

DIGESTIVE SYSTEM II

- I. Pharynx - common to resp. & digestive systems. Connects oral cavity to esophagus & nasal cavity to larynx.

Function: voluntary propelling food/drink from mouth to esophagus

A. 3 parts

1. Nasopharynx – not part of the digestive system

2. Oropharynx – air and food

3. Laryngopharynx – air and food

B. Histology

1. Tunica Mucosa: contains non-keratinized stratified squamous

2. Tunica Submucosa: C.T.

3. Tunica Muscularis: composed of 3 bands of skeletal muscle (constrictors)

- a. superior- nasopharynx

- b. middle- oropharynx

- c. inferior- laryngopharynx

4. Tunica Adventitia: C.T.

II. Esophagus

- A. Connects pharynx to stomach

- B. Passes through diaphragm at esophageal hiatus

- C. Ends at stomach; its Muscularis layer forms the gastroesophageal (cardiac) sphincter

D. Histology

1. Mucosa – non-keratinized stratified squamous epithelium

2. Submucosa - contains mucous glands

3. Muscularis - 3 sections

- a. Upper 1/3 = skeletal

- b. Middle 1/3 = skeletal and smooth

- c. Lower 1/3 = smooth

4. Adventitia - c.t.

E. Function: voluntary and involuntary movement of food to stomach

III. Stomach

A. 4 regions: cardiac, fundus, body, & pylorus.

B. Histology

1. Mucosa – has Gastric Pits which open up into Gastric Glands.

The Gastric Glands are composed primarily of:

a. Simple columnar epi. – 3 cell types

i. Mucous neck cells – protection

ii. Parietal cells – secrete HCl

iii. Chief cells – secrete pepsinogen (inactive enzyme that is activated to pepsin by HCl; for protein digestion)

2. Submucosa - c.t.

3. Muscularis – 3 layers of smooth muscle; longitudinal, oblique & circular

4. Serosa – c.t. + simple squamous

C. Has two peritoneal membranes associated with it; **Greater Omentum & Lesser Omentum**

IV. Small Intestine

A. 3 regions: duodenum, jejunum, & ileum.

B. Histology

1. Mucosa has finger-like folds = Villi

a. Epithelium – Simple Columnar; microvilli for secretion & absorption; goblet cells for mucus

- b. Lamina propria – contains lacteals (lymphatic capillaries)
 - c. Muscularis mucosae
- Between villi = intestinal glands (crypts of Lieberkuhn)

2. Submucosa is thrown up into folds = Plicae Circularis. Contains Peyer's patch (group of WBC's)

3. Muscularis - 2 layers of smooth muscle; outer longitudinal layer and inner circular layer

4. Serosa – connective tissue underlying simple squamous

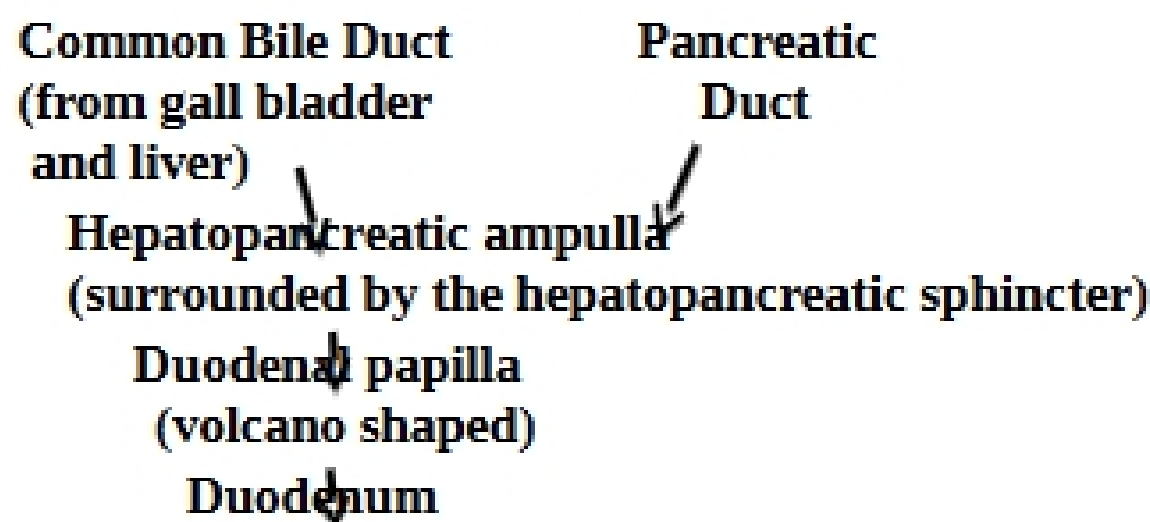
C. Function

- 1. Duodenum: **most chemical digestion occurs here because;**
 - a. The duodenal cells of the intestinal glands make enzymes to break down food

- b. receives bile from the gall bladder

- c. It receives enzymes from the pancreas for the breakdown of food

BILIARY APPARATUS



2. Jejunum – absorption occurs here

3. Ileum - very little absorption

Most Chemical Digestion occurs in the duodenum and digestion