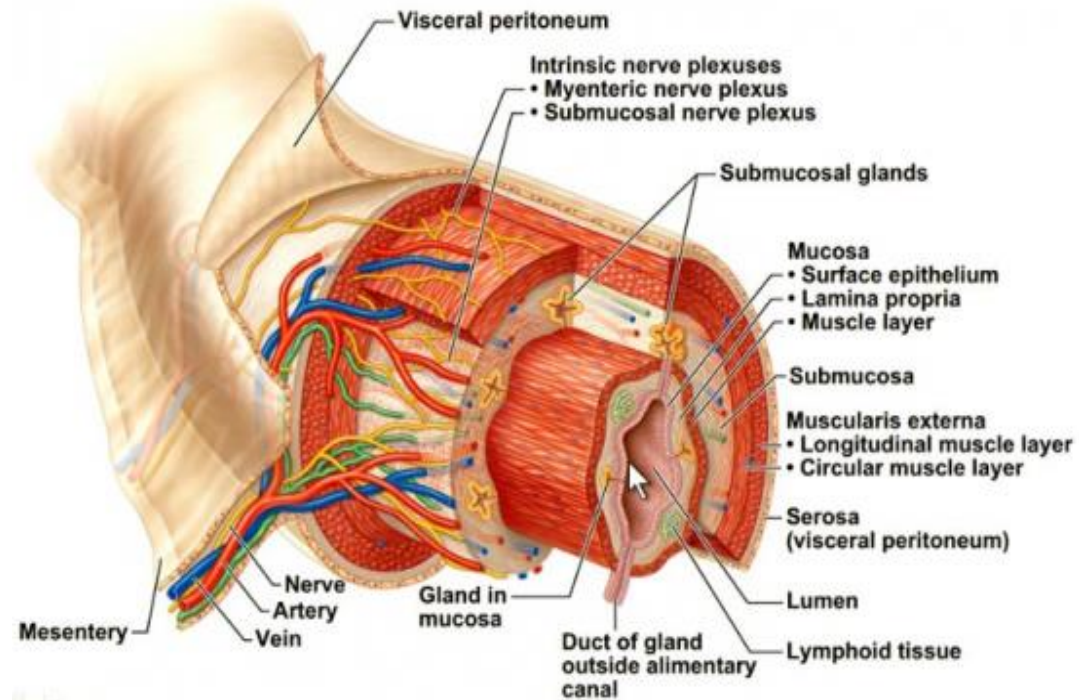
b- Lamina propria (loose connective tissue layer)

c-Muscularis mucosae (thin layer of longi running smooth muscle fibers)



2-Submucosa :

- Consists of dense connective tissue
- Submucosal nerve plexus
MEISSENERS PLEXUS .



3. Muscularis

Externa

- **Muscularis**

Consists of two layers of smooth muscle fibers

- Inner layer circular and outer layer longitudinal

- b/w these two layers is a myenteric plexus (Auerbach's plexus)

This and the submucosal plexus together comprise the local enteric n. system

4 -Adventitia / Serosa

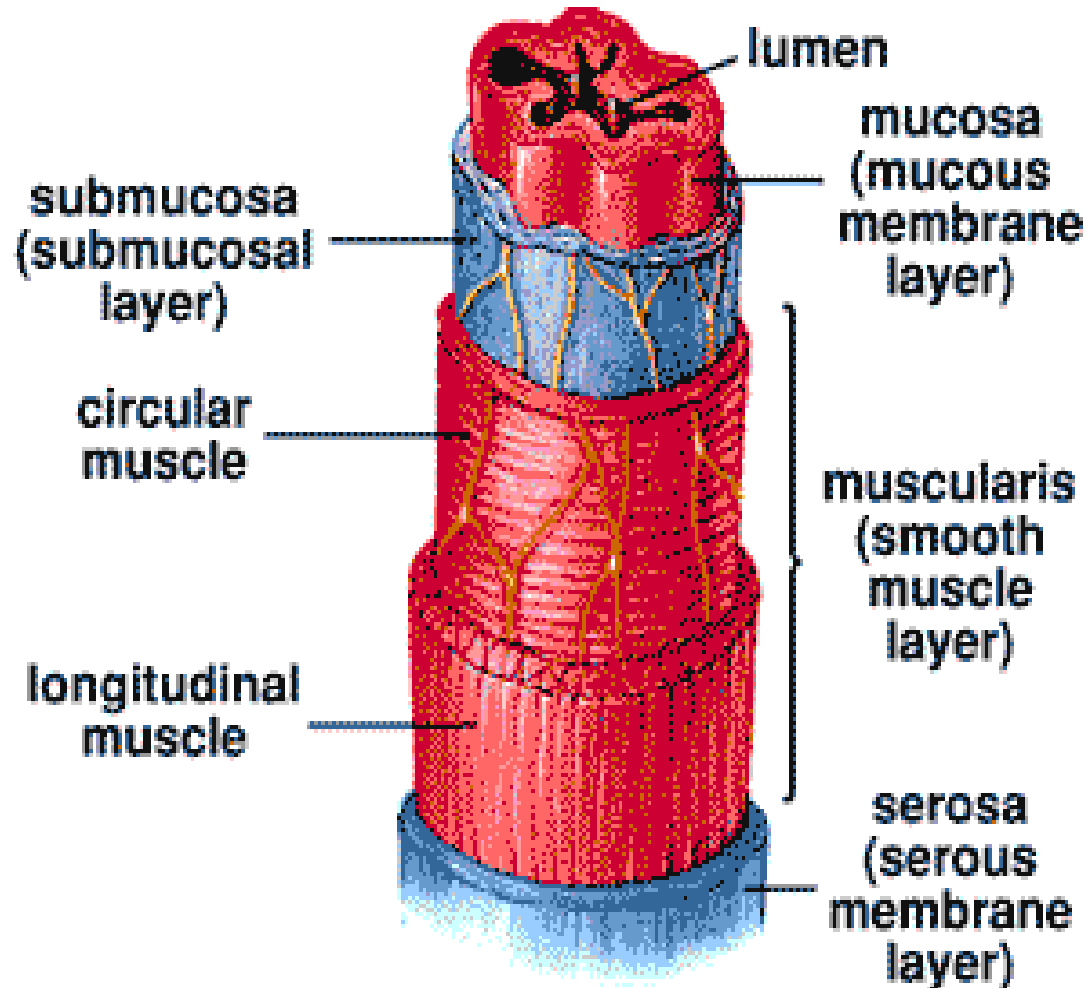
- Thin layer of C.T

- Contain blood and lymphatic vessel.

- Epithelium=simple squamous (mesothelium)

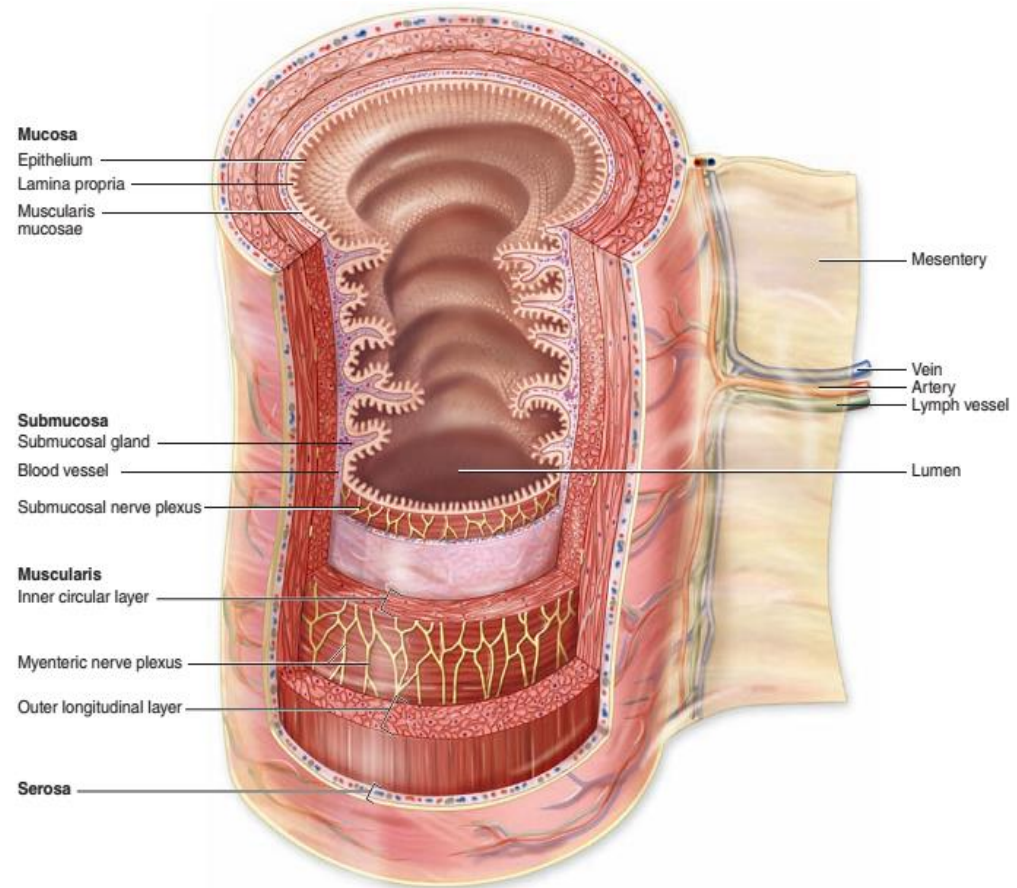
- Adventitia

(In case of Oesophagus)



Serosa/Adventitia

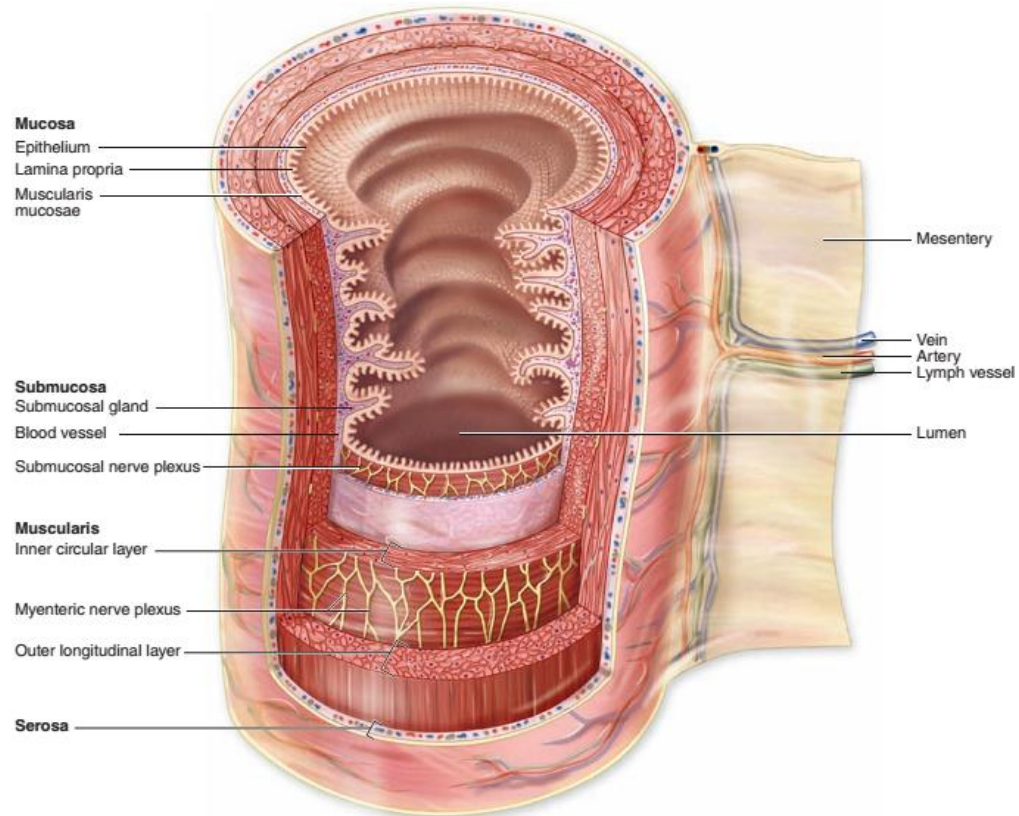
- The serosa is a thin layer of loose connective tissue,
- ❑ Rich in blood vessels, lymphatics, and adipose tissue,
- ❑ With a simple squamous covering Epithelium or mesothelium.



Serosa/Adventatitia

In the abdominal cavity:

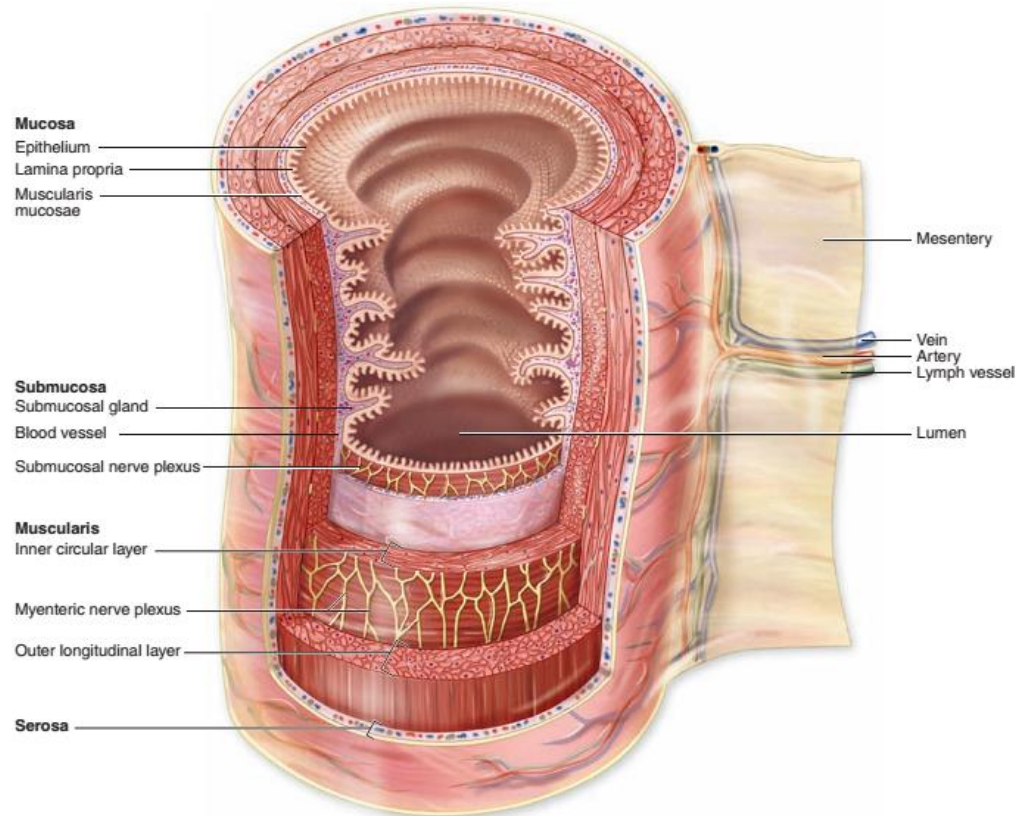
- ❑ The serosa is continuous with mesenteries
- ❑ Thin membranes covered by mesothelium on both sides that support the intestines.



Serosa/Adventitia

In places where the digestive tract is not suspended in a cavity but bound directly to adjacent structures, such as in the esophagus .

Then serosa is replaced by a thick adventitia, a connective tissue layer that merges with the surrounding tissues .



MEDICAL APPLICATION

- The rich autonomic innervations of the enteric nervous system also provides an anatomic explanation of the well-known actions of emotional stress on the stomach and other regions of the G.I Tract.

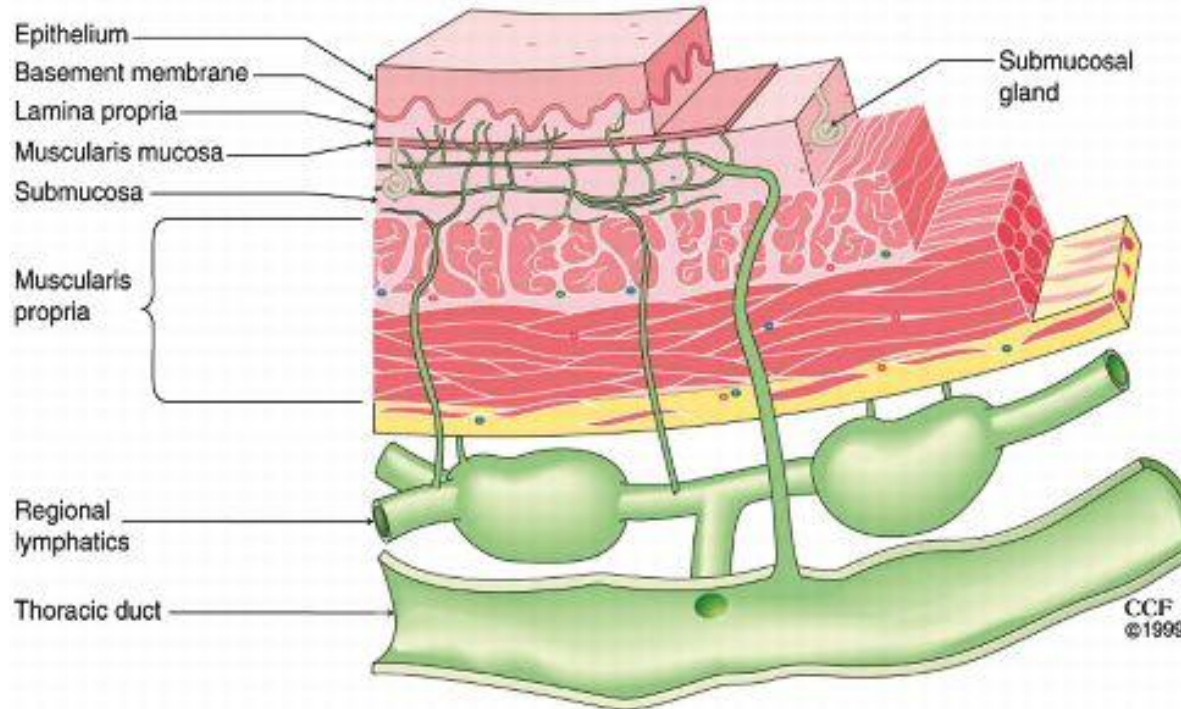
Esophagus

- It is muscular tube
- Function :transport food material from the pharynx to the stomach
- Its wall consists of all the four typical coats of the digestive tract

1.Mucosa :

- Is lined by the non keratinized stratified squamous epi.
- Lamina propria : scattered lymphatic nodule

The Esophageal Wall



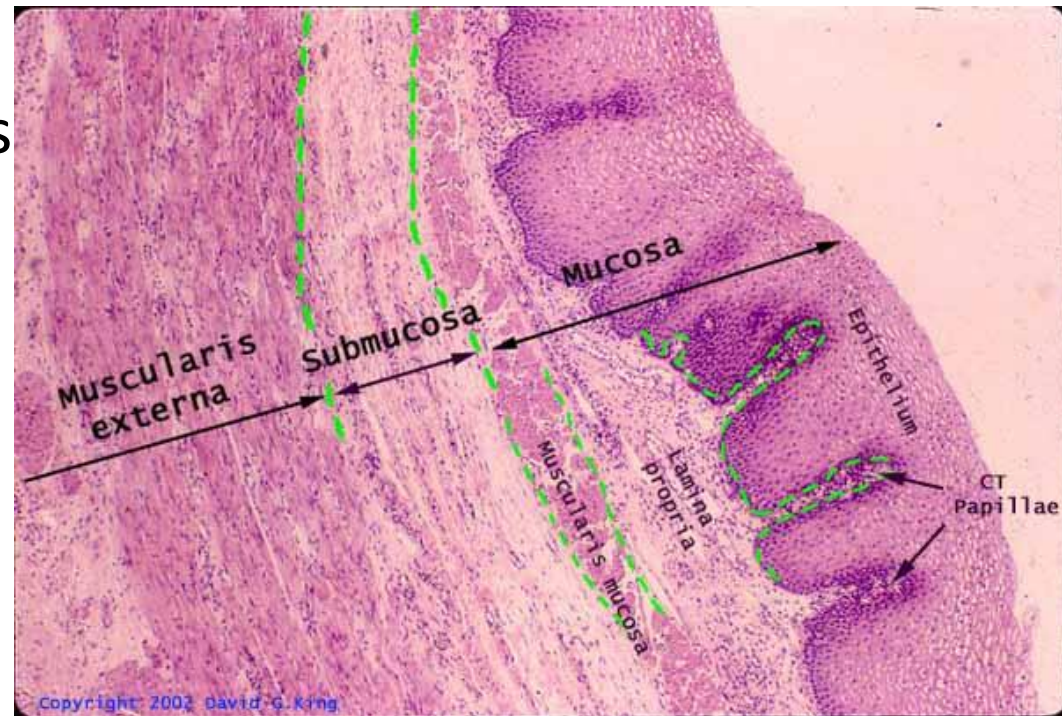
Mucosa Conti....

Lamina propria :-

Contains mucus – secreting tubular glands called as superficial esophageal glands or the cardiac glands

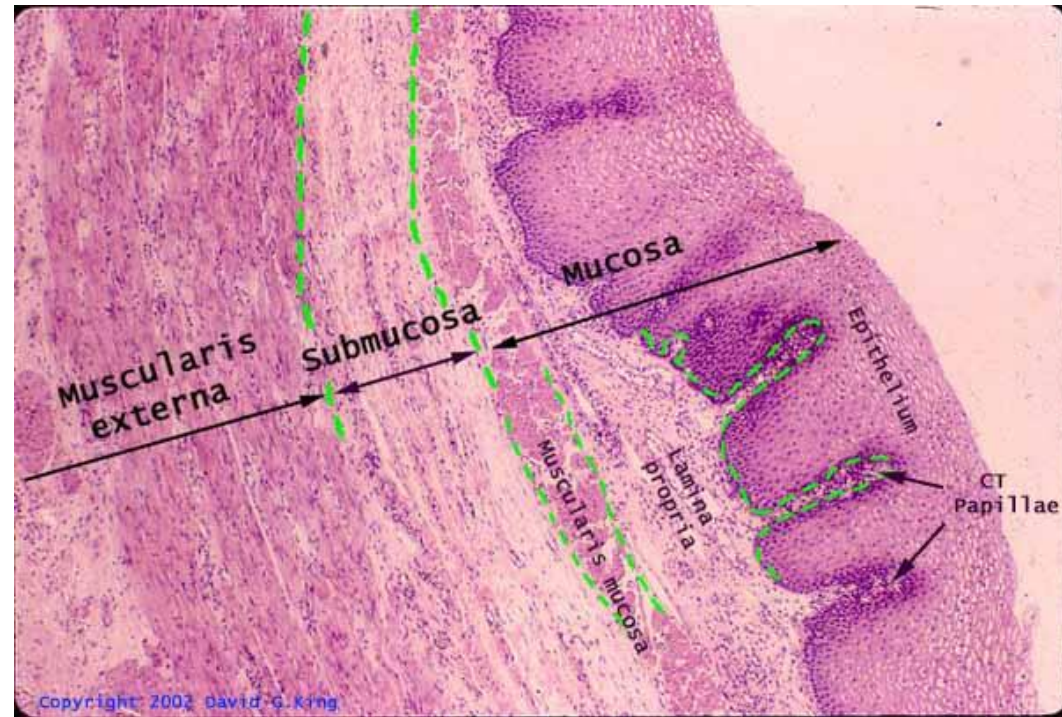
Muscularis mucosae :-

consists of the smooth muscle fibers running in longitudinal direction



2. SubMucosa

- loosely arranged coarse connective tissue and lodges the submucosal (meissner's plexus) of nerves
- Glands : tubulo – alveolar type (deep esoph gland)

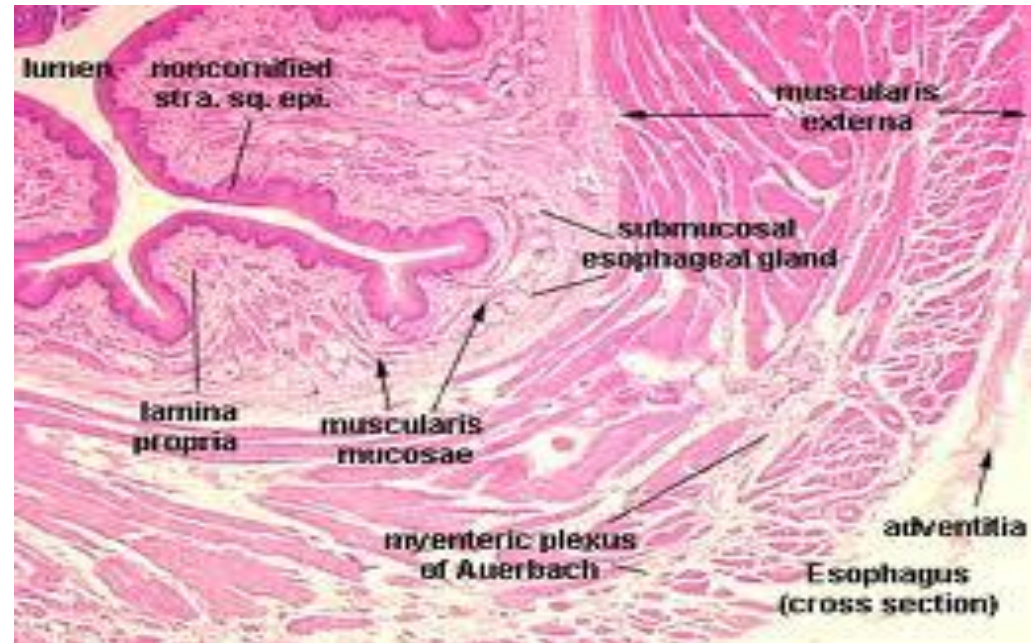


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3. Muscularis externa :

Consists of striated muscle in the upper third of the organ

- In the middle third, smooth muscle bundles are mixed with skeletal muscle fibers
- In the lower third only smooth muscle



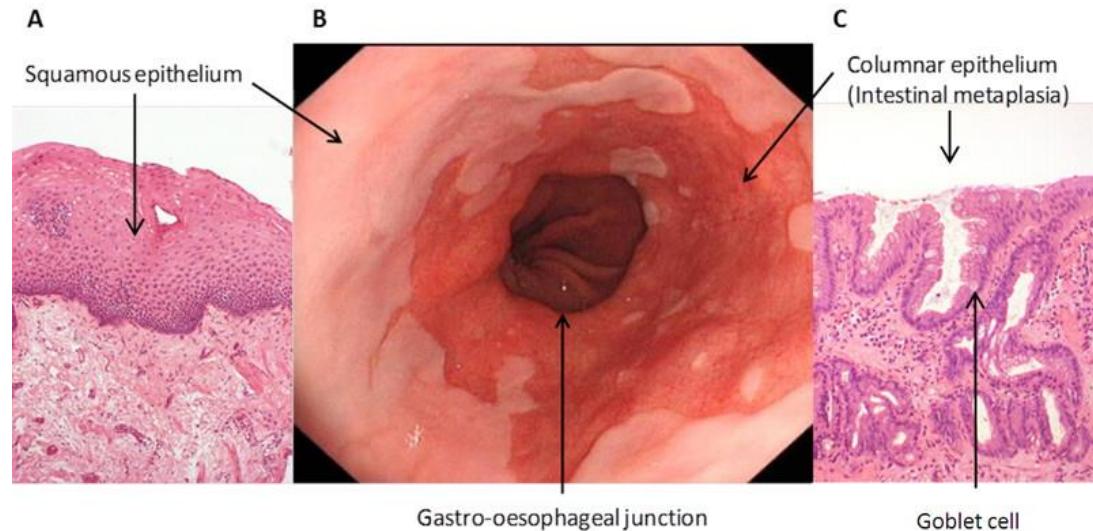
4 . Adventitia :

Gastroesophageal Reflux Disease

- (**GERD**), also known as **acid reflux**
- Is a long term condition
- Where stomach contents come back up into the esophagus
- Resulting in either symptoms or complications.
- **Symptoms include:**
The taste of acid in the back of the mouth, heartburn, bad breath, chest pain, vomiting.
- **Complications include:**
Esophagitis esophageal strictures and Barrett's esophagus

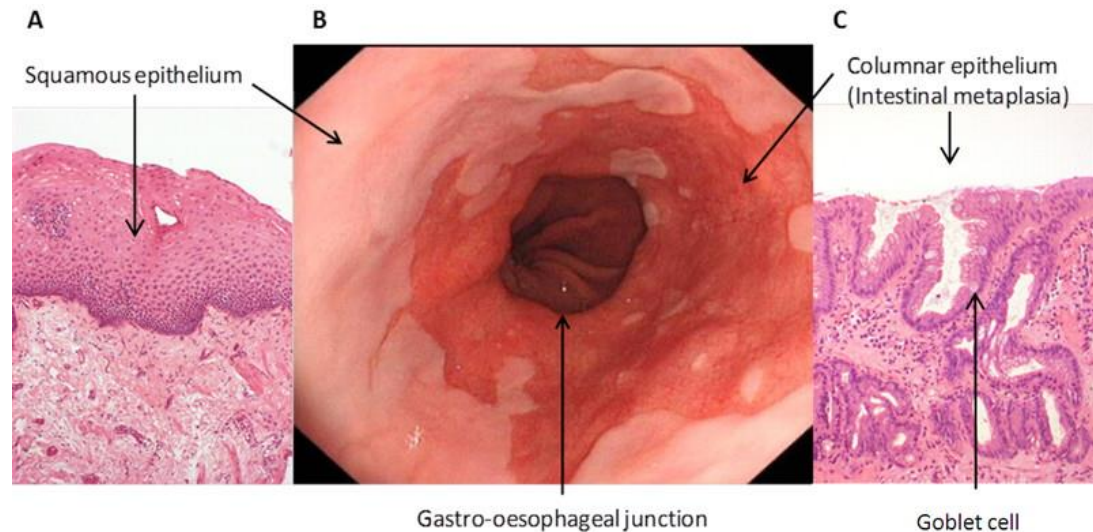
Barrett's Oesophagus

- Sometimes called **Barrett syndrome**,
- Refers to an abnormal change (metaplasia) in the cells of the lower portion of the esophagus.
- It is characterized by the replacement of the normal stratified squamous epithelium lining of the esophagus by simple columnar epithelium



Barrett's Oesophagus

- Sometimes called **Barrett syndrome**,
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Continous

- Diagnosis By Endoscopy.
- A procedure in which a fibreoptic cable is inserted through the mouth to examine the esophagus, stomach, and duodenum) and biopsy.



**NORMAL, HEALTHY
ESOPHAGUS**



**ESOPHAGUS
DAMAGED BY
PROLONGED ACID
EXPOSURE**



**BARRETT'S
ESOPHAGUS TISSUE**



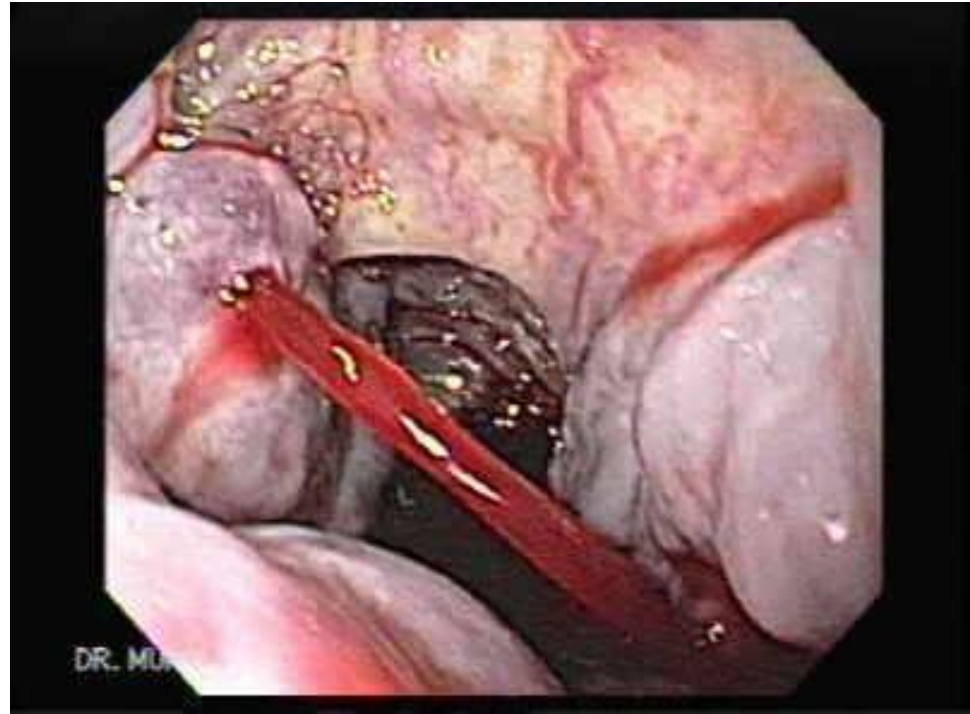
**DYSPLASTIC
BARRETT'S
ESOPHAGUS**



**ESOPHAGEAL
CANCER**

Esophageal Varices

- Are extremely dilated sub-mucosal veins in the lower third of the esophagus.
- They are most often a consequence of portal hypertension, commonly due to cirrhosis; patients with esophageal varices have a strong tendency to develop bleeding.
- Esophageal varices are diagnosed with endoscopy.



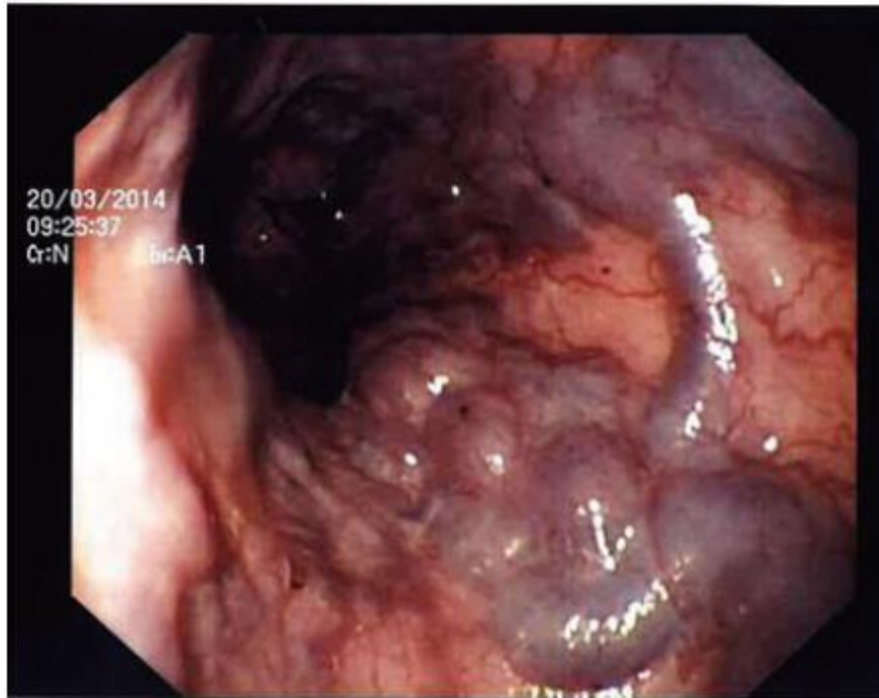


Figure 1 Large esophageal varices at EGD.

Thank you