

Chapter 23: Digestive System

I. Overview of the Digestive System

A. Digestive Processes

1. Ingestion
2. Propulsion
 - a. peristalsis
3. Mechanical breakdown
 - a. segmentation
4. Digestion
5. Absorption
6. Defecation

II. Functional Anatomy of the Digestive System

A. Digestive Processes: Mouth to Esophagus

1. Mastication (chewing)
2. Deglutition (swallowing)
 1. buccal phase
 2. pharyngeal-esophageal phase

B. The stomach

1. Microscopic Anatomy
 - a. Mucous neck cells
 - b. Parietal cells
 - c. Chief cells
 - d. Enterendocrine cells

e. mucosal barrier

2. Digestive Processes in the Stomach

a. Regulation of Gastric Secretion

i. Phase 1: Cephalic (Reflex)

ii. Phase 2: Gastric

iii. Phase 3: Intestinal

C. Bile

D. Pancreatic juice

E. Regulation of Bile and Pancreatic secretion and Entry into the Small Intestine

F. Digestive Processes Occurring in the Small Intestine

G. Digestive Processes in the Large Intestine

III. Physiology of Digestion and Absorption

A. Digestion

1. Mechanism of Digestion: Enzymatic Hydrolysis

2. Digestion of Carbohydrates

3. Digestion of Proteins

4. Digestion of Lipids

B. Absorption

1. Carbohydrate Absorption

2. Protein Absorption

3. Lipid Absorption

4. Vitamin Absorption

5. Water Absorption