

The Digestive System 2

STOMACH

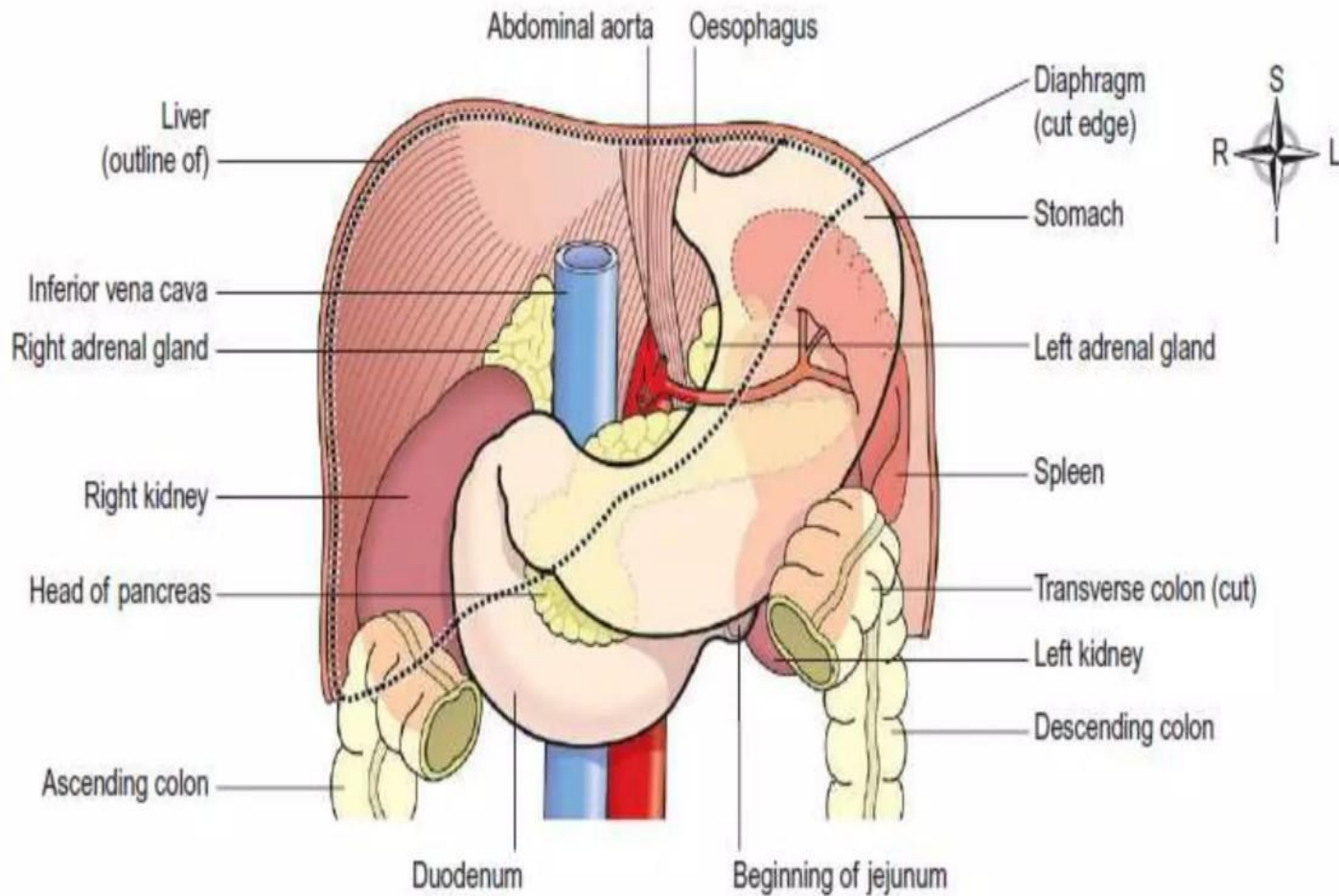


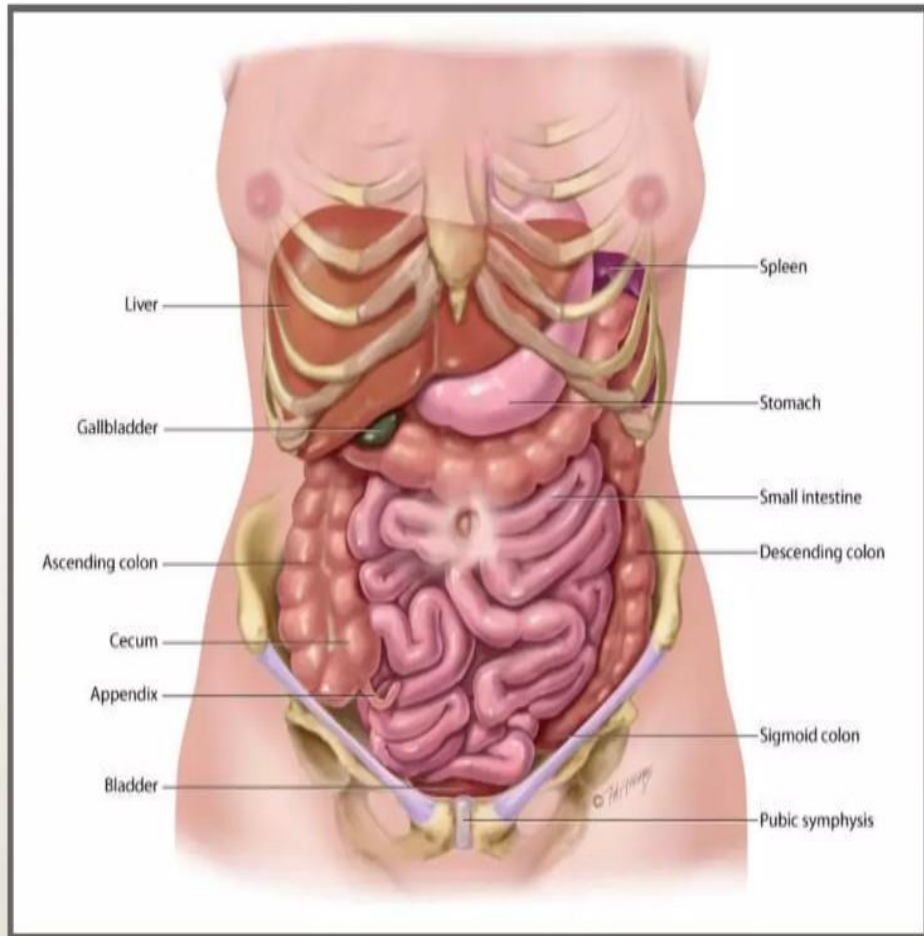
Fig: Anterior view of stomach and its adjacent structures

LOCATION OF THE STOMACH

It is the enlarged hollow part of the digestive tract specialized in the **accumulation** of ingested food, and also acts as food **blender**.

It is located between the oesophagus and the small intestine.

It is located in the epigastric, umbilical & left hypochondriac regions of the abdominal cavity.



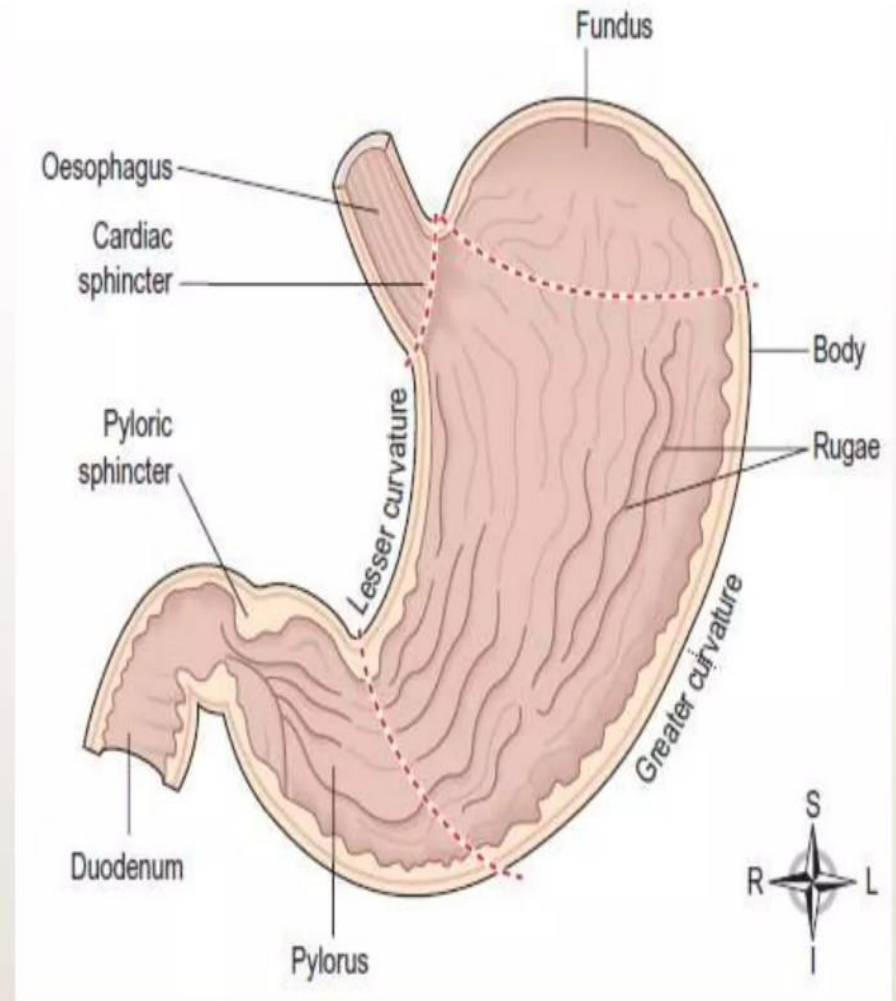
PARTS OF THE STOMACH

The stomach has four (4) parts:

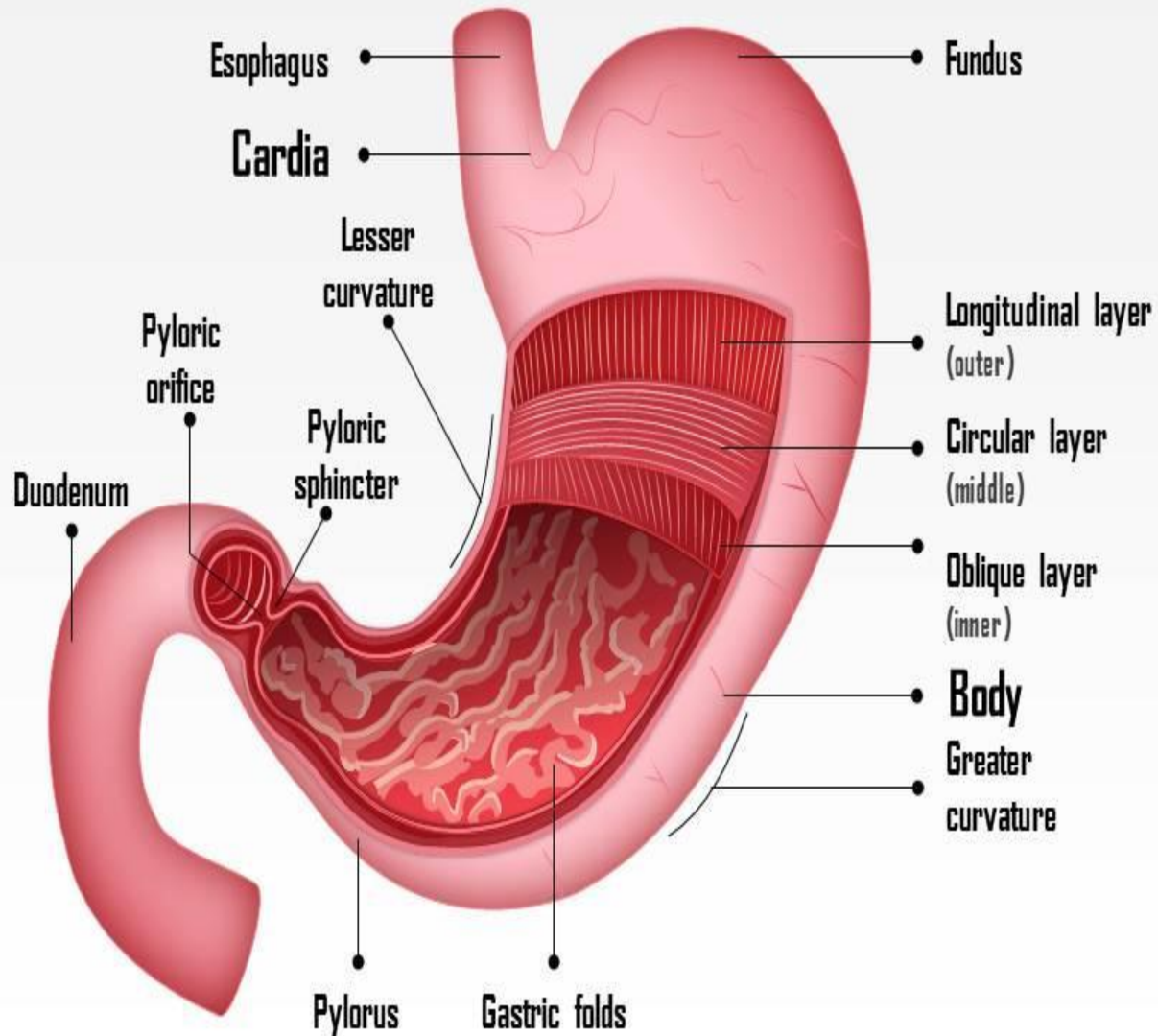
- Cardiac
- Fundus
- Body
- Pylorus

The stomach is continuous with the oesophagus at the **Cardiac Sphincter**, and with the Duodenum at the Pyloric Sphincter.

The **Pyloric Sphincter** guards the opening between the stomach and the duodenum. When the stomach is inactive, the pyloric sphincter is relaxed and open, and when the stomach contains food, the sphincter is closed.



Anatomy of Stomach



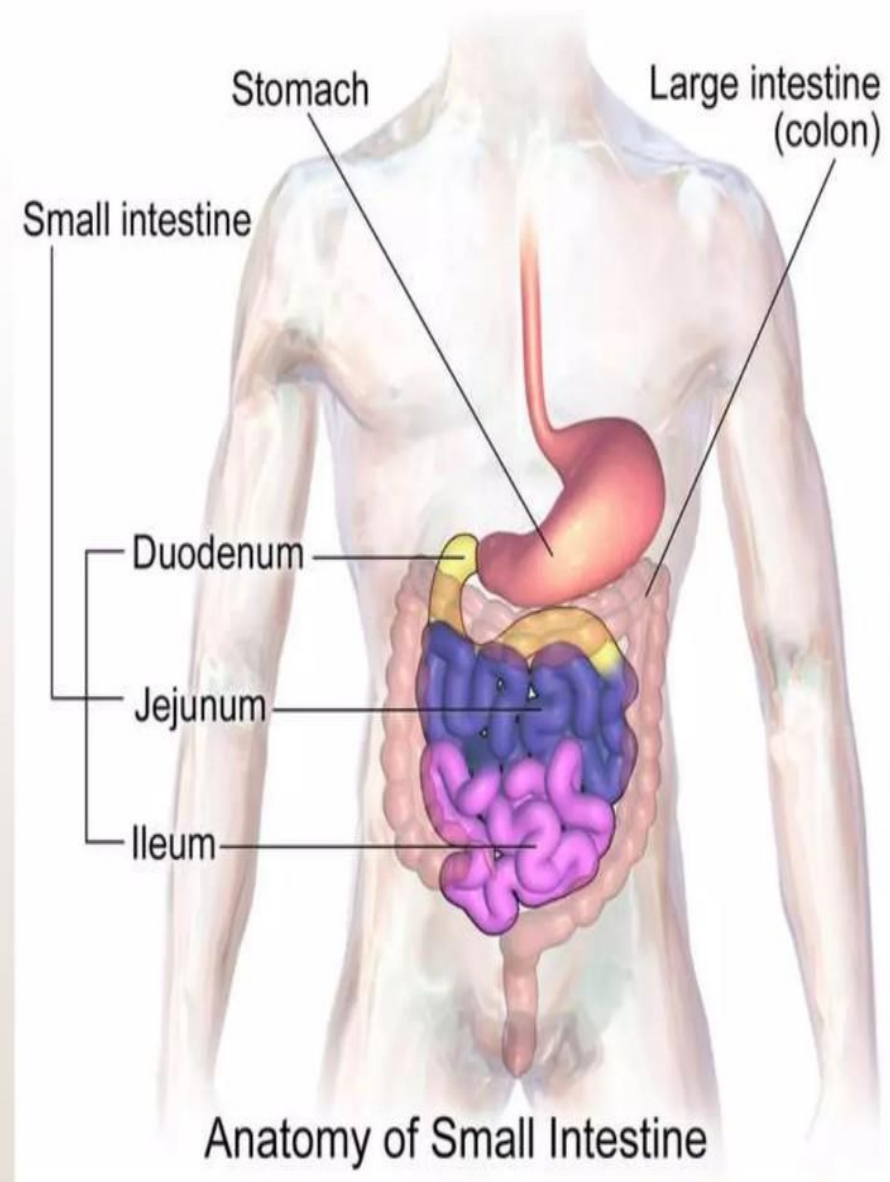
SMALL INTESTINE

The small intestine is the part of the GIT between the stomach and large intestine.

The small intestine is continuous with the stomach at the **Pyloric Sphincter** and leads into the large intestine at the **ileocaecal valve**.

It is about 2.75 – 10.49 m long. For an average person, it is 3-5m.

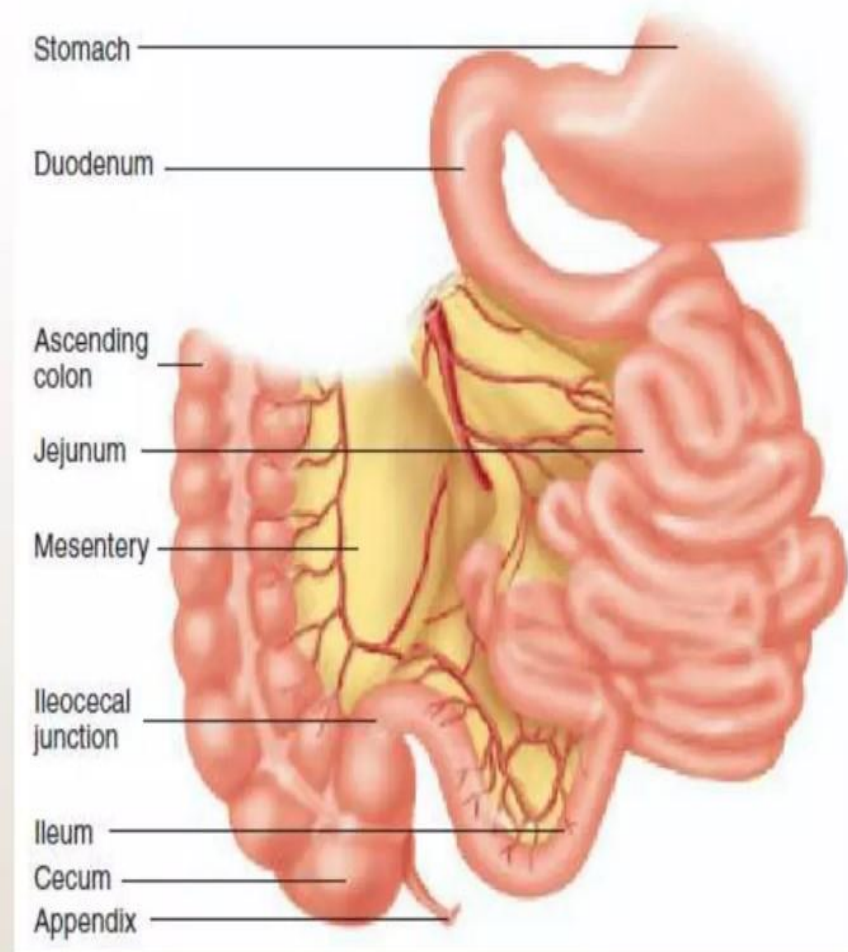
It lies in the abdominal cavity surrounded by the large intestine.



PARTS OF SMALL INTESTINE

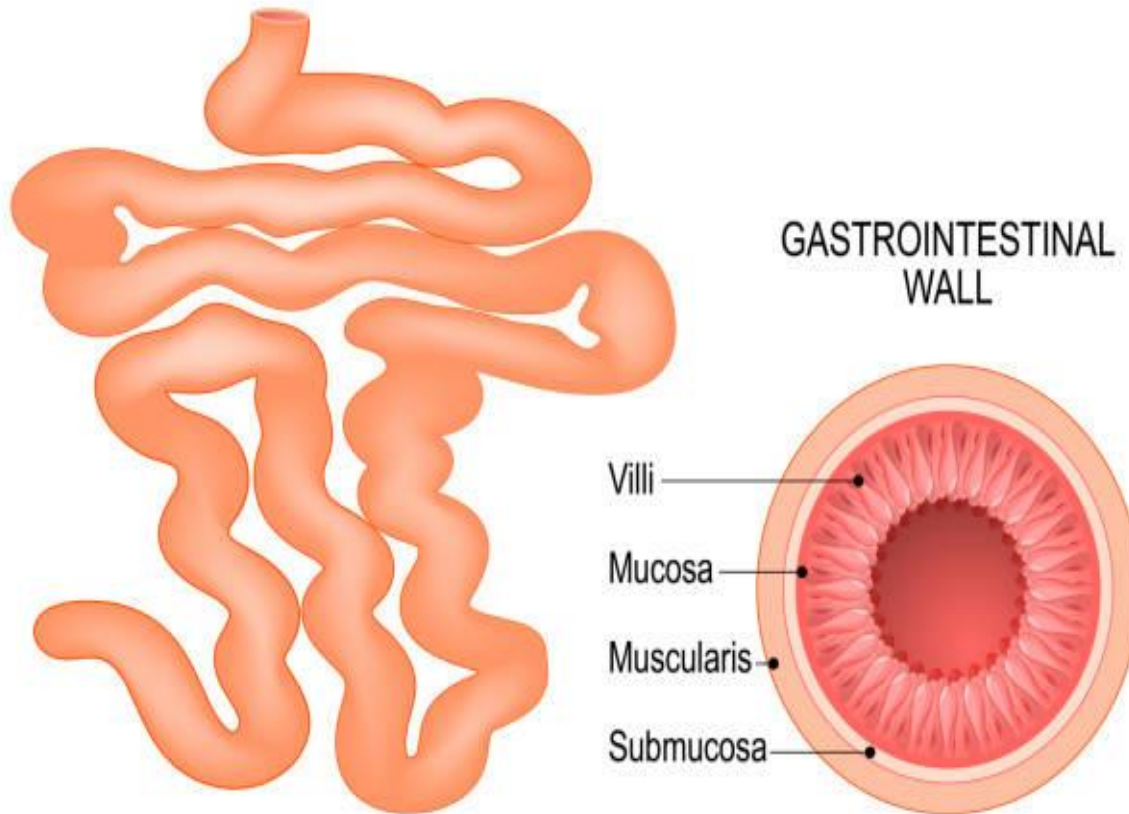
There are 3 parts of the Small Intestine:

- ▶ **Duodenum**: First, shortest, widest and most fixed part (0.25m long).
- ▶ **Jejunum**: This is the middle section of the small intestine (about 2.5m long) – about 2/5th
- ▶ **Ileum**: Joins the large intestine at the *Ileocecal Junction* (3- 3.5m long) – about 3/5th



The *mesentery*, a double layer of **peritoneum**, supports and attaches the jejunum and ileum (*small intestine*) to the posterior abdominal wall.

SMALL INTESTINE



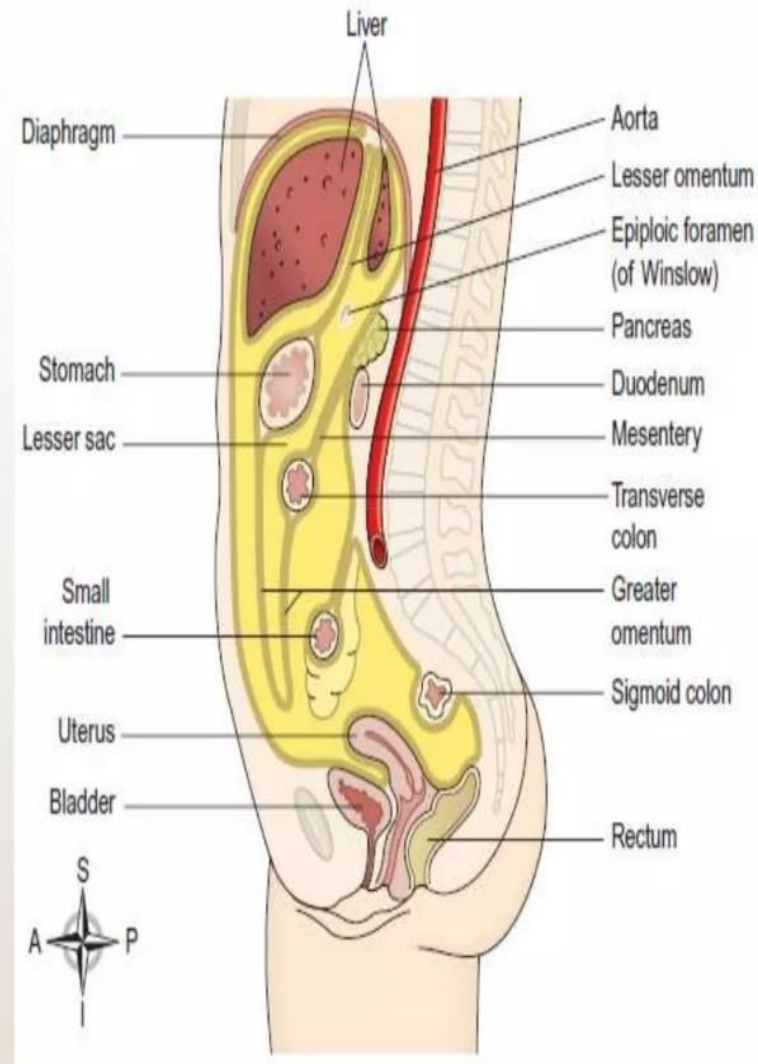
PERITONEUM & MESENTERY

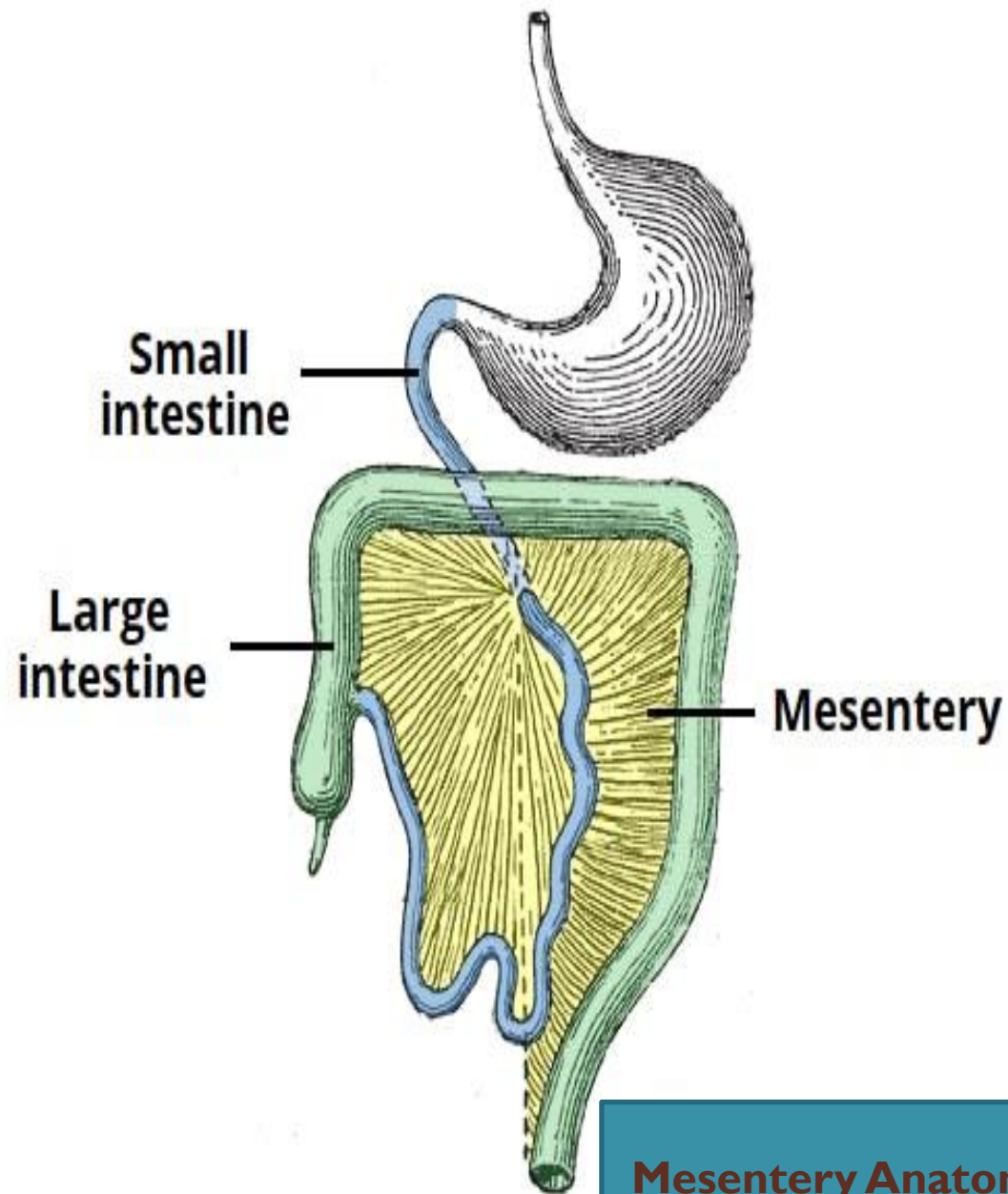
The peritoneum (*yellow portion*) is the largest serous membrane of the body. It is a closed sac, containing a small amount of serous fluid, within the abdominal cavity.

It provides attachment to organs of the GIT, and acts as a physical barrier to localize spread of infection.

It invaginates the stomach, small intestine, liver, pancreas, kidney, spleen, and other pelvic organs.

The mesentery associated with the small Intestine is sometimes called the Mesentery Proper. There are mesenteries of other parts, e.g. of the colon: transverse mesocolon.





Mesentery Anatomy

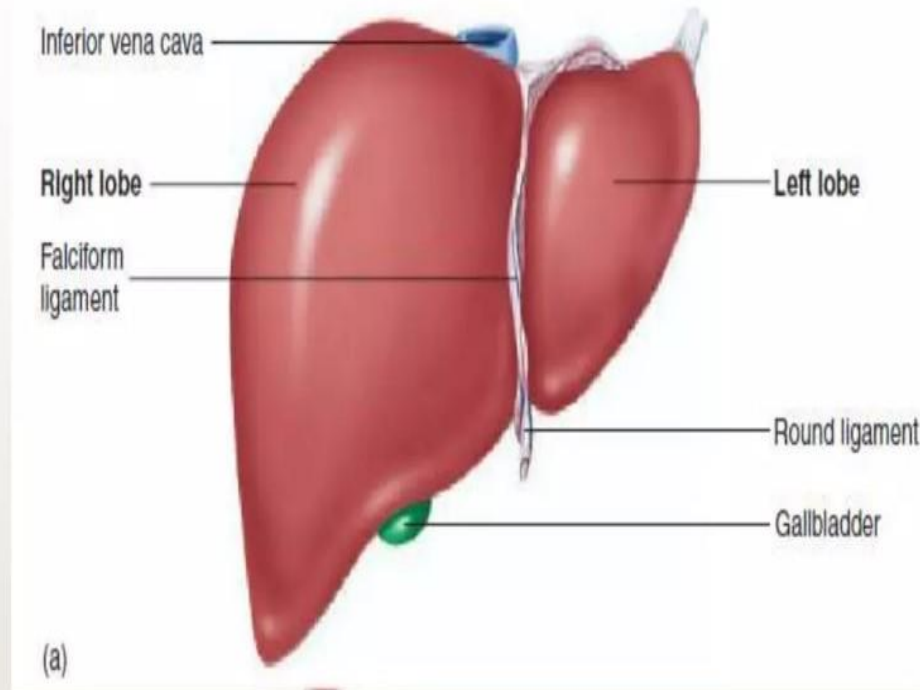
LIVER & GALL BLADDER

The liver is an accessory digestive gland, and largest internal organ.

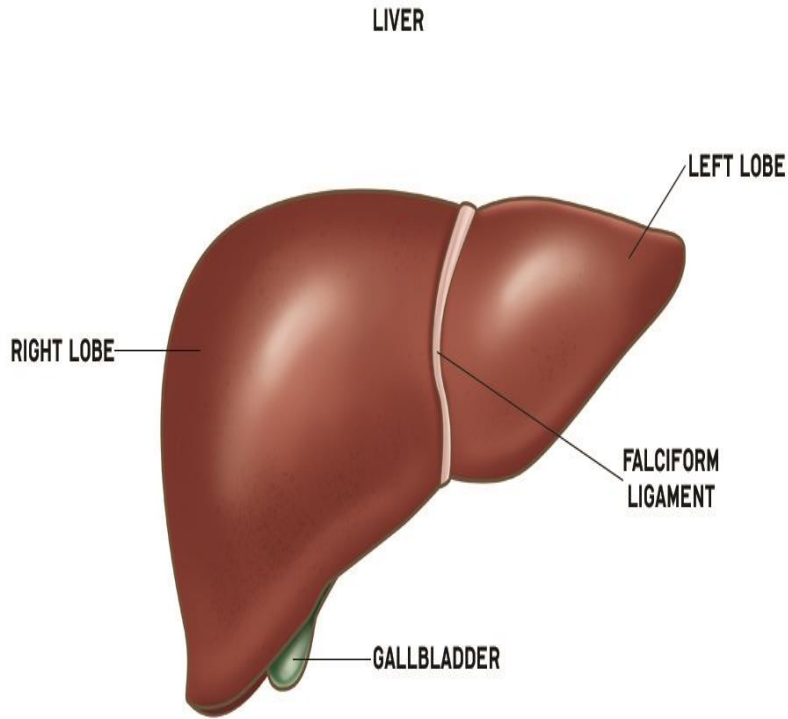
It is involved in the:

- Synthesis of glucose from amino acid
- Breaking down of carbohydrates
- Synthesis of cholesterol
- Production of fat, through lipogenesis.
- Production of bile.

The **bile** produced is stored in the gall bladder, and secreted to the small intestine during food digestion. The **gallbladder** is a saclike structure on the inferior surface of the liver that is about 8 cm long and 4 cm wide.

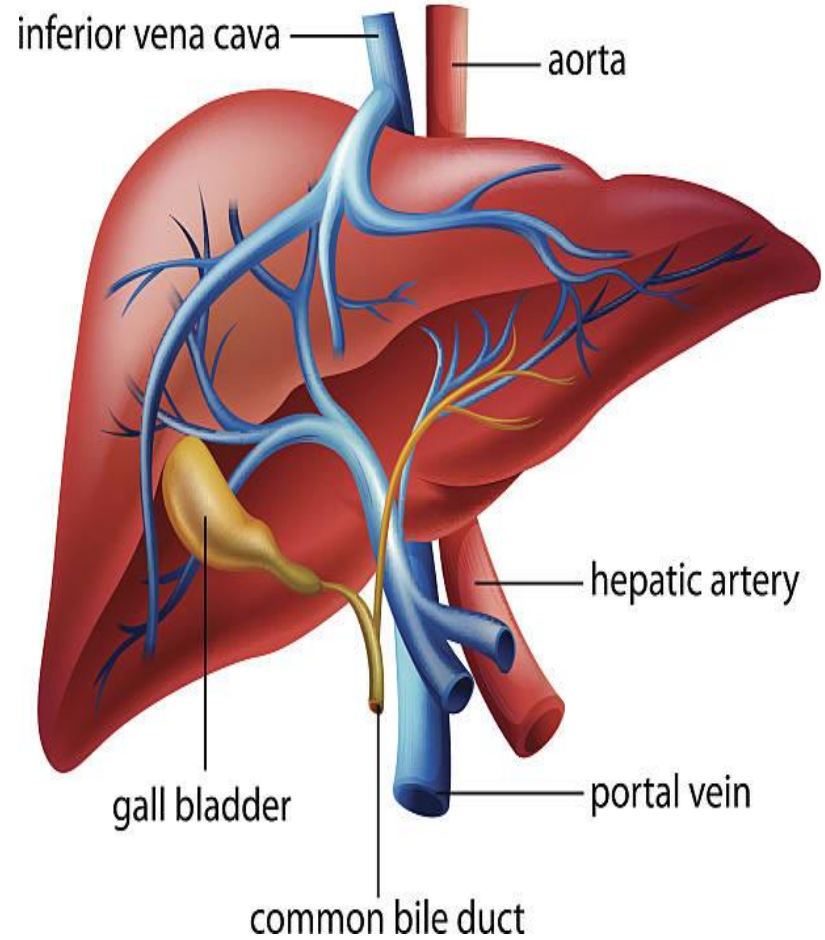


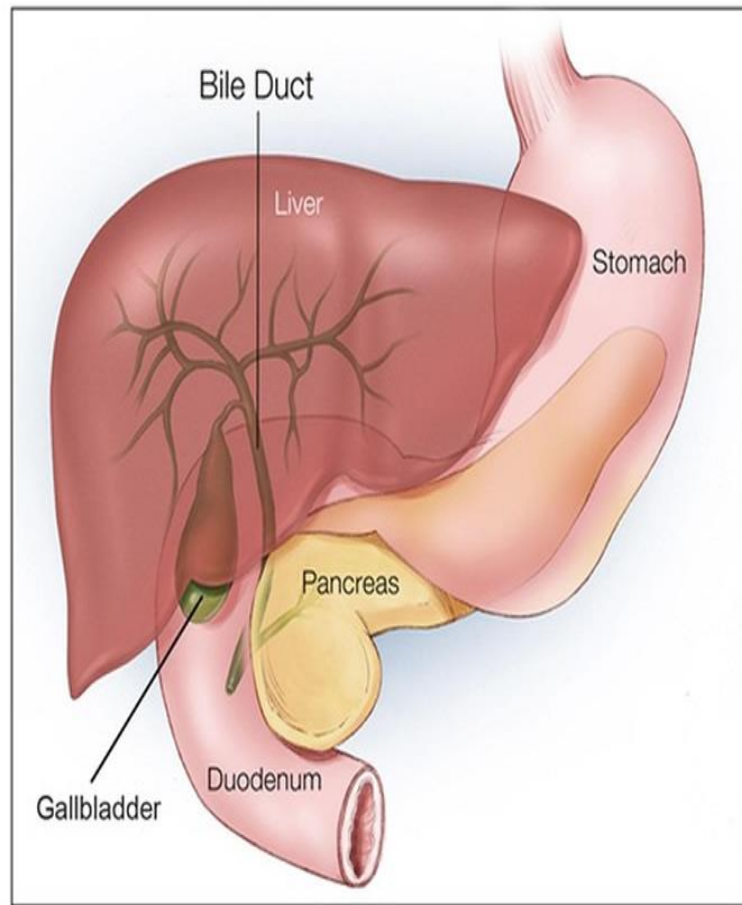
Human Liver Anatomy



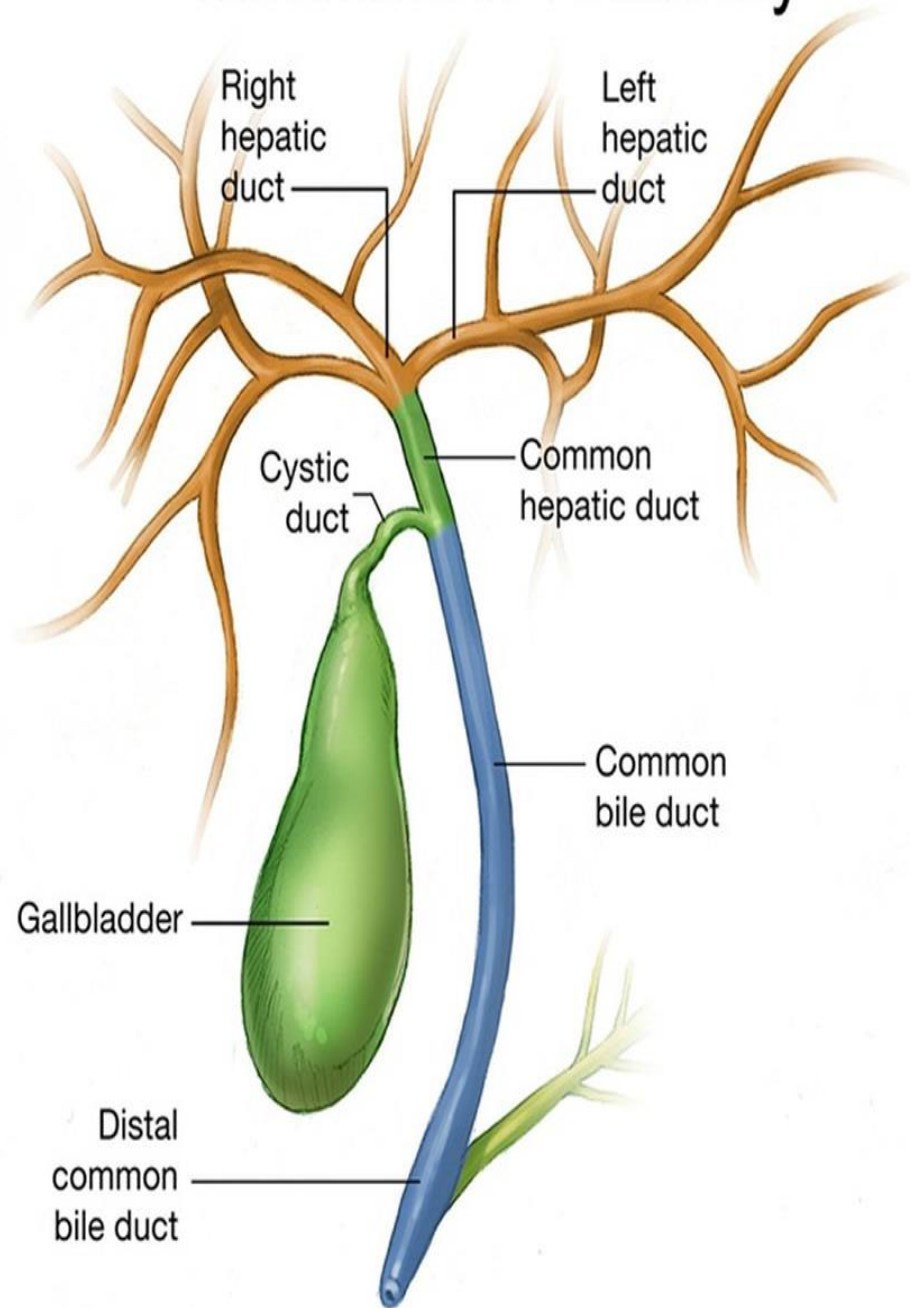
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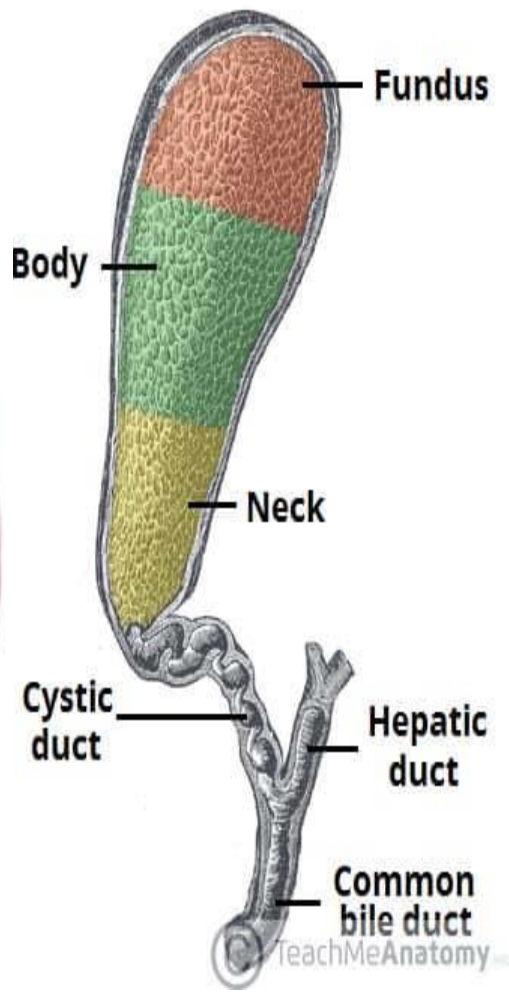
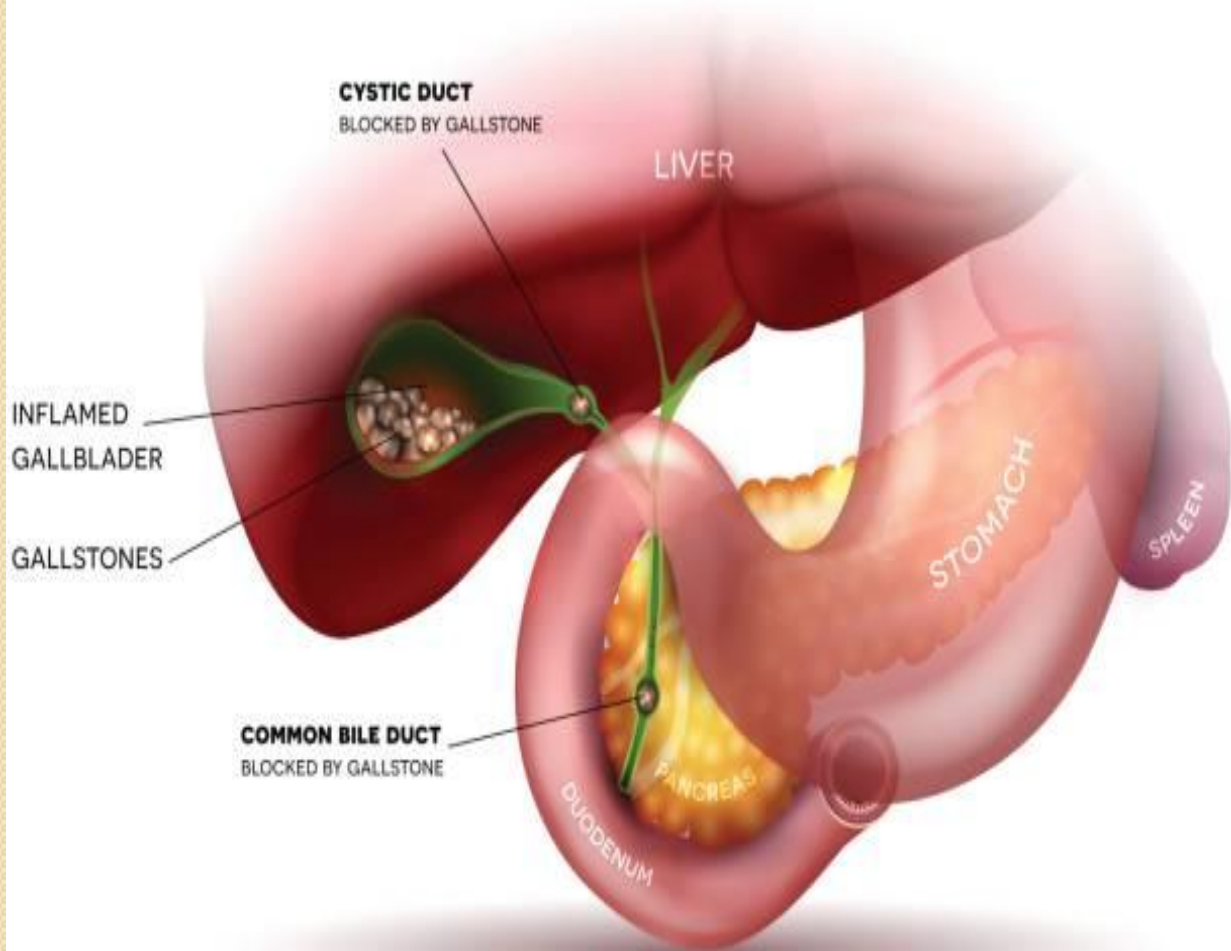




Gallbladder Anatomy



GALLSTONES



PANCREAS

The pancreas is a pale grey gland weighing about 60g. It is about 12–15 cm long and is situated in the epigastric and left hypochondriac regions of the abdominal cavity.

It consists of a broad head, a body and a narrow tail.

It secretes pancreatic juice (exocrine pancreas), and insulin and glucagon (endocrine pancreas).

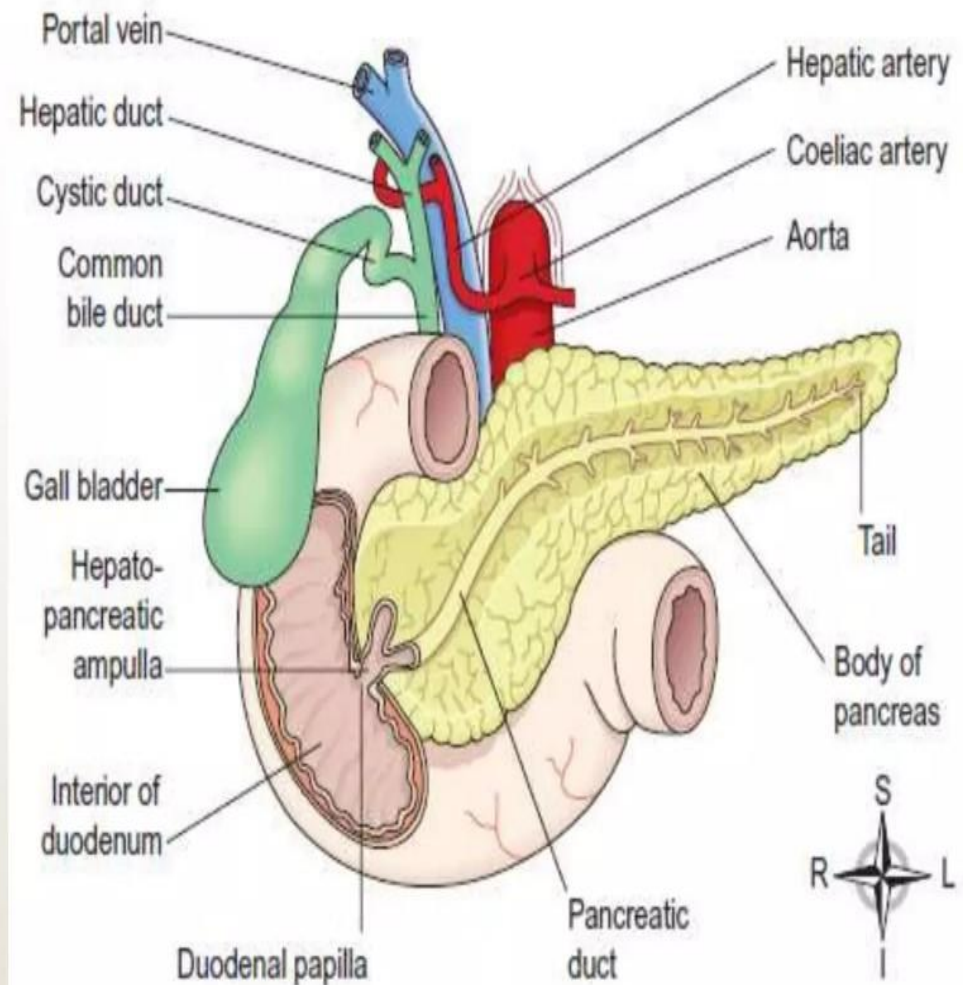
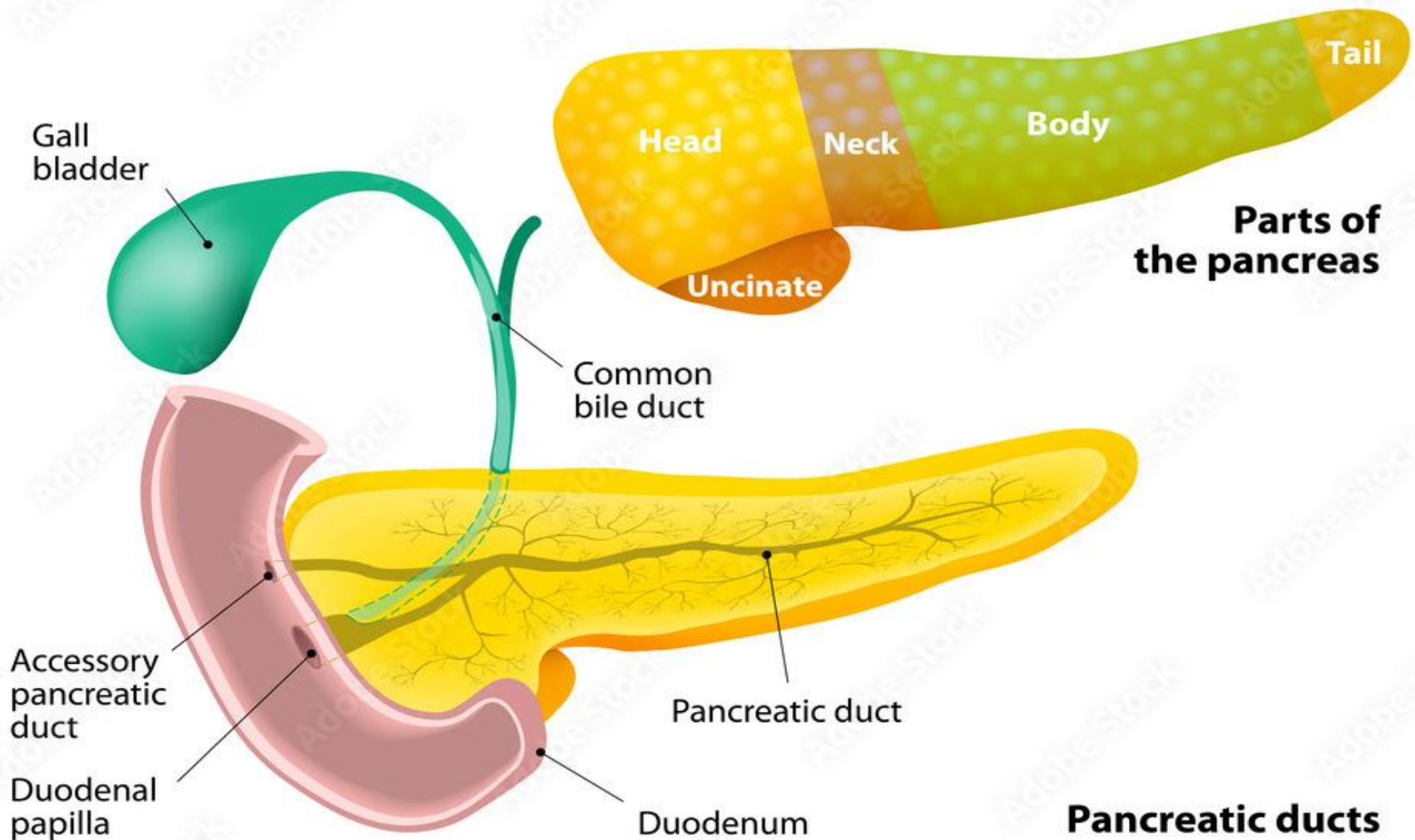


Figure 12.32 The pancreas in relation to the duodenum and biliary tract. Part of the anterior wall of the duodenum has been removed.

ANATOMY OF THE PANCREAS



LARGE INTESTINE

The Large Intestine meets the Small Intestine at the **ileocaecal valve**, then continues to the **anal canal**.

It is about 1.5m long and 6.5cm wide (Small Intestine: 2.5cm).

It consists of the

- **Cecum** (proximal end),
- **Appendix**,
- **Colon** (ascending, descending, sigmoid, transverse),
- **Rectum**,
- **Anal canal** (distal end)

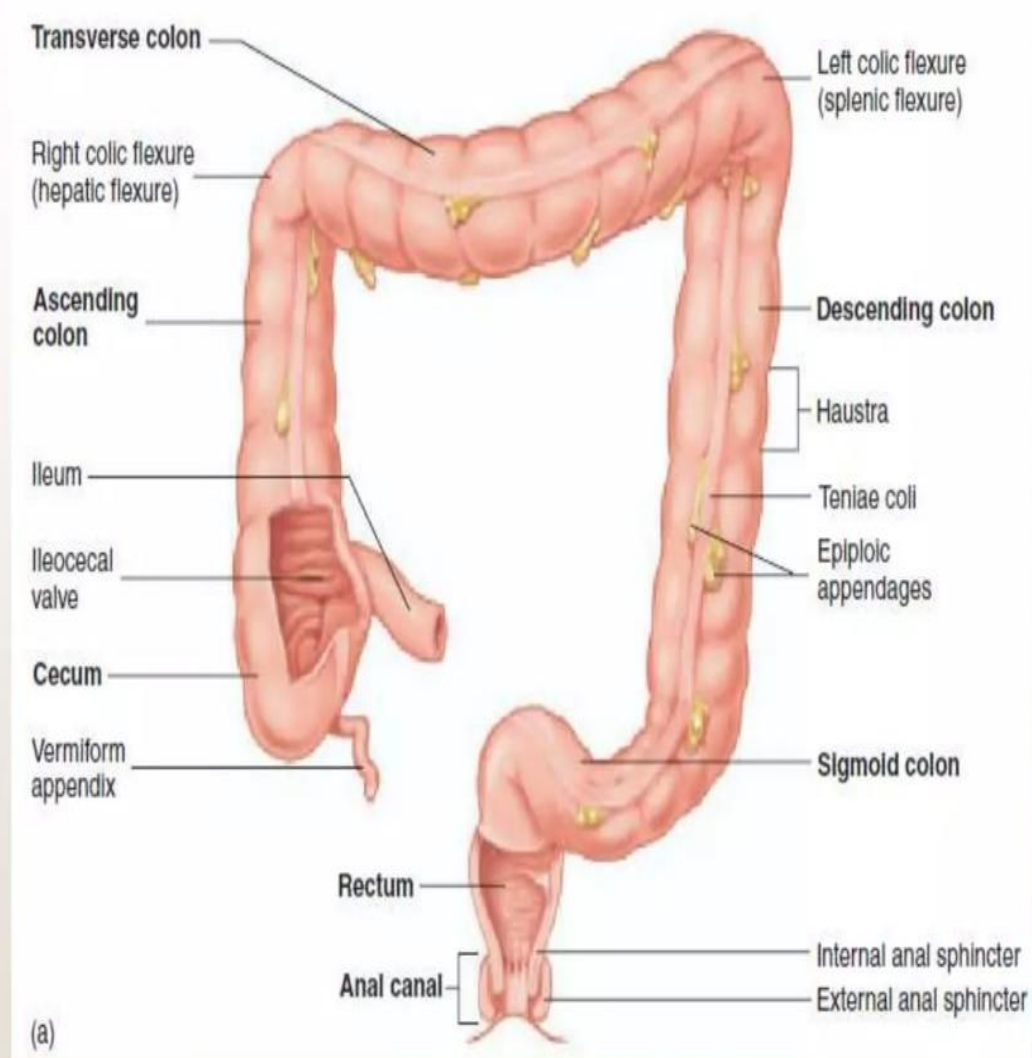
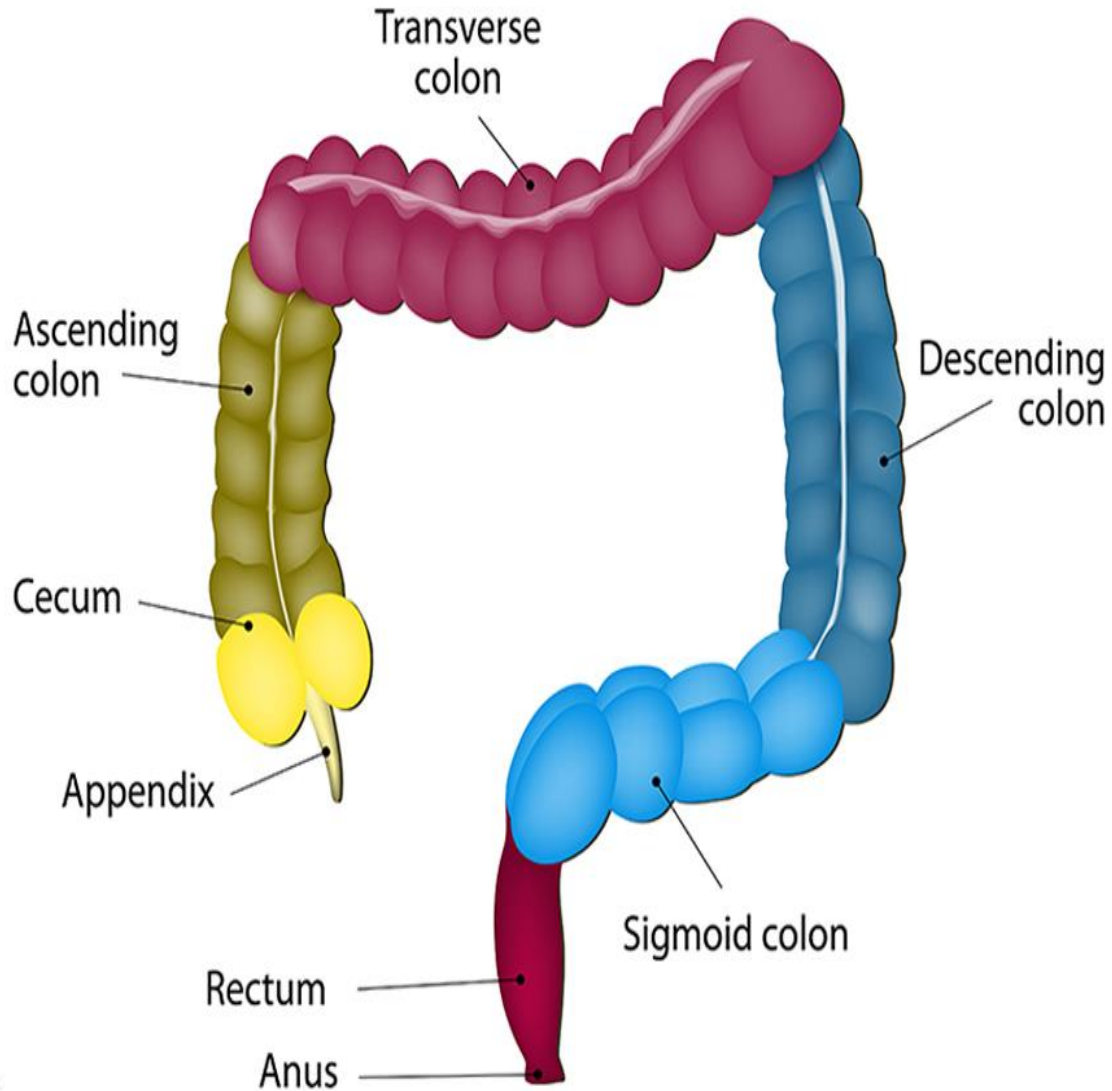


Fig: Parts of the Large Intestine

Large Intestine



ORGAN	FUNCTIONS
Mouth	Ingestion, Taste, Mastication, Digestion, Swallowing, Communication, Protection.
Pharynx	Swallowing, Breathing, Protection
Oesophagus	Propulsion, Protection.
Stomach	Storage, Digestion, Absorption, Mixing and Propulsion, Protection.
Small Intestine	Neutralization, Digestion, Absorption, Mixing and Propulsion, Excretion, Protection.
Large Intestine	Absorption, Storage, Mixing and Propulsion, Protection, Excretion.



THANK YOU