Chapter 8. Digestive System and Nutrition

The function of the digestive system is to ingest food, digest it, absorb nutrients, and eliminate wastes.

The Alimentary Canal – Gastrointestinal (GI) Tract. [Figure 8.1]

Structure:

The GI wall. [Figure 8.2]

What are the four layers of the GI wall?

1. 

2. 

3. 

4. 

1
Structures of the Mouth. [Figure 8.3]

Swallowing. [Figure 8.4]

Pharynx and esophagus.
Peristalsis – What is it?
Stomach. [Figure 8.5]

Sphincters:

What is a sphincter?

Cardiac and pyloric.

Food processing and digestion in the stomach.

Chemical processing.

Small Intestine. [Figure 8.6]

Structure.

- 21 feet in length.
- 1 inch in diameter.

Inner surface area increased by villi.

Interior of a villus:

- Capillary network: Carry monosaccharides and amino acids.
- Lacteal: Connected to lymph vessels. Fats digested to glycerol and fatty acids in small intestine are absorbed into cells of villi, reassembled into fats, and secreted into lacteals.
Small intestine –

The digestive enzymes that function within the small intestine are produced where?

Accessory digestive organs:
What are the three accessory digestive organs?
Functions of the Liver:
- Produces Bile (bile is stored in gall bladder).
- What are the characteristics

Regulation:
- Regulates levels of glucose, amino acid, and fatty acid levels in blood.

Storage:
- Glycogen, some lipid (fat) reserves, fat soluble vitamins.

Detoxification:
- Detoxifies some metabolic wastes and toxins taken into the body – alcohol, drugs, etc.
The large intestine (colon).

Structure:
≈ 5 feet in length; 2.5 inches in diameter.
Cecum, appendix, ascending colon, transverse colon, descending colon, sigmoid colon, rectum.

Function:
Absorption of water + electrolytes.
Contains intestinal flora.