

THE DIGESTIVE SYSTEM

The digestive system consists of the digestive tract and associated glands

The main components of the digestive tract are the:

- Oral cavity Esophagus Stomach
- Small Intestine Large Intestine Rectum and anus

The entire digestive tract can be considered as a hollow tube surrounded by a wall composed of four main layers :

☐ Mucosa •

☐ Submucosa. •

- ☐ Muscularis

- ☐ Serosa or A Adventitia

- - **Mucosa**

- *The mucosa. consists of:*

- ● Epithelium (lining the lumen)

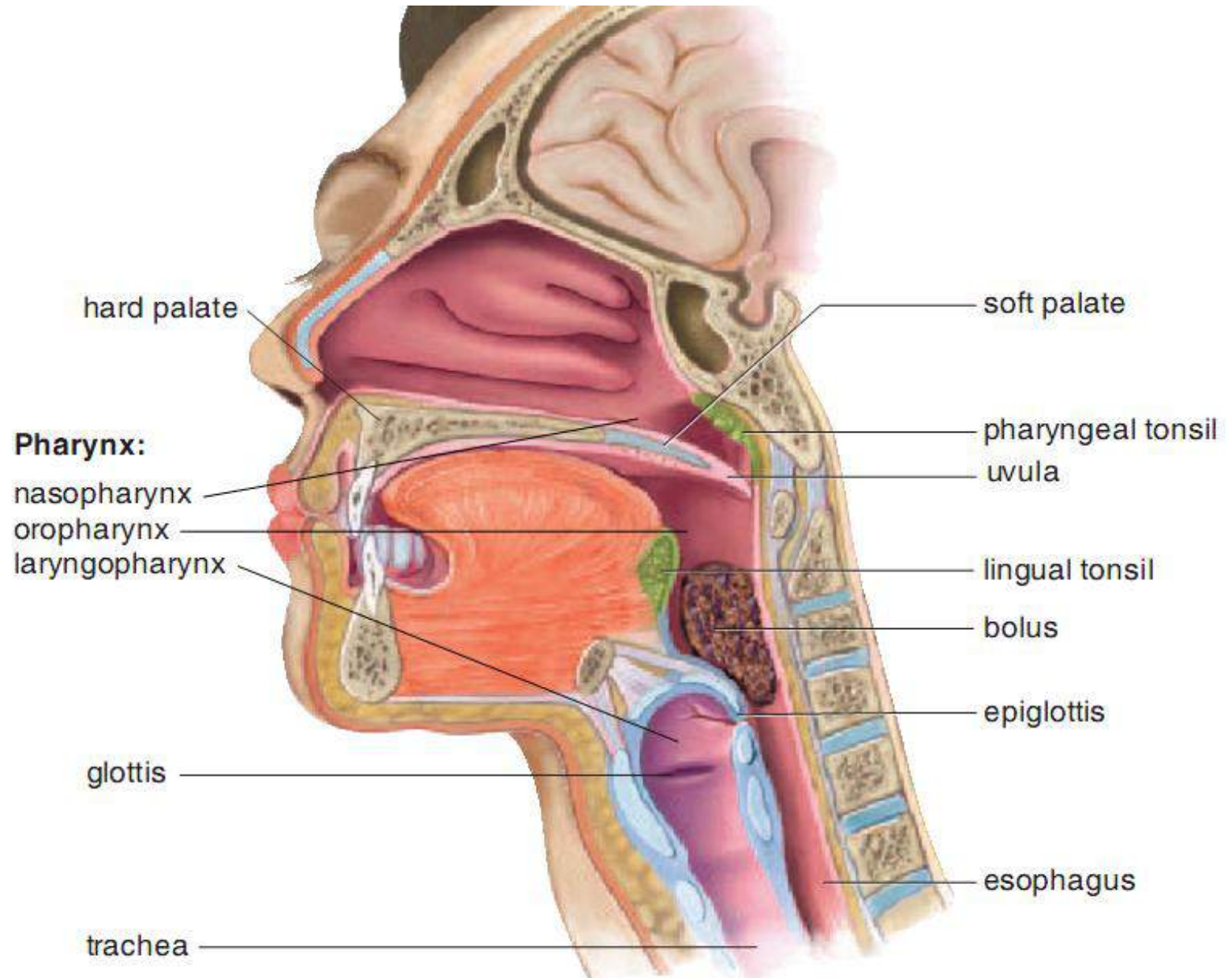
- ● lamina propria (loose connective tissue)

- muscularis mucosae (thin layer of smooth muscle cells).

ESOPHAGUS

- The esophagus is a straight muscular tube connecting the oral cavity to the stomach.
- The esophagus contains the four basic layers common to the rest of the digestive tract.
 - The esophagus is lined with Stratified squamous epithelium (without keratin).
 - In the mid-region of the esophagus the muscularis has a mixture of striated muscle and smooth muscle.

The outermost layer of the esophagus that extends into the peritoneal cavity (serosa)



STOMACH. •

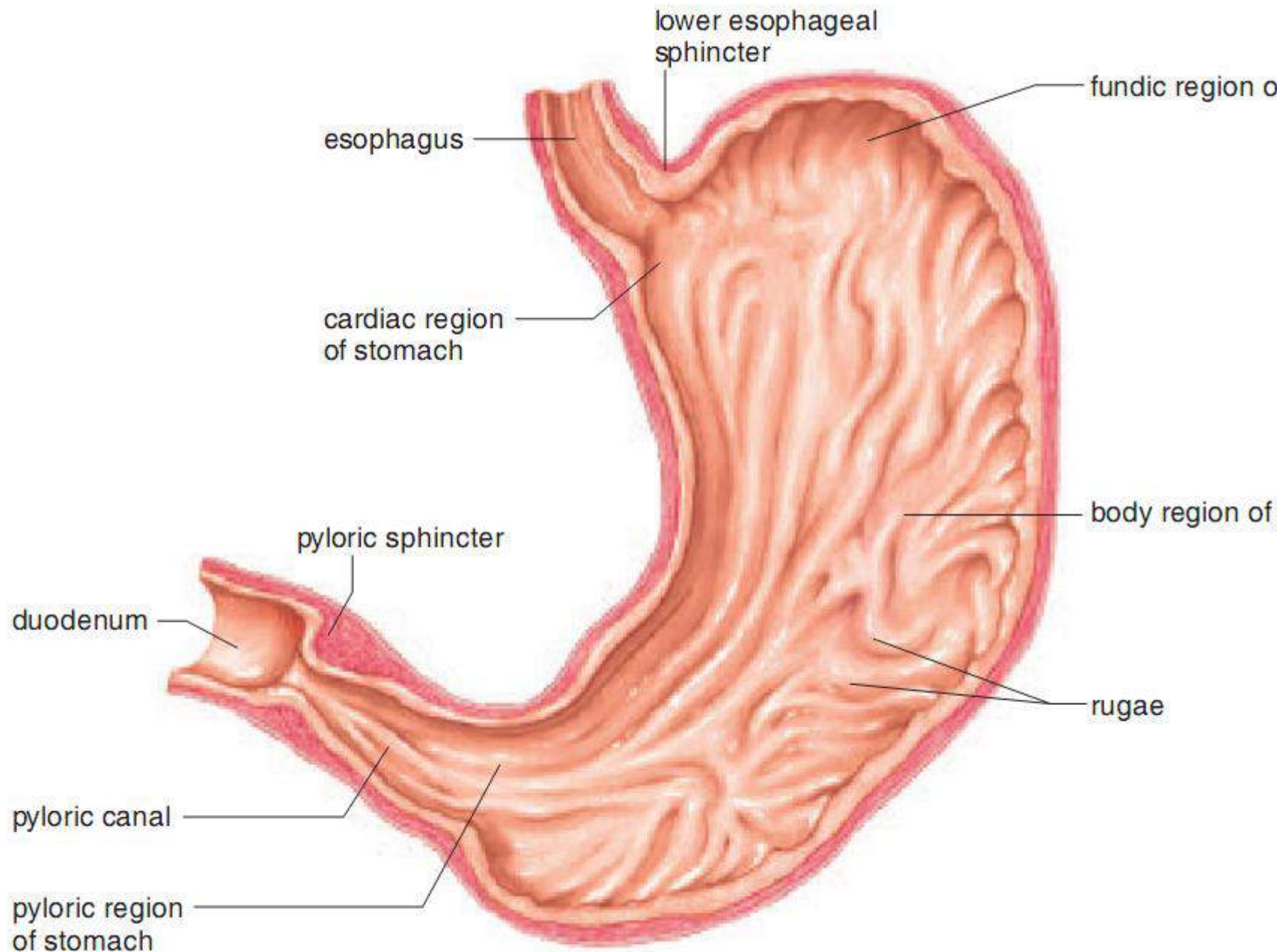
- ■ The stomach is a very muscular organ in which acid secretions and digestive enzymes contribute to the digestion of food, From a histological viewpoint the stomach can be divided into two major histological regions:

- • Fundus and Body

- • Pylorus

- **FUNDUS and BODY**

- ■ These are lined with a homogeneous simple columnar epithelium consisting of mucus-secreting cells. Mucus secreted by these cells provides protection from the highly acidic .

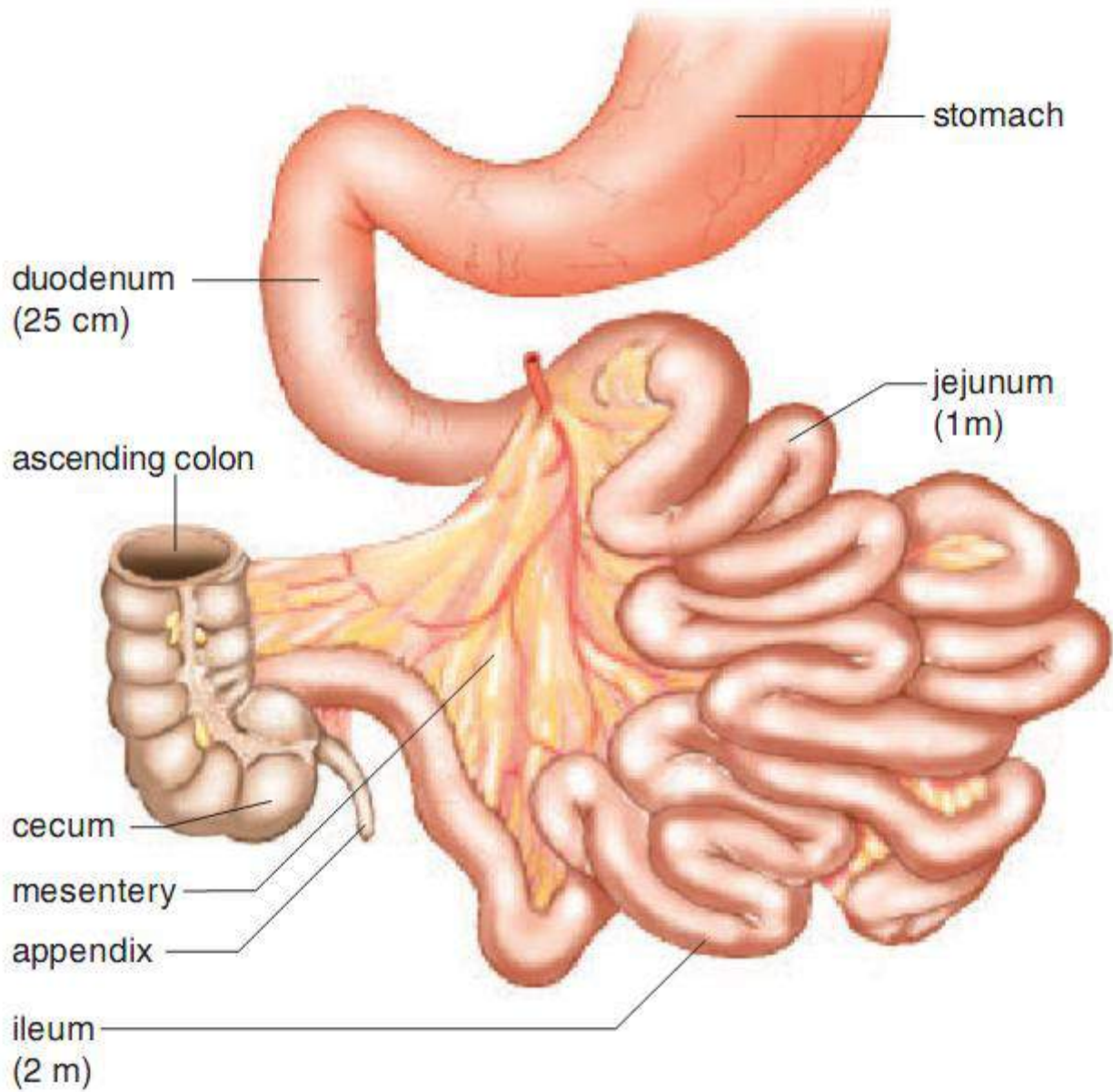


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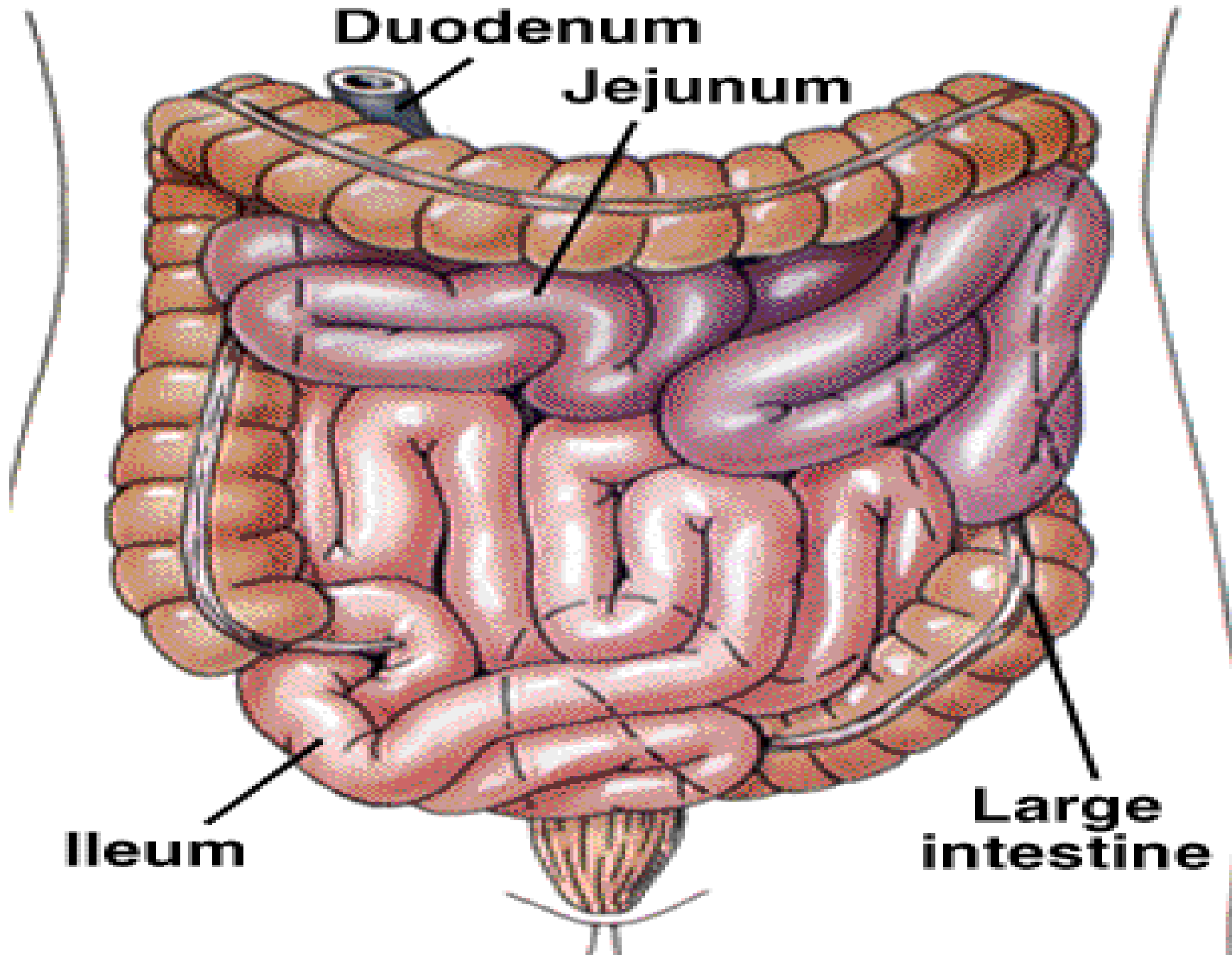
- **Small intestine :**

- The small intestine is the main site of absorption of digested food. The small intestine is specialized for the completion of the digestion processes and the subsequent absorption of the digested products. The overall length of the small intestine is about 5 meters, and consists of three main segments:

- • Duodenum
- • Jejunum
- • Ileum



- **Large intestine :**
- —The large intestine lacks folds or villi . It is characterized by many tubular intestinal glands with large numbers of goblet cells
- —The large intestine is the site of water absorption (via columnar absorptive cells) and is also the site of formation of the feces .
- —The secretions of the goblet cells provide lubrication for the luminal
- **Appendix:**
- the appendix is a blind – ended tube with the basic histological structure of the large intestine.



Duodenum

Jejunum

Ileum

Large intestine

- **The liver**

- —The liver is located in the peritoneal cavity below the diaphragm .

- —The liver is the largest internal organ of the body and can reach 1,500g in adults . it is also the largest gland of the body and serves both exocrine and endocrine functions.

- —The metabolic functions of the liver are numerous .

- —The liver has an abundant blood supply and in particular receives venous blood from the small intestine mesenteric veins and hepatic portal vein), which contains all the food components absorbed from the intestine with the exception of the lipids.

The gallbladder:

the function of the gallbladder is to provide a storage site for bile (synthesized in the liver

The layers of the gallbladder consist of:

- Mucosa consisting of columnar epithelium and lamina propria . the cytoplasm of the epithel cells has weak acidophilic characteristics.
- Muscularis consisting of smooth muscle , which is found in longitudinal, transverse and oblique directions
- Perimuscular dense connective tissue layer
- Serosa , which covers part of the organ only.

Pancreas :

the pancreas is a compound gland with both exocrine and endocrine functions

