

# Stomach Anatomy

## The stomach is:

1. A **storage** area.
2. The site of mechanical and chemical **breakdown of proteins**.
3. Where food is rendered down to **chyme** before leaving the stomach.

## Physical features of the stomach:

1. When the stomach is empty, it collapses its large longitudinal folds called **rugae**.
2. Food enters the stomach from the esophagus through the **cardiac sphincter** (gastroesophageal sphincter).
3. Chyme leaves the stomach through the **pyloric sphincter** into the small intestine.
4. The stomach regions are the **fundus, body** and **pylorus**.
5. The lateral surface (convex side) is called the **greater curvature**.

The medial surface (concave side) is called the **lesser curvature**.

6. The peritoneum associated with the stomach is called the **greater omentum**. It comes off the greater curvature of the stomach. The **lesser omentum** comes off the lesser curvature of the stomach.

- a. The greater omentum is a double layer sheet. The potential space is filled with fat (for protection).
- b. It also contains a large collection of **lymph nodules**. An infection (peritonitis) causes the peritoneal coverings to stick together to keep the infection localized while the lymphatics work to address the infection.
- c. The portion of the greater omentum that connects the stomach and spleen is called the **gastrosplenic ligament**.
- d. The **lesser omentum** extends from the lesser curvature of the stomach to the liver and a portion of duodenum.

7. The stomach has the **4 basic tunics of the alimentary canal**, except the muscular layer is modified. The muscularis layer, which is usually just a circular and longitudinal layer, also has a third innermost layer of smooth muscle that runs obliquely. This allows the stomach to create mixing action for breaking food down.

8. The stomach's mucosa layer is all **columnar cells** that produce lots of **mucus**.

9. The stomach wall is covered with deep **gastric pits** from which flows **gastric juice**.

10. Most chemical digestion occurs in the fundus and body of the stomach. The glands here have the following types of secretory cells:

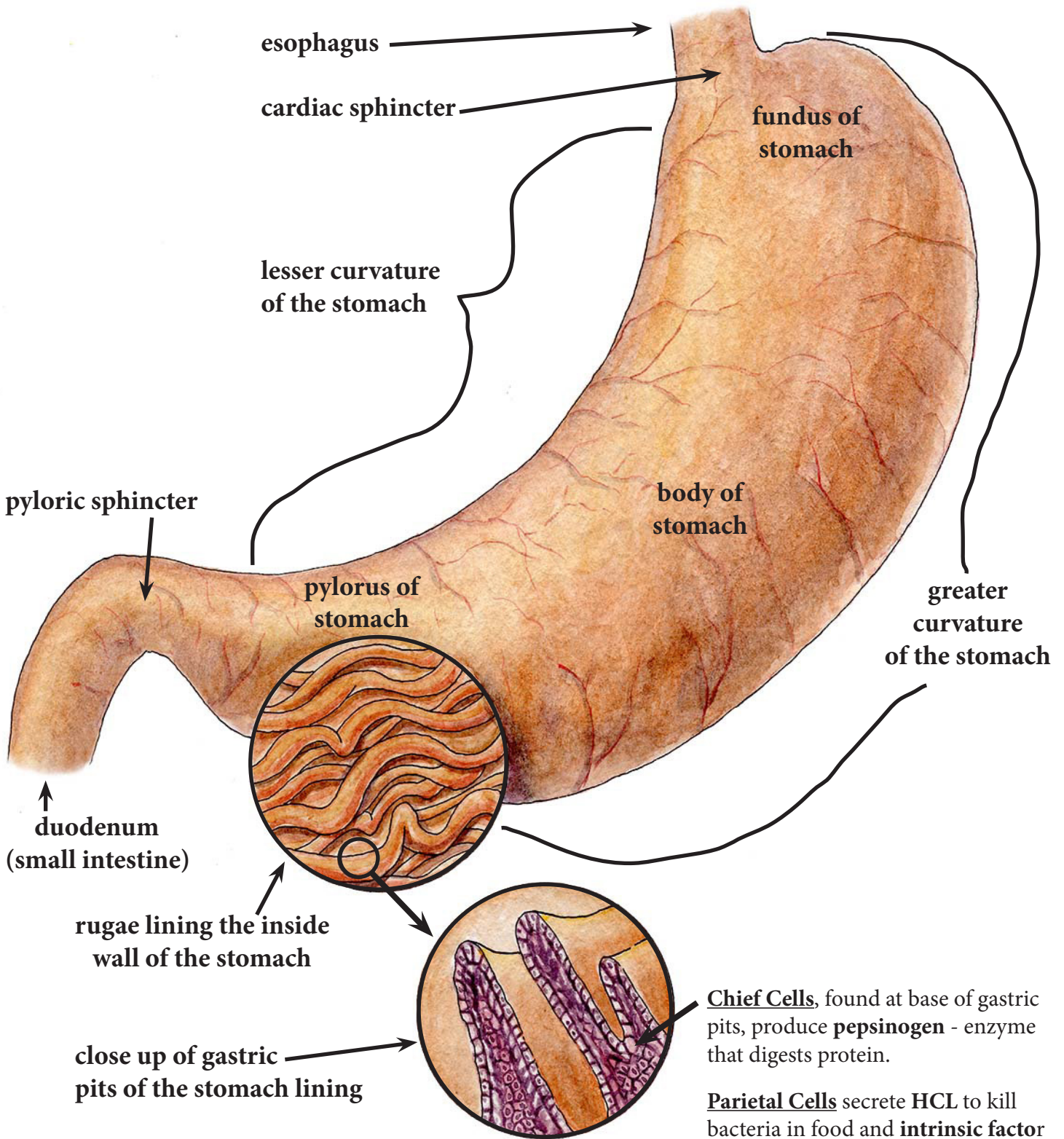
- **Chief Cells:** They are found at the base of the gastric gland and produce **pepsinogen** (the enzyme that digests protein).

- **Parietal Cells:** secrete **HCL** to kill bacteria in food and makes it acidic for enzyme action. They also secrete **intrinsic factor**, which is a glycoprotein required to absorb Vitamin B12 in the small intestine.

- **Mucous Neck Cells:** found in the neck region of the gastric glands among the parietal cells, they produce **alkaline mucus** that protects the stomach wall from HCL.

- **Enteroendocrine Cells:** found in the pyloric region of the stomach, they secrete hormone-like products directly into the lamina propria which diffuse into the blood and regulate stomach secretions and contractions.

# Anatomy of the Stomach



**Chief Cells**, found at base of gastric pits, produce **pepsinogen** - enzyme that digests protein.

**Parietal Cells** secrete **HCL** to kill bacteria in food and **intrinsic factor** to help absorb Vitamin B12 in the small intestine.

**Mucous Neck Cells** produce alkaline **mucus** that protects the stomach wall from HCL.