

**The University Of Jordan
Faculty Of Medicine**



Abdomen

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LAYERS OF THE ANTERIOR ABDOMINAL WALL

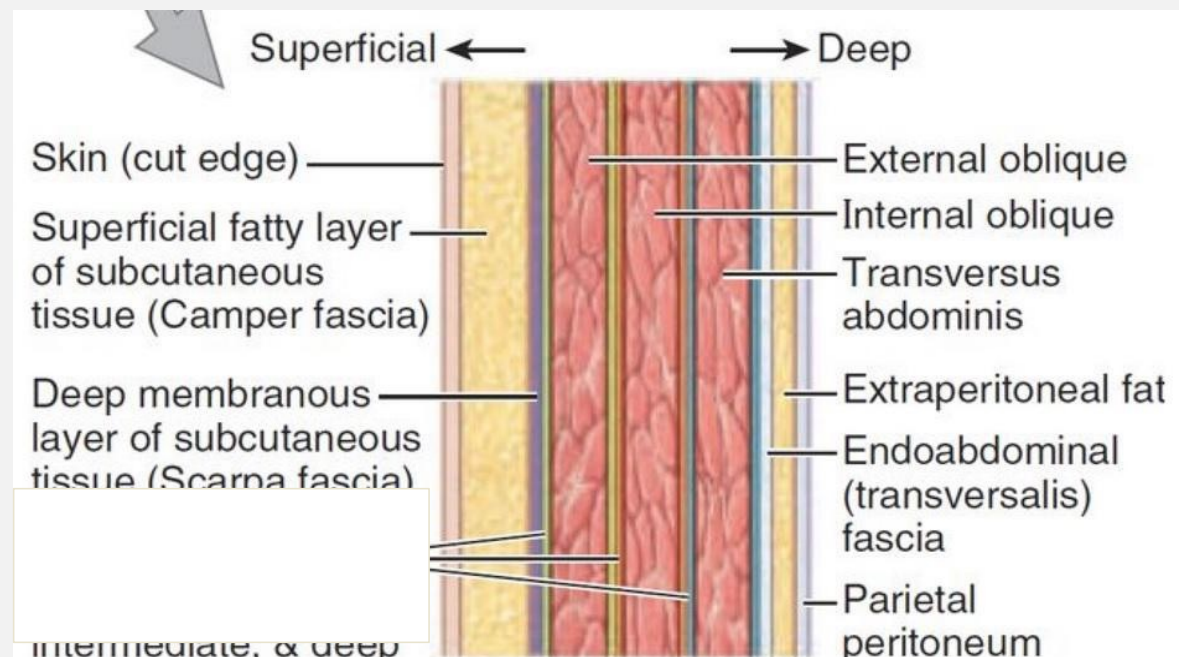
1-Skin

The skin is loosely attached to the underlying structures except at the umbilicus.

2-Superficial Fascia

The superficial fascia is divided into a superficial fatty layer (**Camper 's fascia**) and a deep membranous layer (**Scarpa's fascia**).

N.B. The deep fascia (being rich in collagen ,is non stretchable) is absent from the abdominal wall and perineum)



Layers of the Anterior Abdominal Wall cont.

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3-Muscles of the Anterior Abdominal Wall

- 1- External Oblique
- 2- Internal Oblique
- 4- Rectus Abdominis
- 5- Pyramidalis

3- Transversus Abdominis

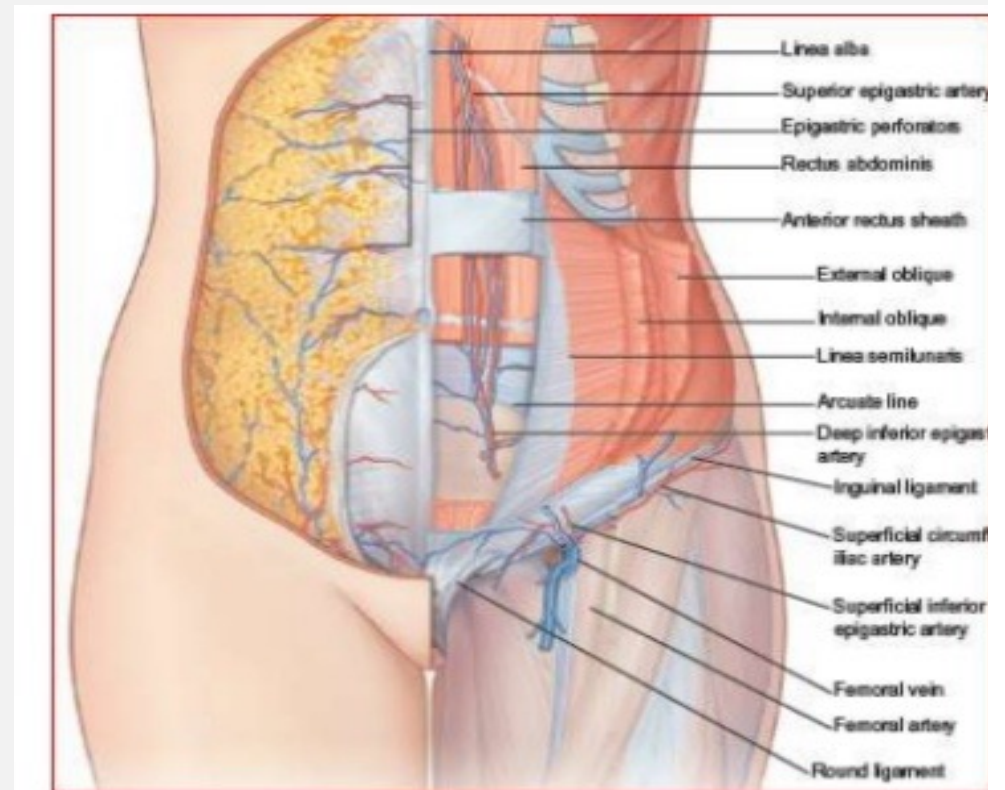
4-Fascia Transversalis

5-Extraperitoneal Fat

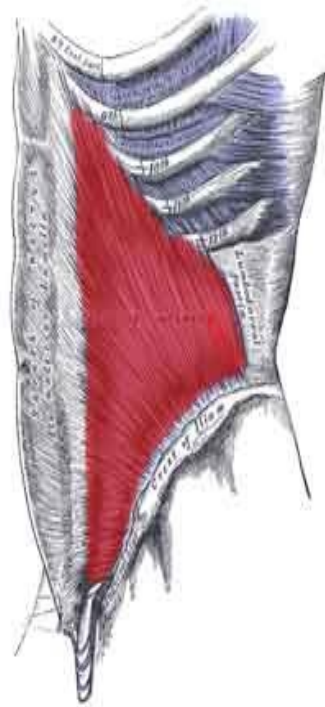
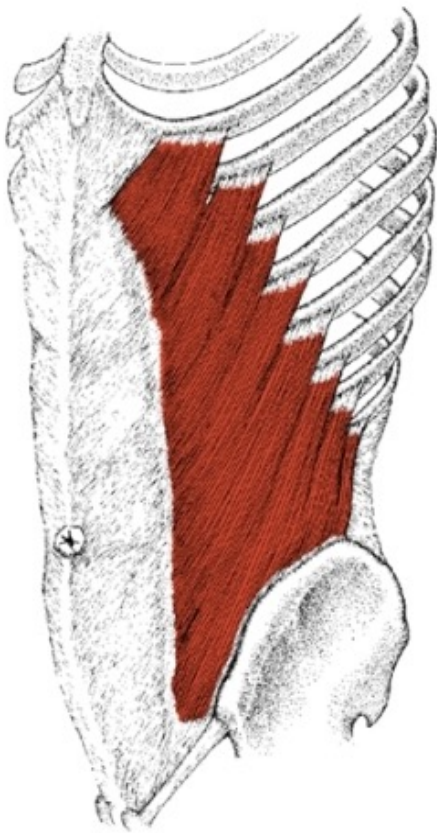
6-Parietal Peritoneum

Muscles of Posterior Abdominal Wall

- 1. Psoas major
- 2. Iliacus
- 3. Quadratus lumborum



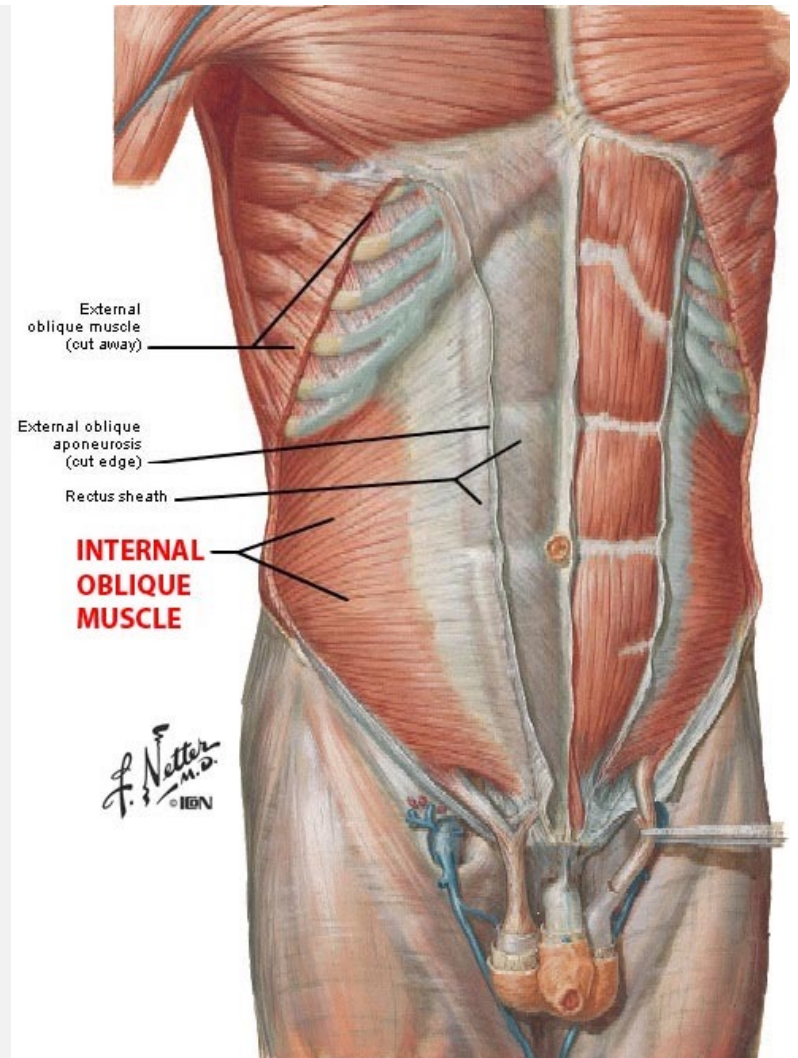
External Obliques

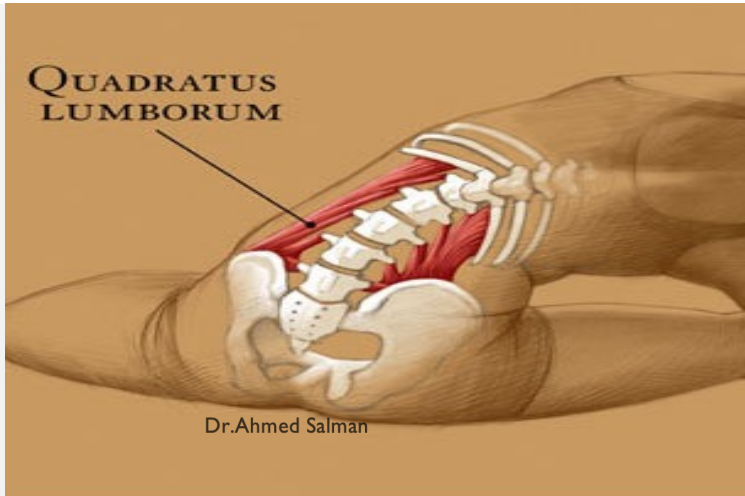
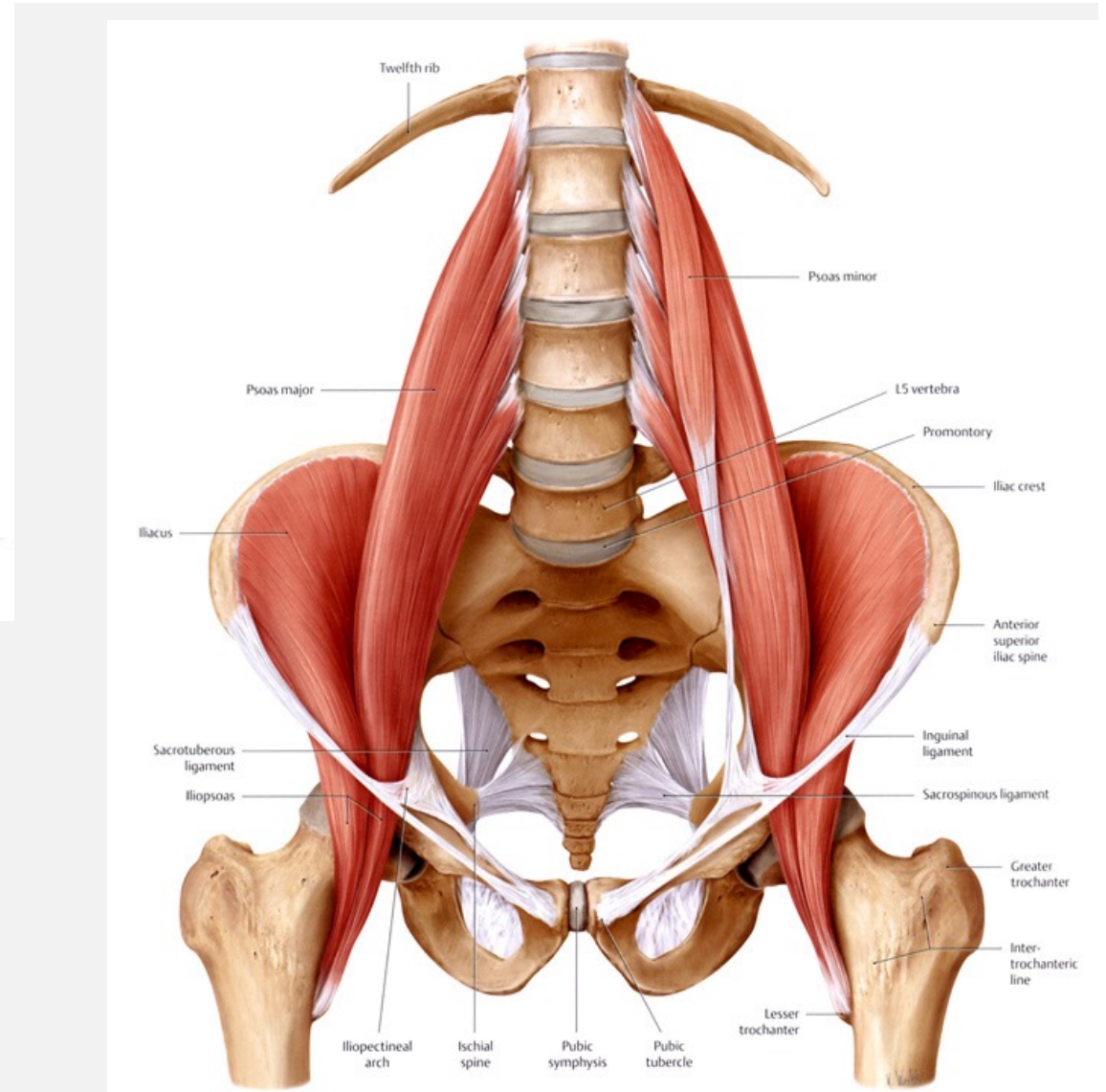
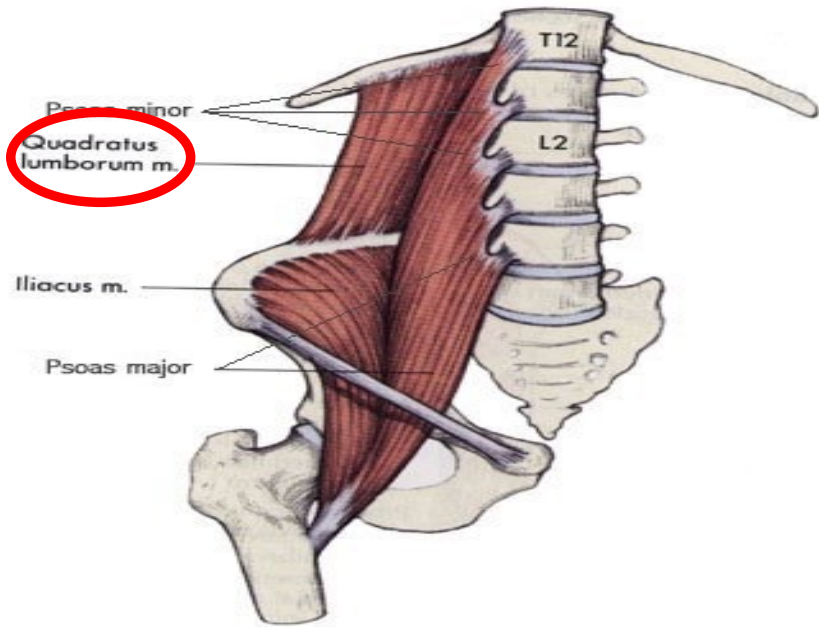


Internal Oblique



External Oblique

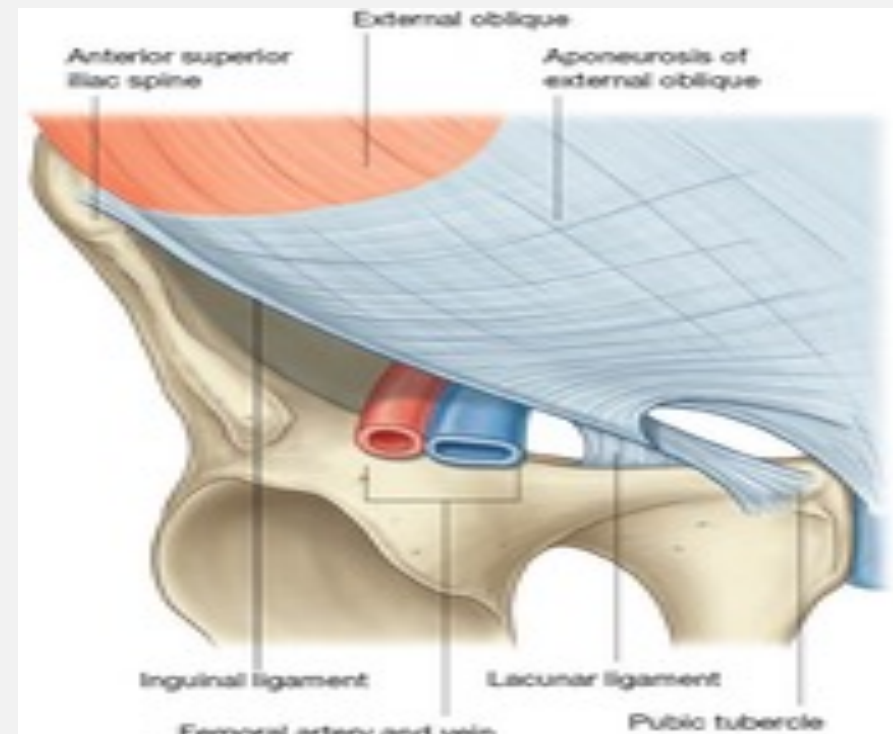
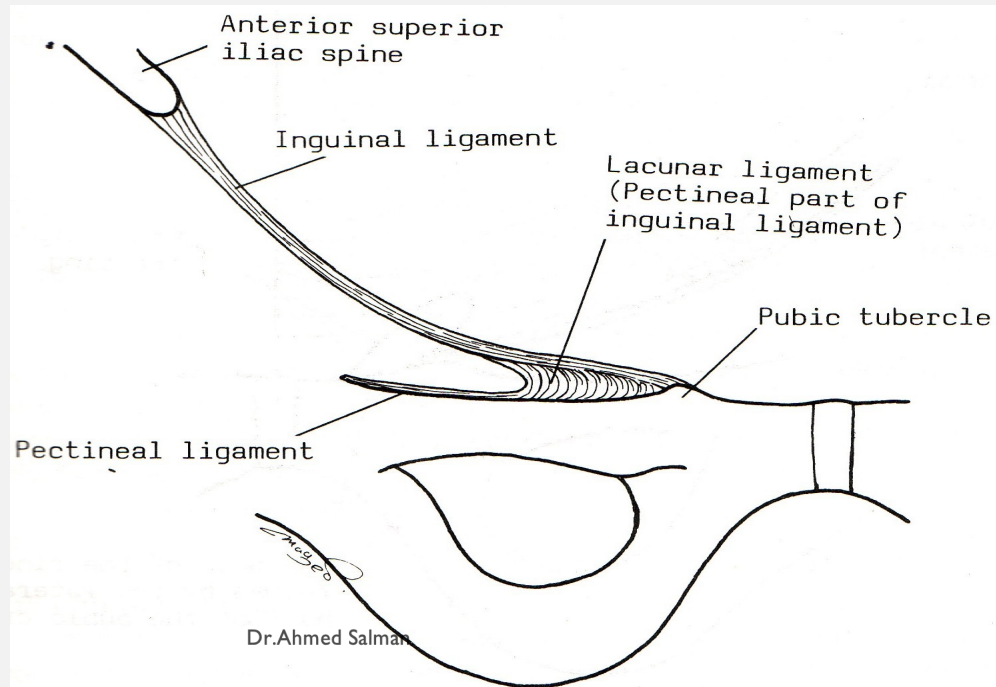




Inguinal Ligament

It is the lower border of external oblique aponeurosis

Attachment: It attached to anterior superior iliac spine and pubic tubercle.



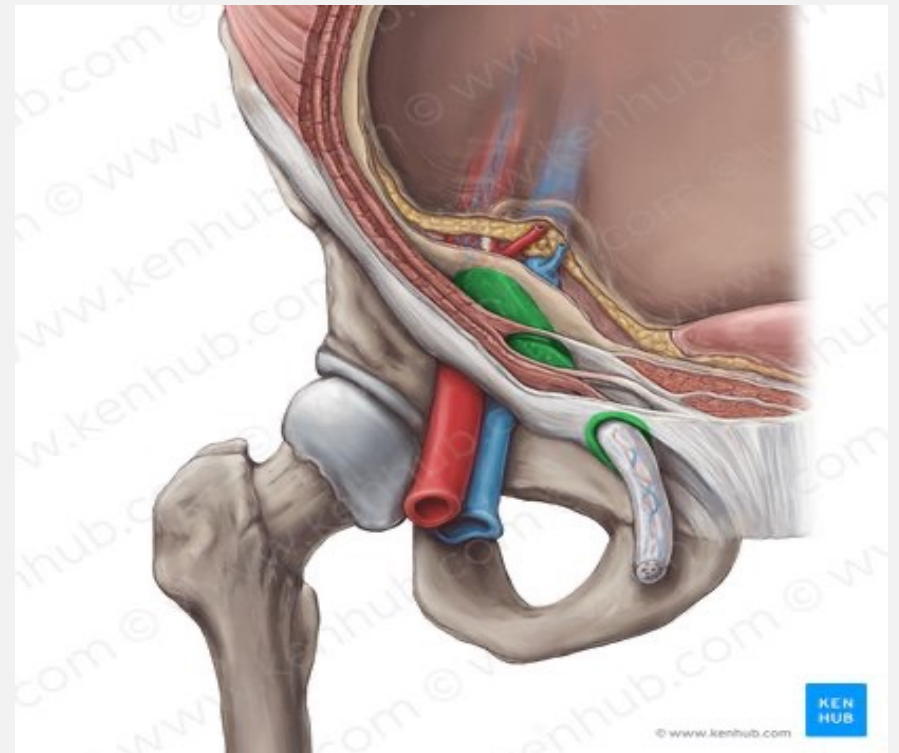
Inguinal canal

It is oblique passage in the lower part of the anterior abdominal wall, just above the medial 1/2 of the inguinal ligament.

It Extends between superficial and deep inguinal rings

Structures passing through the canal :-

- 1-Spermatic cord in males or round ligament in females
- 2- Ilioinguinal Nerve



Indirect inguinal hernia

It herniates through the deep inguinal ring along the canal, then through the superficial inguinal ring down to scrotum

It lies lateral to inferior epigastric artery

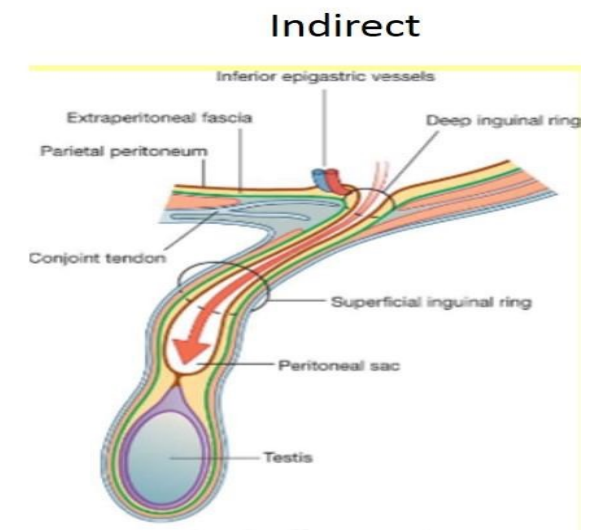
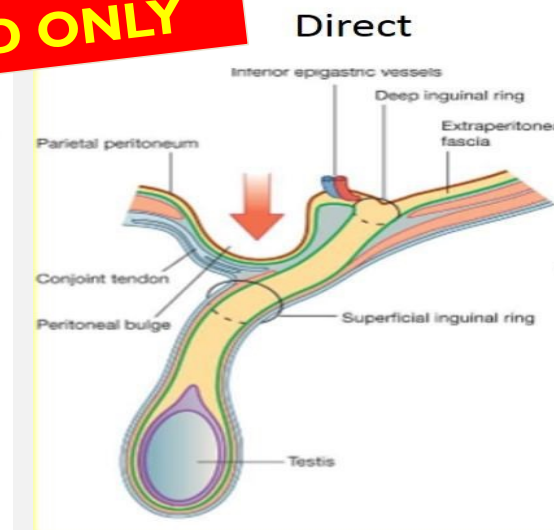
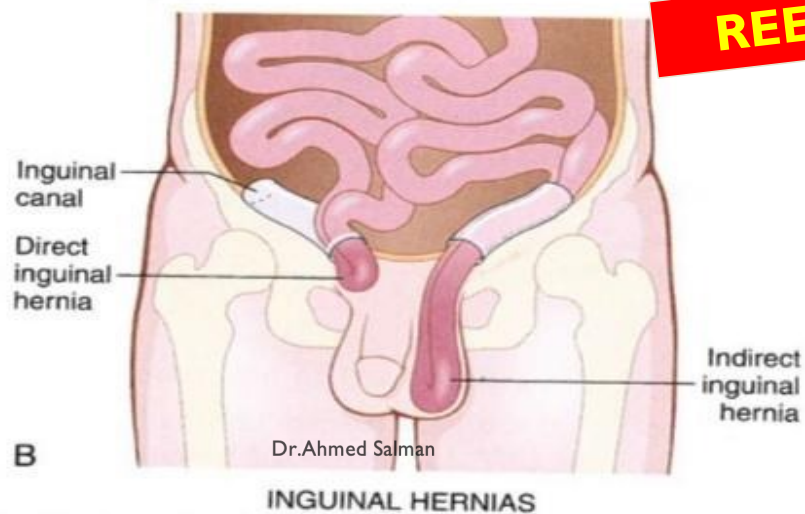
It is much more common in males than females

Direct inguinal hernia

It herniates through the inguinal triangle

It lies medial to the inferior epigastric artery

It is common in old men and is rare in women



Abdominal regions (Nine regions)

Two vertical midclavicular lines (left and right)

Two horizontal:

1-Subcostal ;through lower edge of 10th costal cartilage and (L3 vertebra)

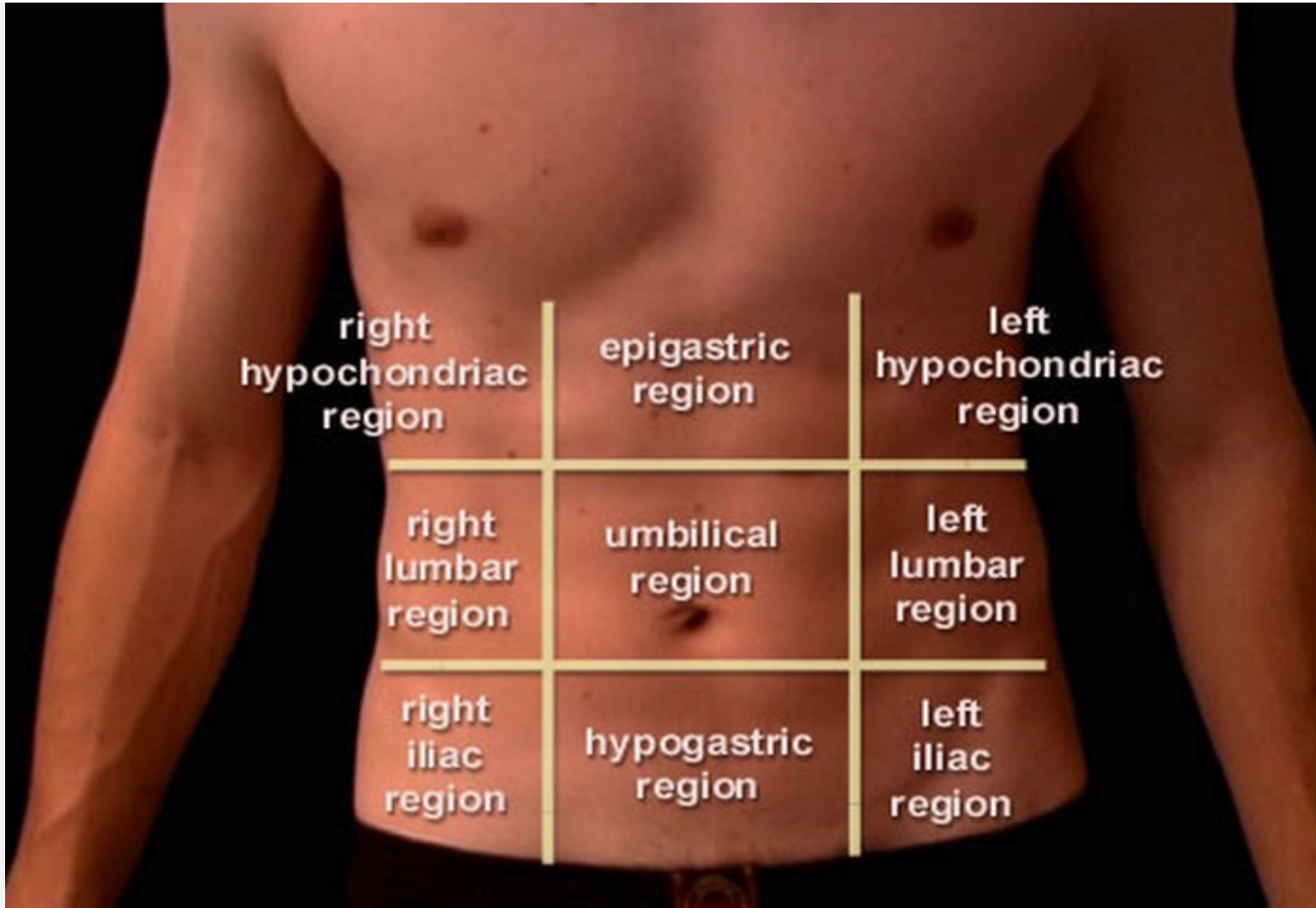
2- Transtubercular ;through tubercles of iliac crests (L5 vertebra)

These lines forms 9 abdominal regions

Right hipochondrium - epigastrium - left hipochondrium

Right lumbar - umbilical - left lumbar

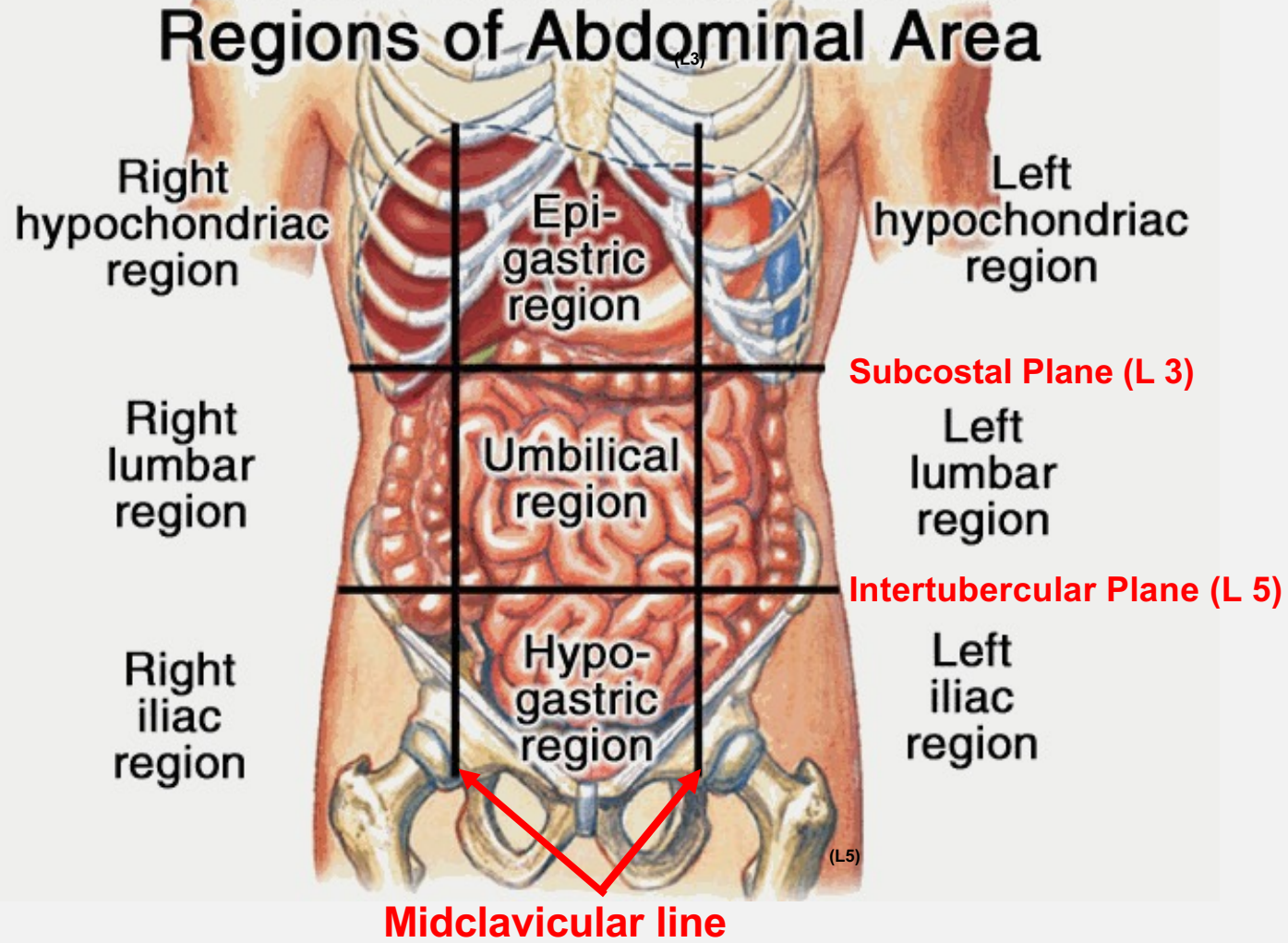
right Iliac (inguinal) - hypogastrium - left iliac (inguinal)



Abdominal regions

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Regions of Abdominal Area



The peritoneum

Peritoneum is a serous membrane, which lines the abdominal cavity and is reflected over the viscera.

The peritoneum has two layers; **parietal and visceral**, with peritoneal cavity in between.

The parietal layer lines the **interior of the anterior and posterior** abdominal walls, the lower surface of the diaphragm.

The visceral layer : surrounds the **abdominal viscera** .

Greater Omentum

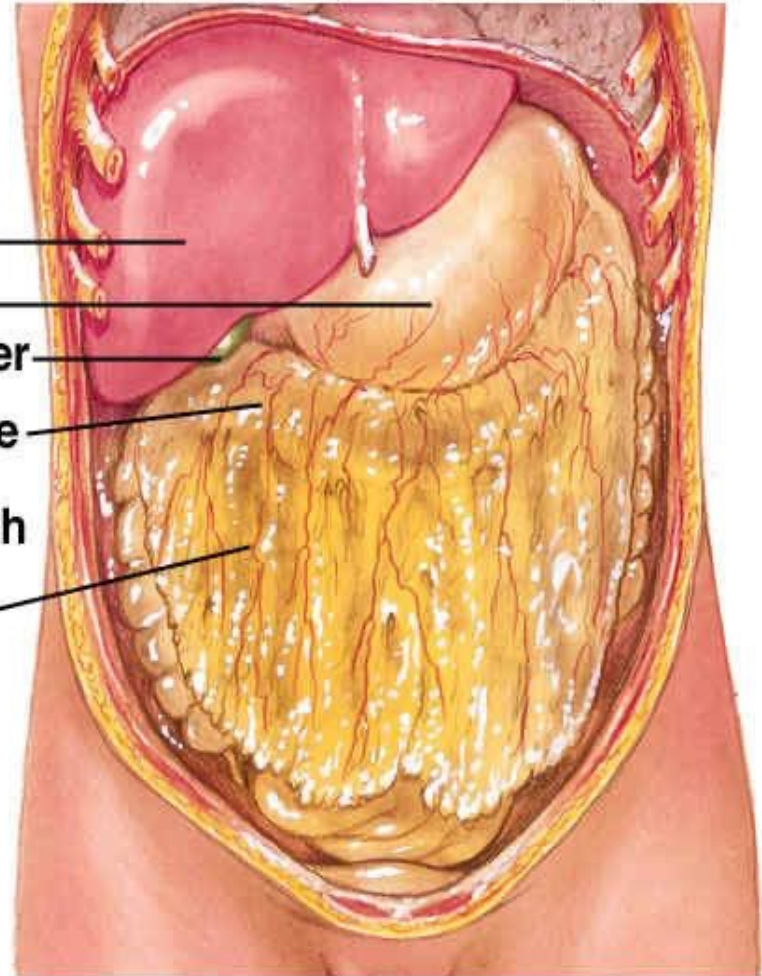
Liver

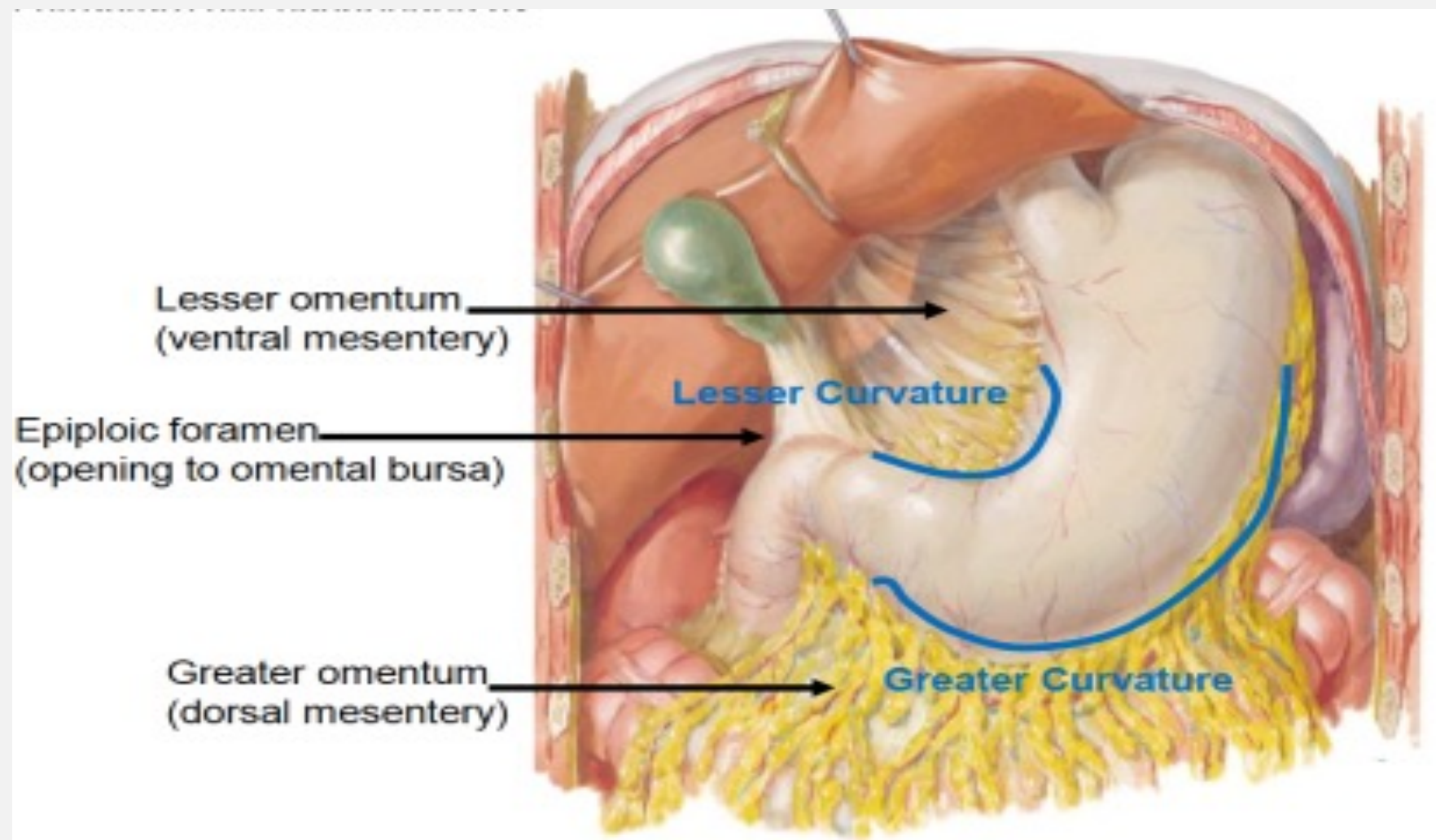
Stomach

Gallbladder

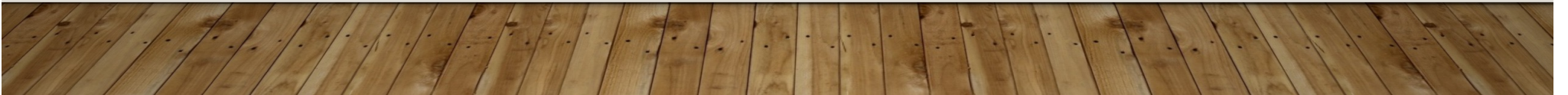
Transverse
colon
underneath

Greater
omentum



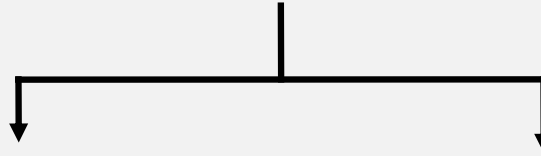


GASTROINTESTINAL TRACT



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THE DIGESTIVE SYSTEM



- DIGESTIVE TUBE

- The mouth cavity.
- The pharynx.
- The esophagus.
- The stomach.
- The small intestine.
- The large intestine.

- * DIGESTIVE GLANDS

- * The salivary glands.
- * The liver.
- * The pancreas.

The stomach

- It is widest part of the digestive tube.
- It lies in epigastrium, left hypochondrium & umbilical regions

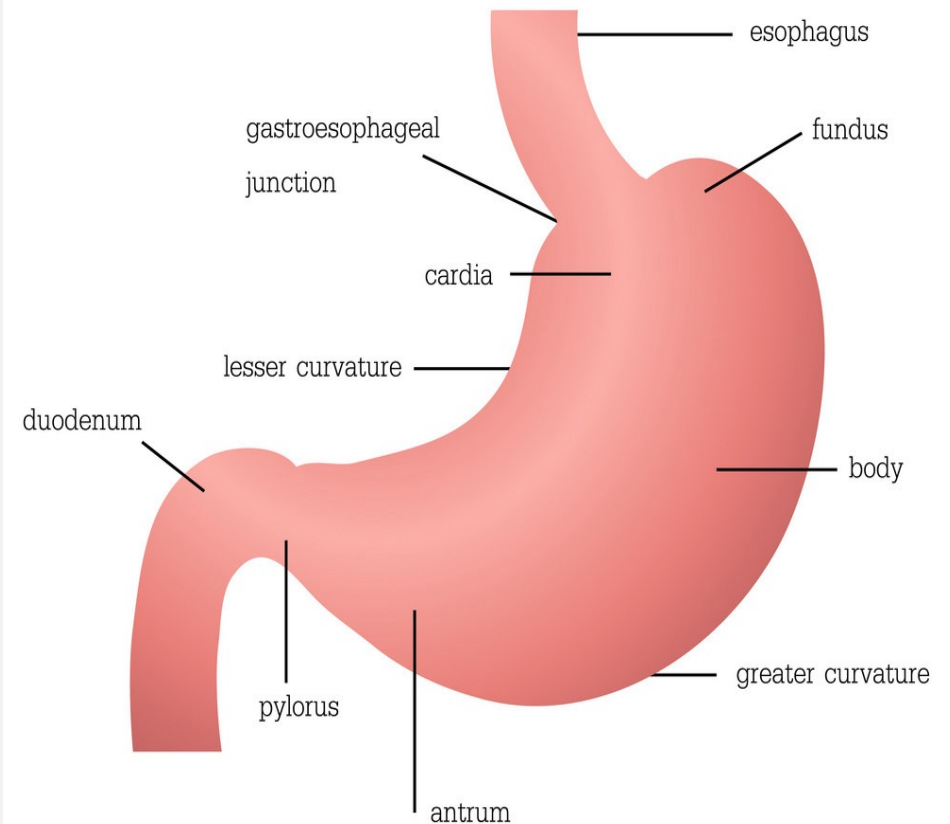
- **It has 2 ends:**

Cardiac end:

- Connected with the esophagus.
- It is guarded by physiological sphincter

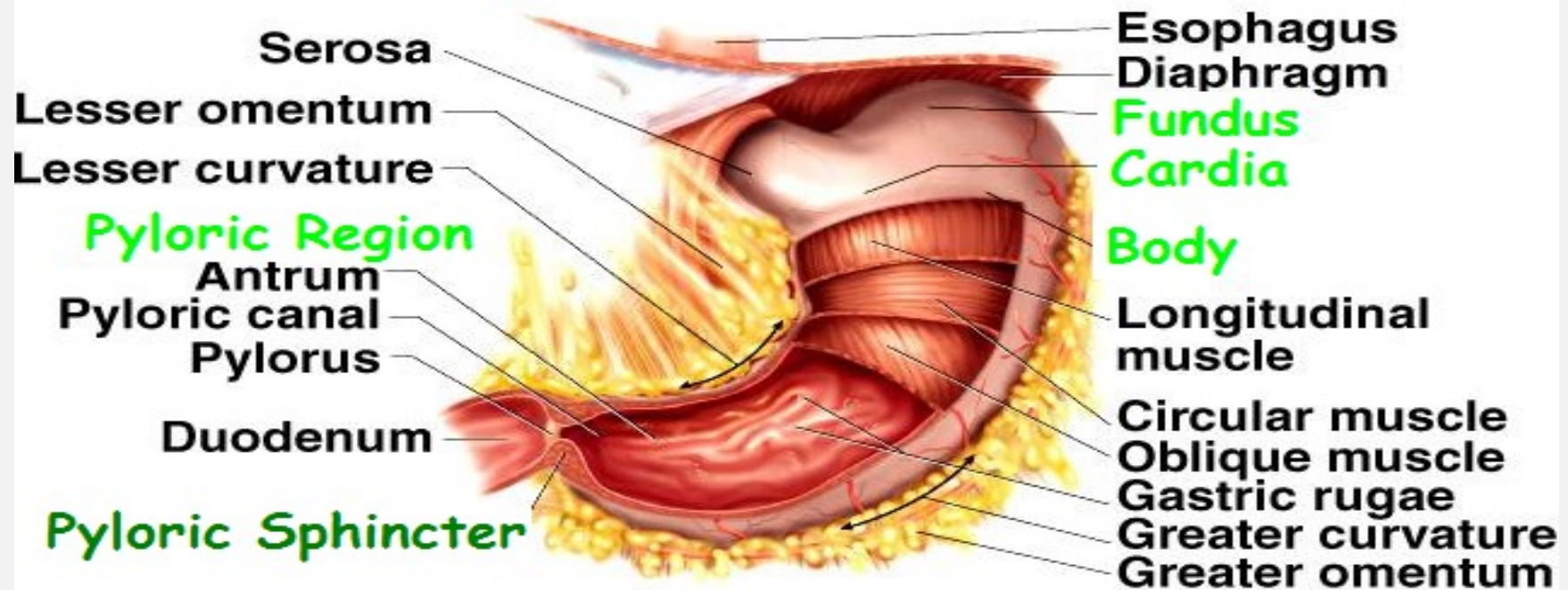
Pyloric end:

- Connected to the duodenum.
- It is guarded by anatomical sphincter (thick circular fibers)



- It has 2 surfaces: Anterior & posterior.
- It has 2 curvatures:
 - Lesser curvature above & to the right.
 - Greater curvature below & to the left.

4 Regions of the Stomach

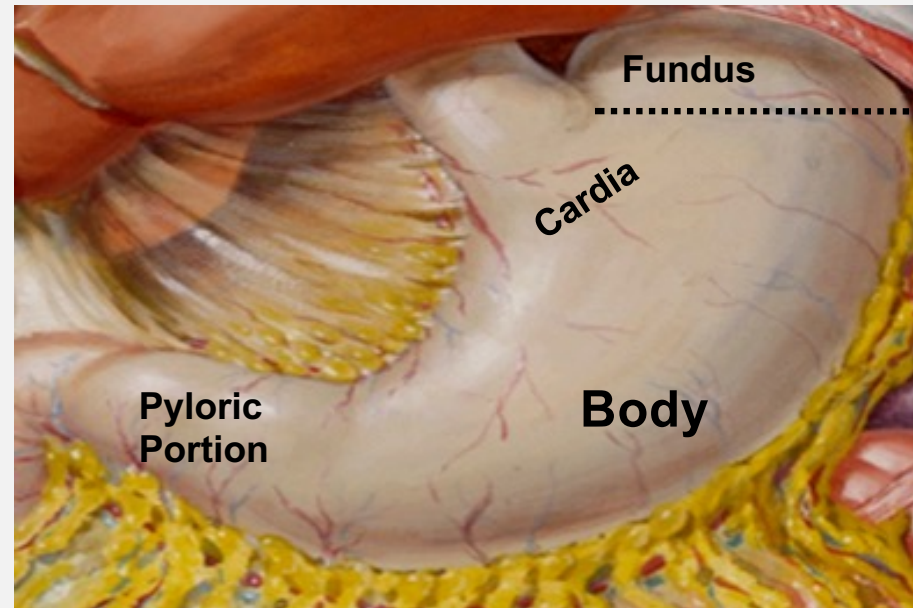
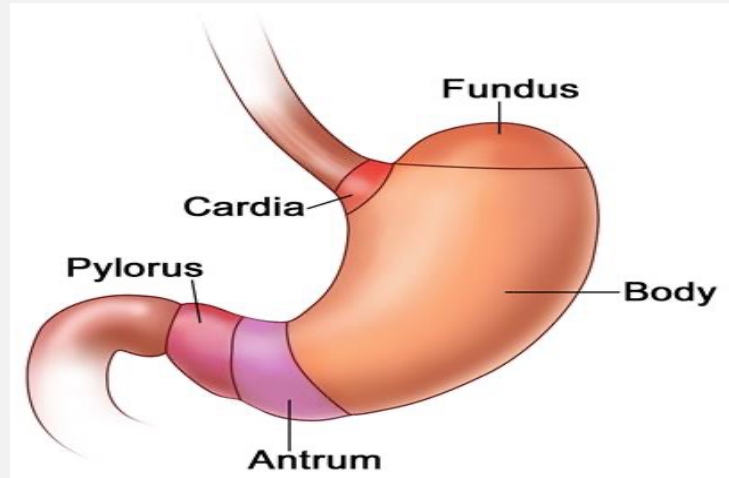


Regions of the stomach

A) Cardiac portion:

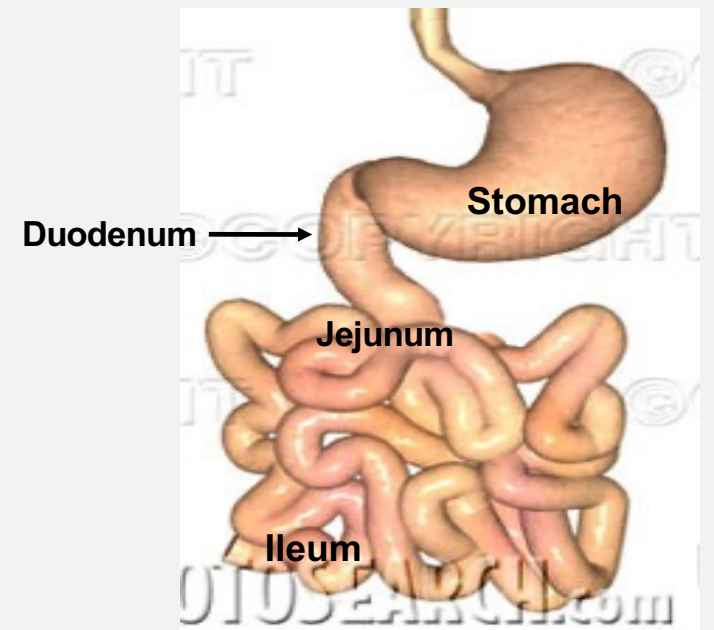
- ❖ Fundus: above the level of esophageal opening
- ❖ Cardia: It is the uppermost part of the stomach
- ❖ Body

B) Pyloric portion

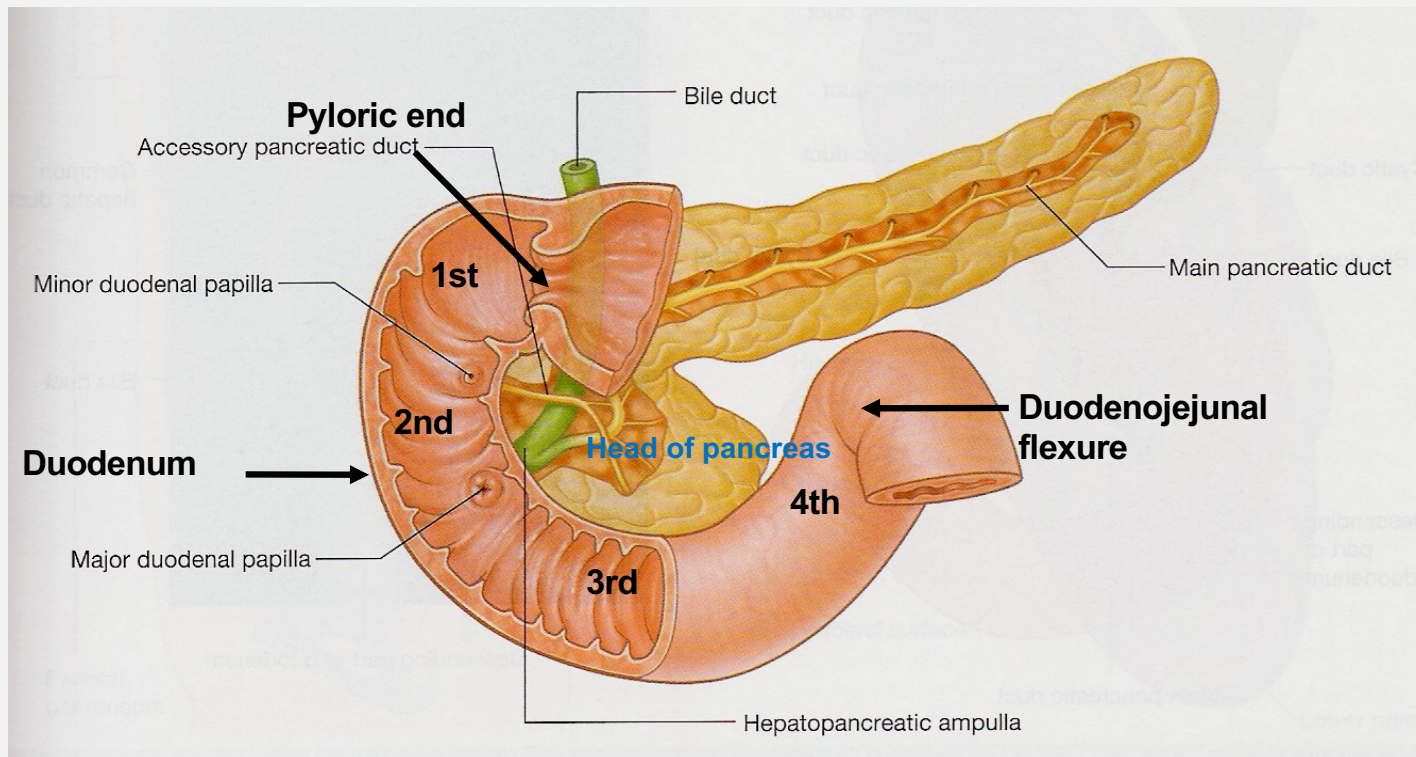


The small intestine

- It is divided into 3 parts:
 - 1) The duodenum
 - 2) The jejunum.
 - 3) The ileum.

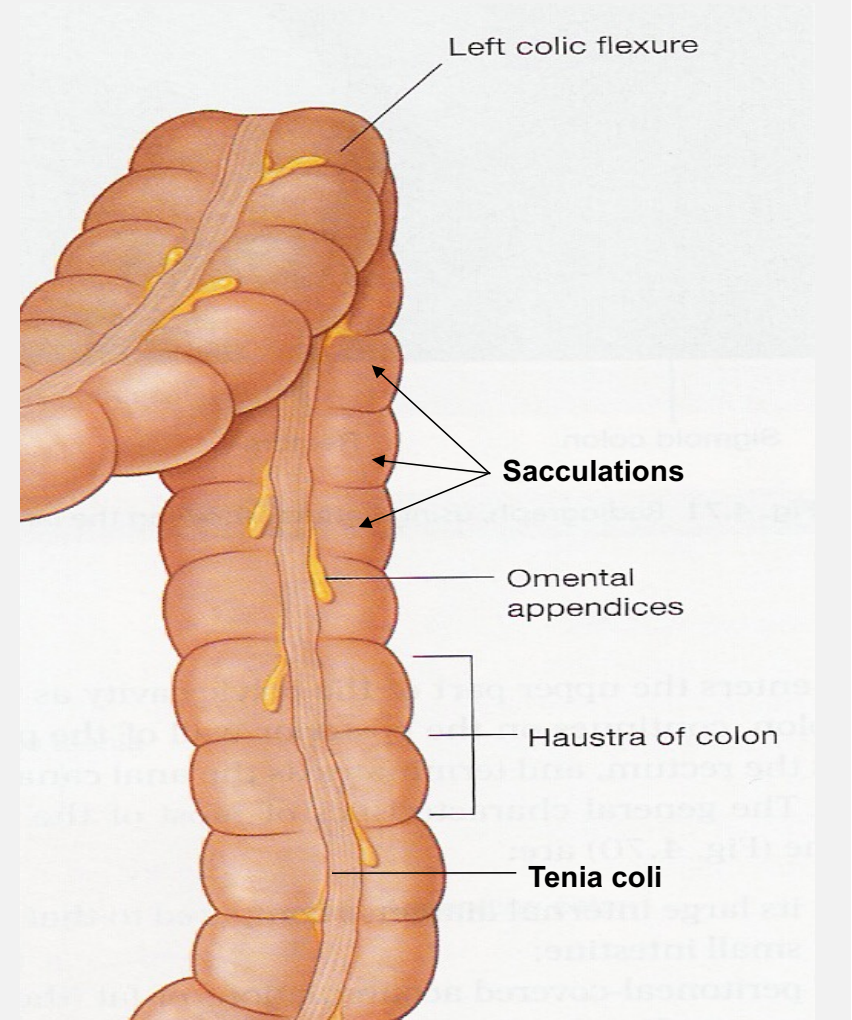


- The duodenum is divided into 4 parts (1st, 2nd, 3rd & 4th).
- It receives opening of the pancreatic & common bile ducts in the middle of its 2nd part.



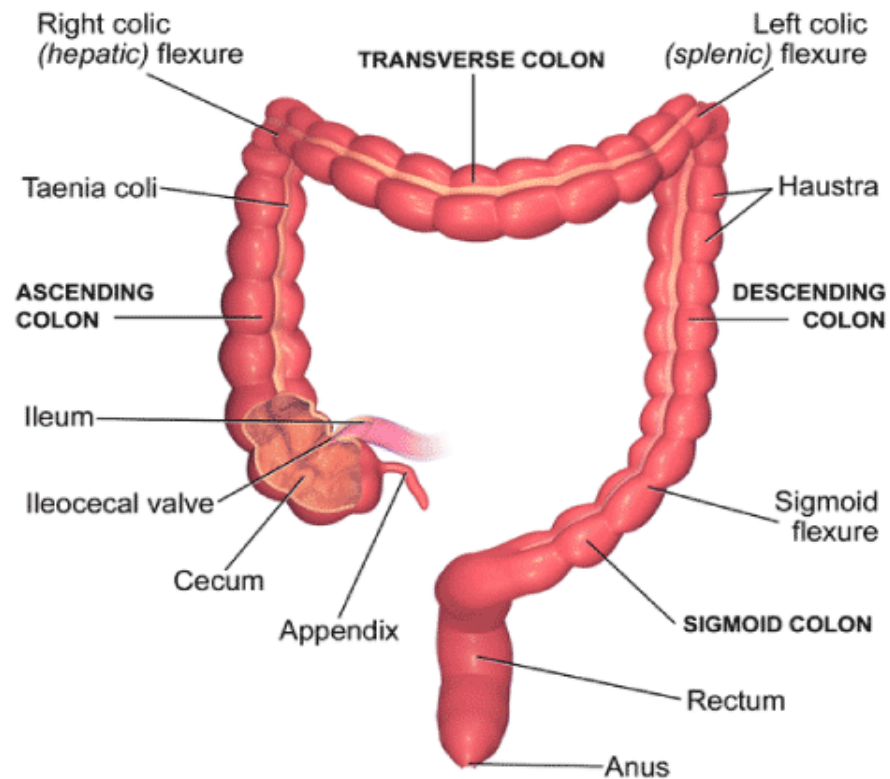
The large intestine

- It is characterized by the presence of:
 - **Haustrations** (grooves)
 - **Sacculations** (it is divided into small sacs).
 - **Teniae coli:** 3 muscular bands.
 - **Appendices epiploicae:** small appendices filled with fat.



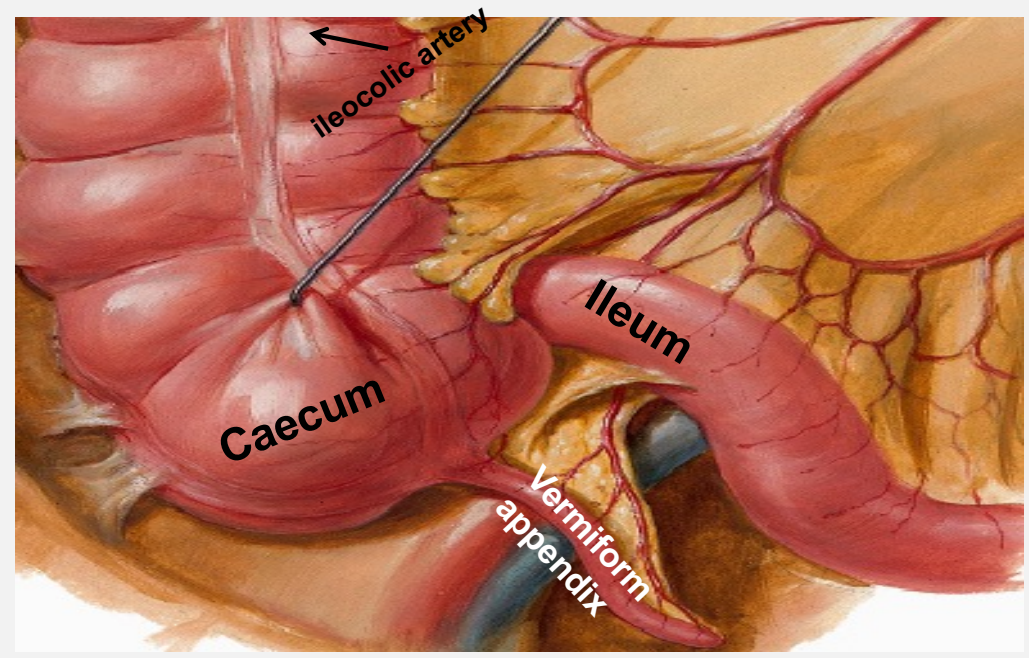
Components of the large intestine

- The caecum & vermiform appendix.
- The colon (ascending, transverse, descending & sigmoid) , Right & left colic flexures.
- The rectum.
- The anal canal



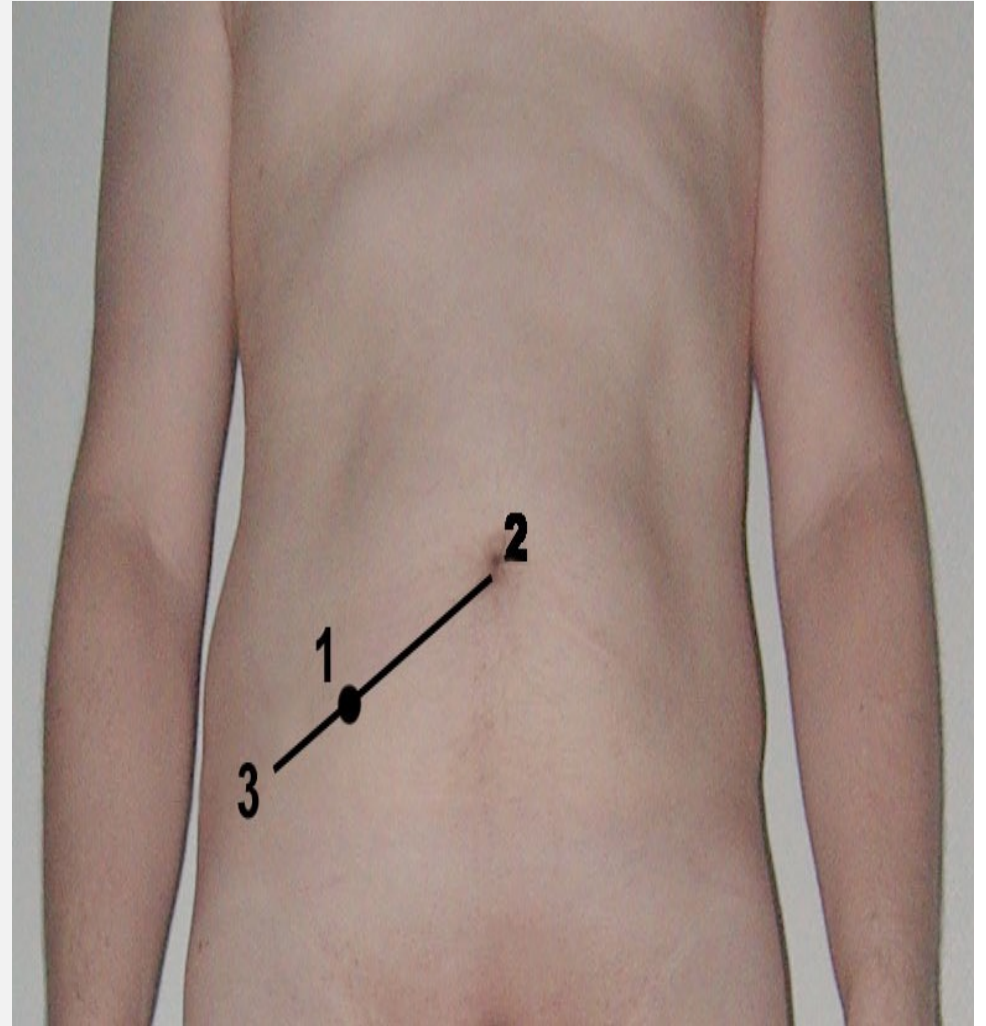
Vermiform appendix:

- It is attached to the Caecum about one inch below the ileocaecal junction.
- It lies in the right inguinal region.
- It is very rich in lymphoid follicle (**Tonsil of the abdomen**).



Surface anatomy of the appendix

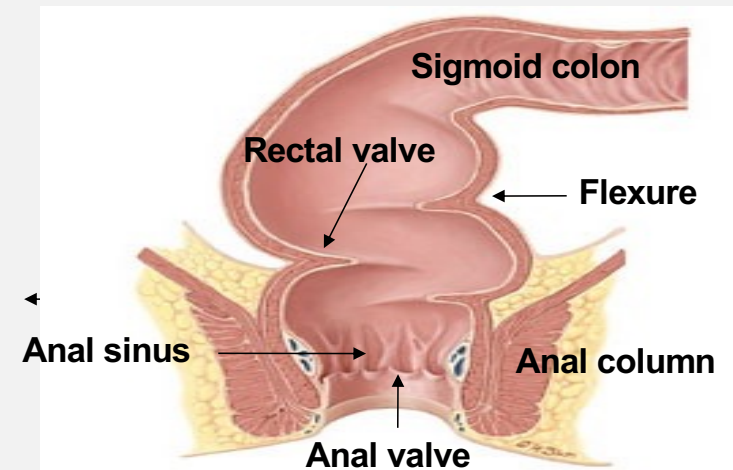
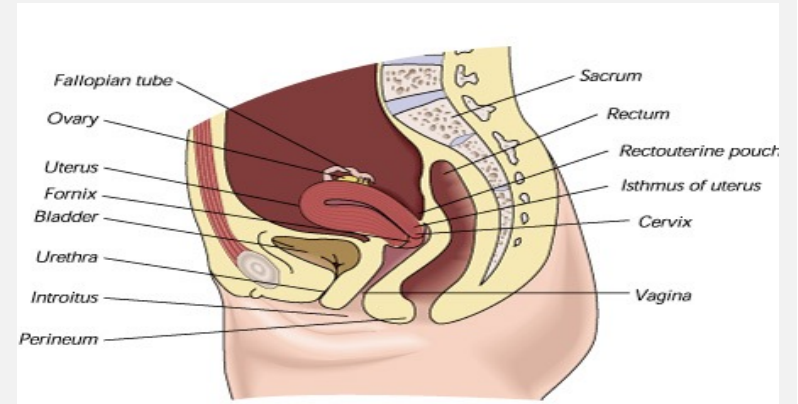
The base of the appendix is represented by **McBurney's point** which is "The point at the junction of the lateral 1/3 & medial 2/3 of a line extending between the anterior superior iliac spine (ASIS) & the umbilicus.



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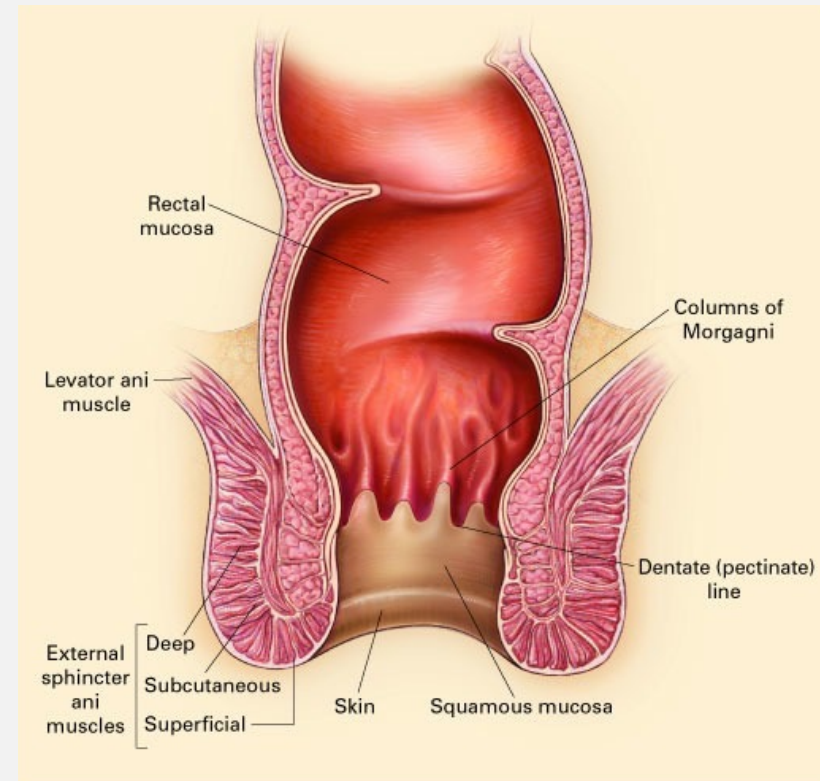
The rectum

- **Beginning** : at the 3rd sacral vertebra as a continuation of the sigmoid colon
- **Ends** : 1.5 inches below & in front of the coccyx to become continuous with the anal canal.

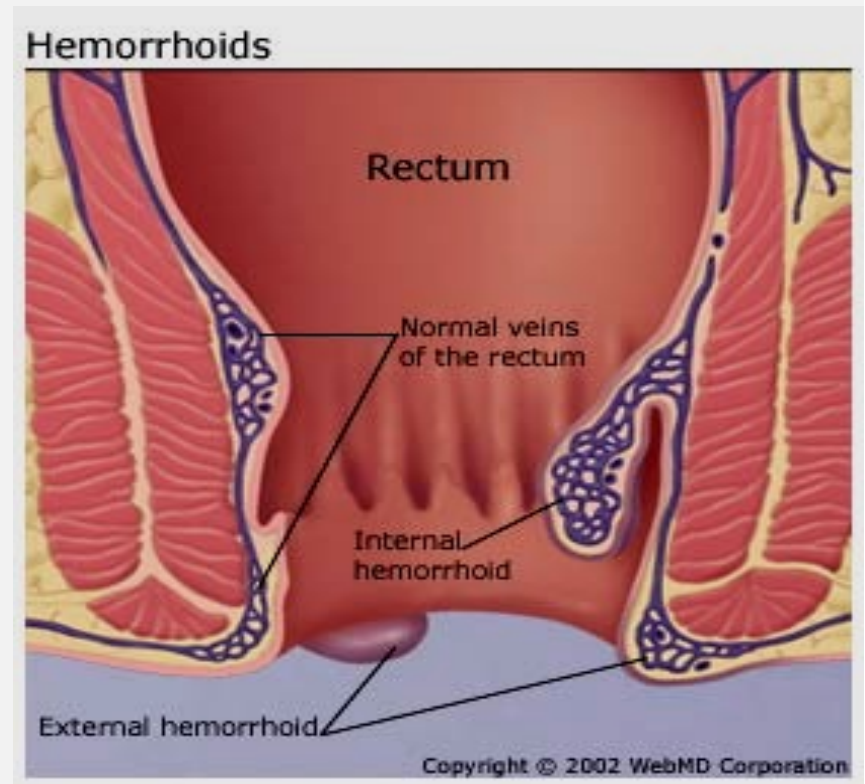
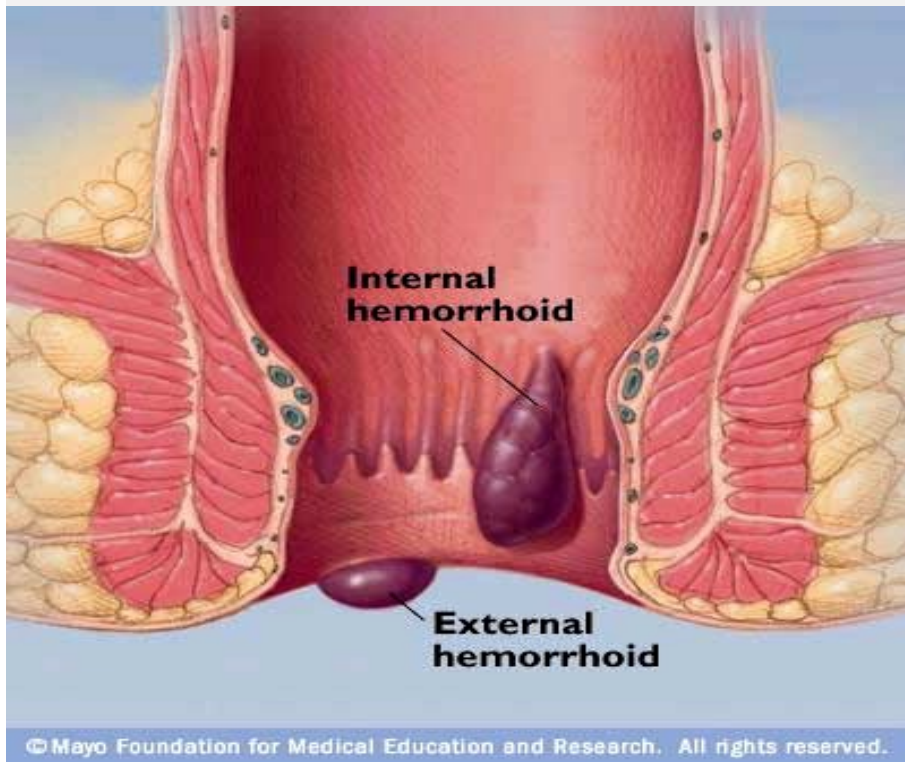


The anal canal

- It begins one inch below & in front of the coccyx & is directed downwards & backwards.
- **Its upper part** is insensitive to general sensations (supplied by **autonomic fibers**).
- **Its lower part** is sensitive to general sensations (supplied by **somatic fibers**).



- Dilatation of the submucosal venous plexus of the rectum & anal canal may result in internal or external hemorrhoids (piles).

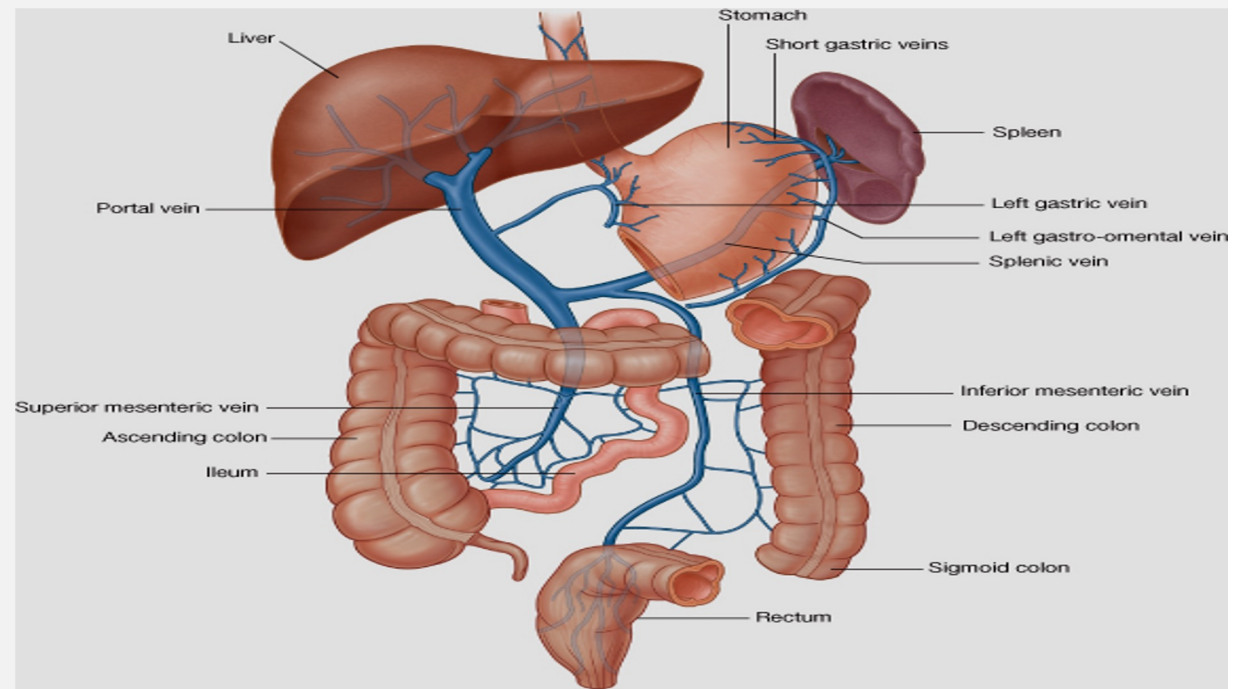


Portal circulation

The portal vein drains the alimentary canal from the esophagus to the upper ½ of the anal canal, pancreas & spleen to the liver.

The portal vein:

- Is formed by the union of the splenic & superior mesenteric veins **behind neck of pancreas** .
- It ends in porta hepatis .

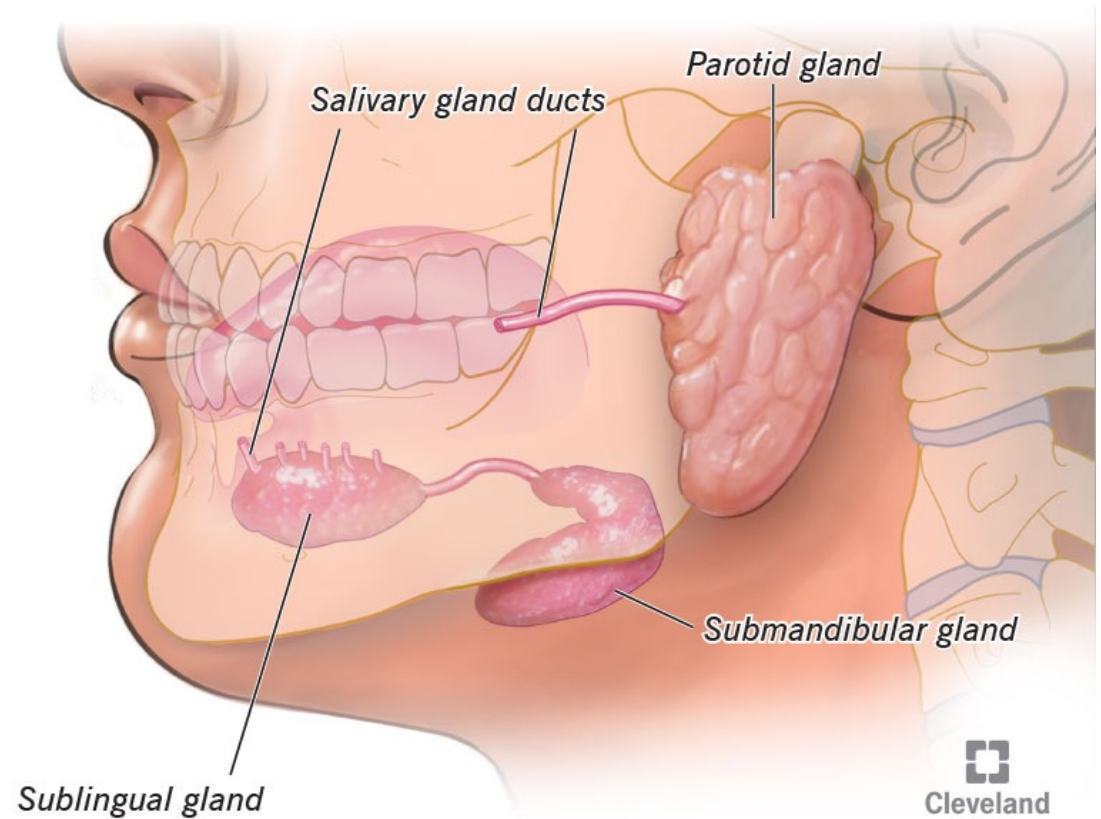


The salivary glands

There are 3 pairs of salivary glands (Parotid, Submandibular & sublingual salivary glands).

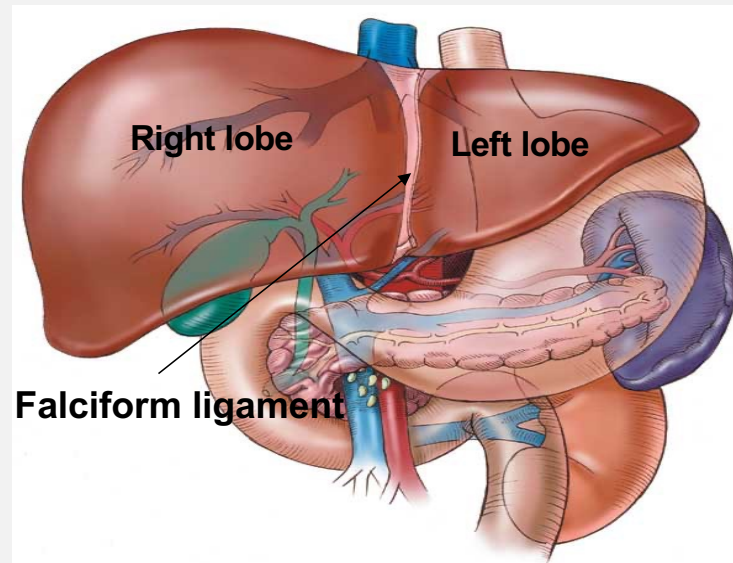
Dr.Ahmed Salman

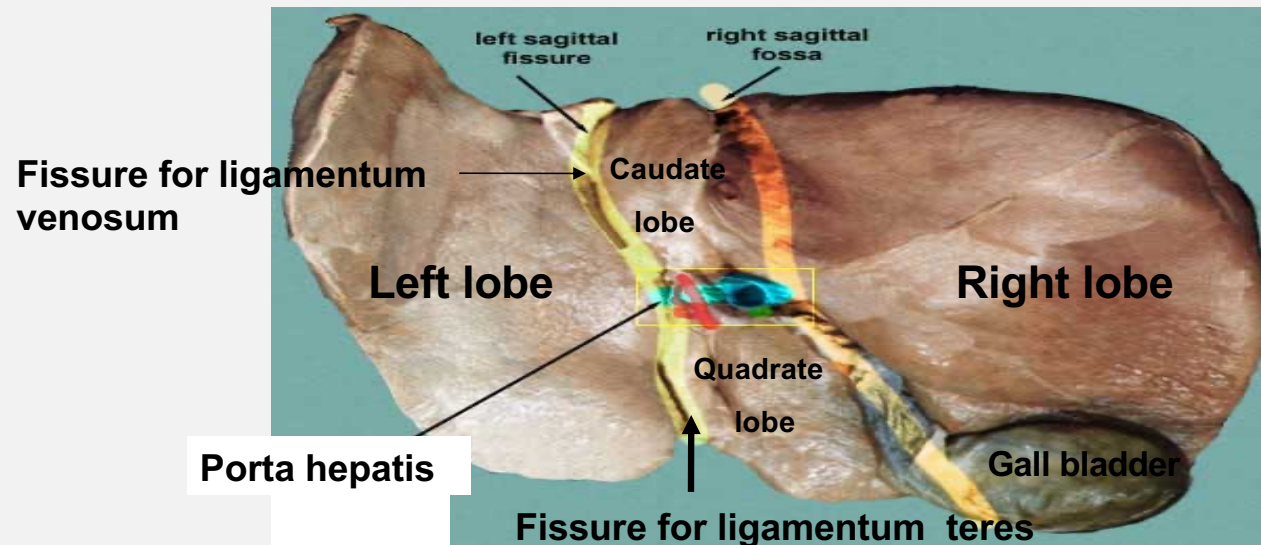
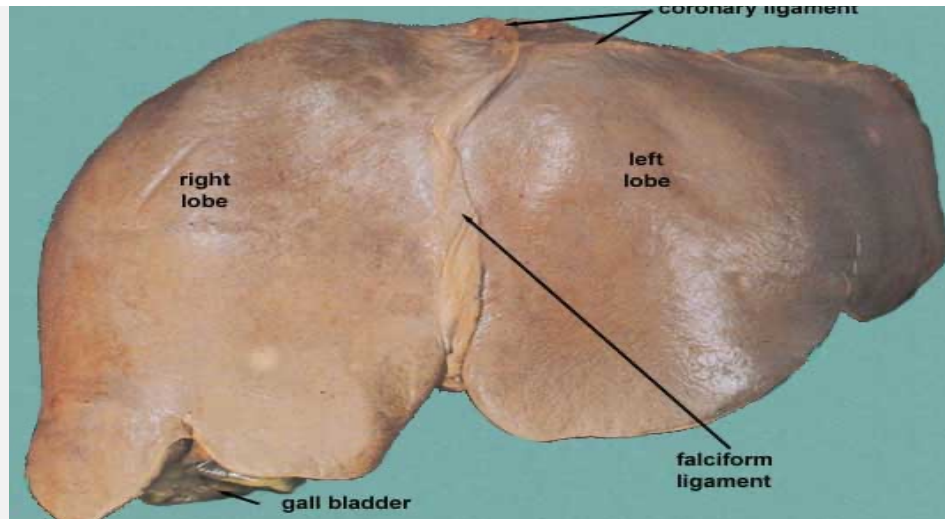
Salivary Glands



The liver

- It is largest organ in the body .
- It lies in the right hypochondrium, epigastrium & left hypochondrium.
- It is divided into large right & small left lobe .
- The right lobe contains 2 additional lobes;
 - Quadrate lobe and caudate lobe .

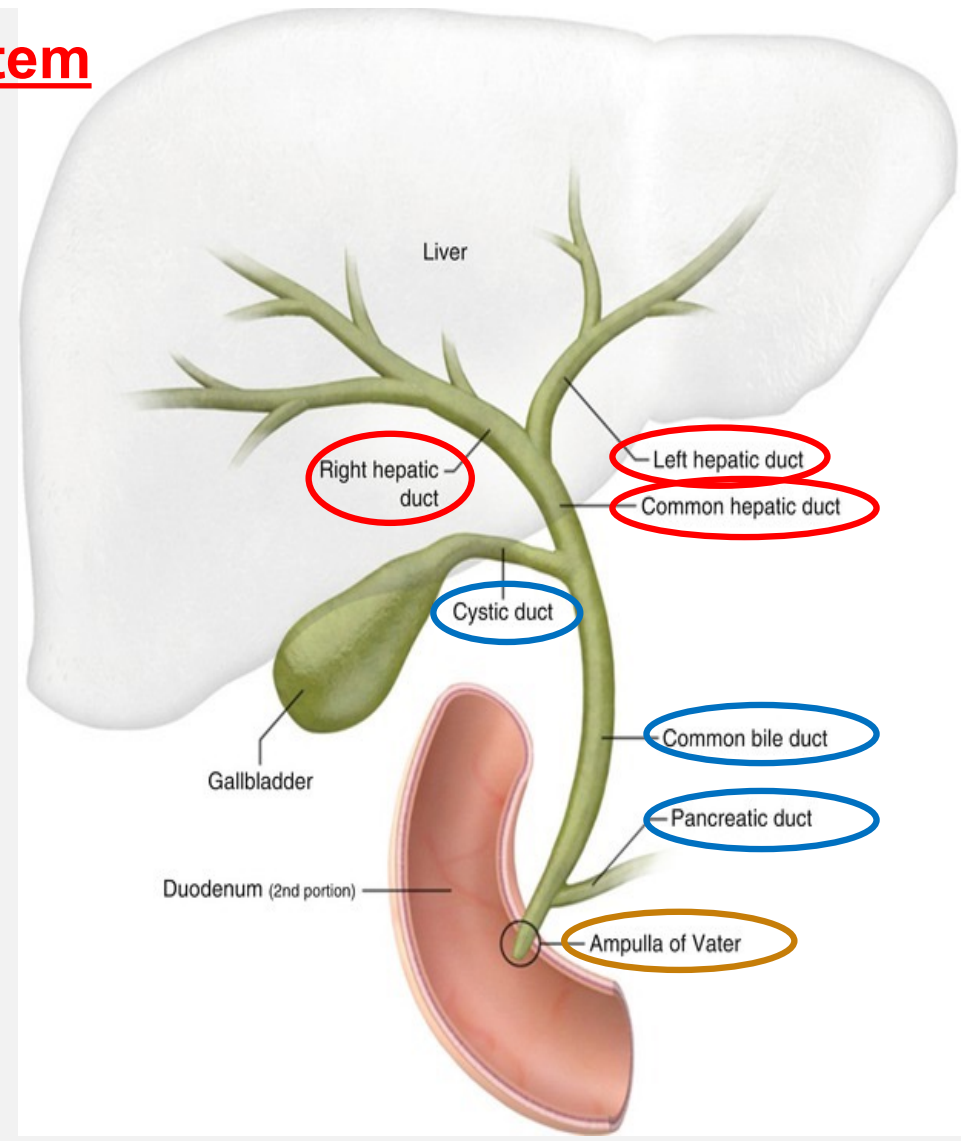


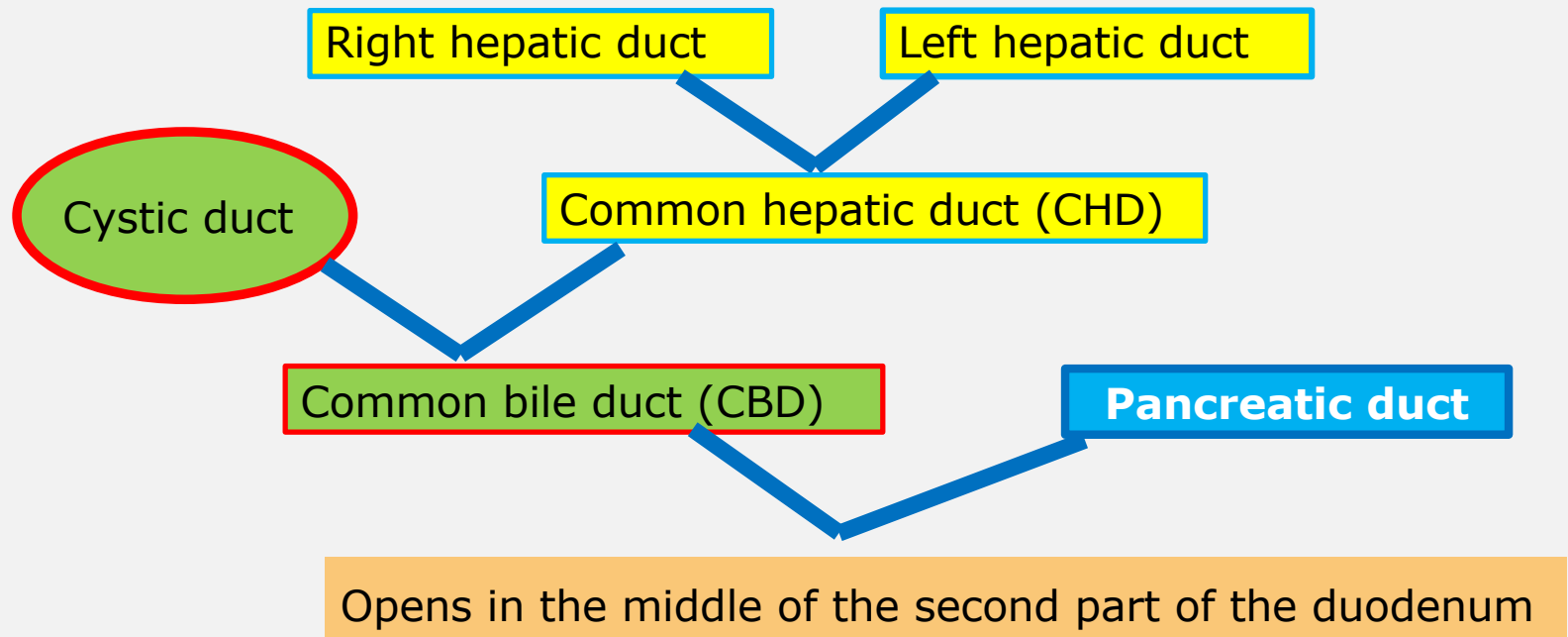


The biliary system

It consists of:

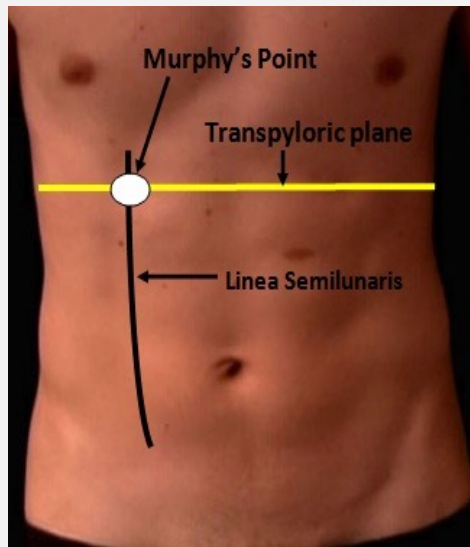
- Gall bladder
- Right & left hepatic ducts from the right & left lobes of the liver.
- They join to form common hepatic duct (CHD).
- CHD joins the cystic duct of the gall bladder & form together the common bile duct (CBD).
- CBD joins the main pancreatic duct that opens in the middle of the second part of the duodenum.





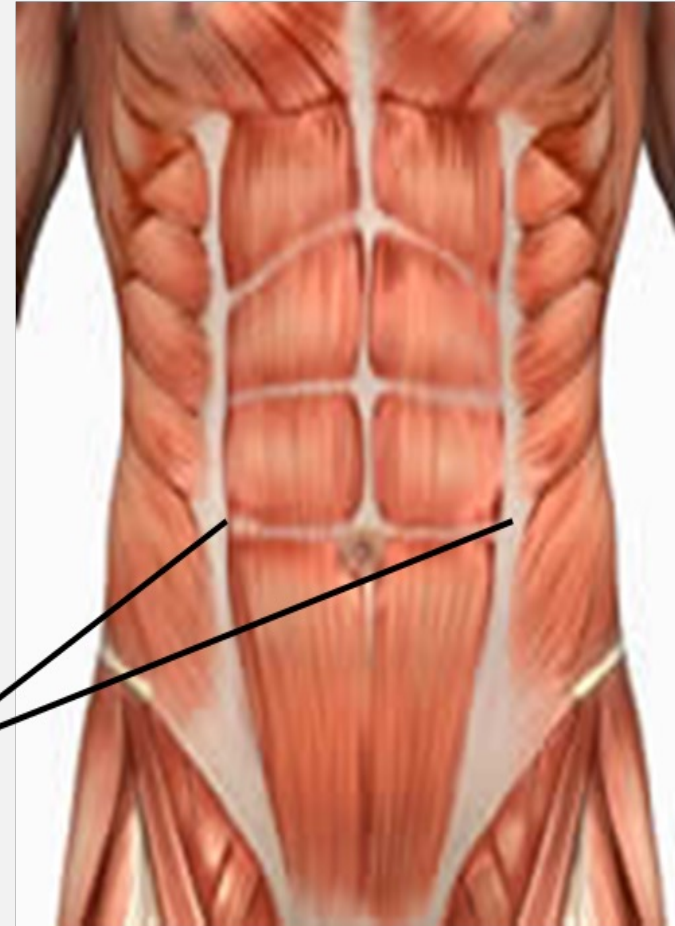
The gallbladder

- It is formed of fundus , body and neck
- Surface anatomy of fundus of gallbladder:
Murphy's point where linea semilunaris crosses the tip of the 9th costal cartilage at the transpyloric plane.(L1)



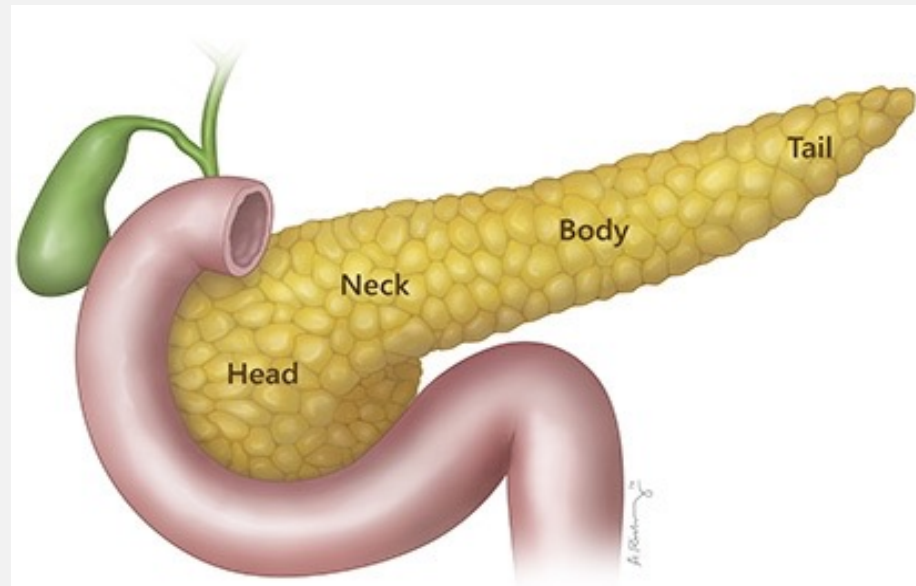
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Linea
Semilunaris



The pancreas

- It is both exocrine & endocrine gland.
- It is divided into 4 parts: head, neck, body & tail

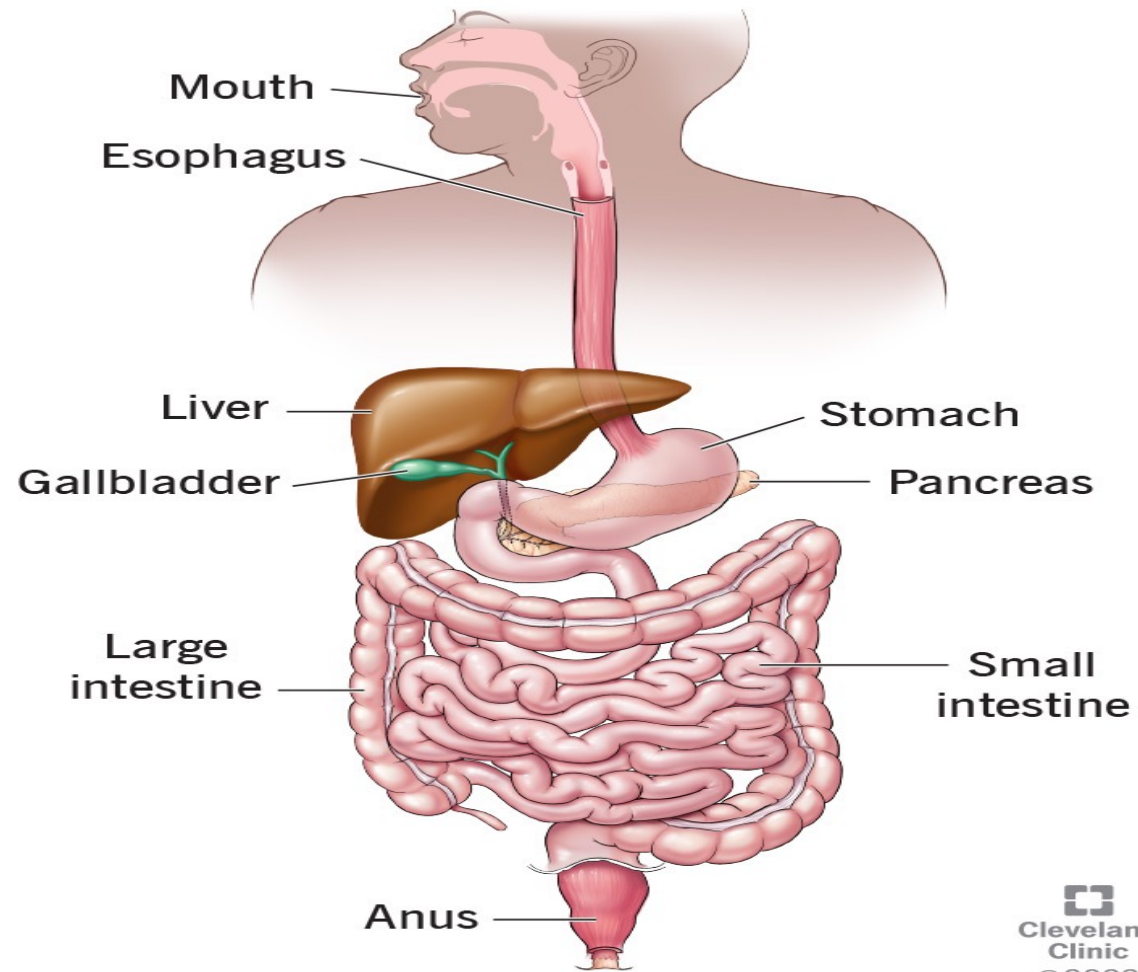


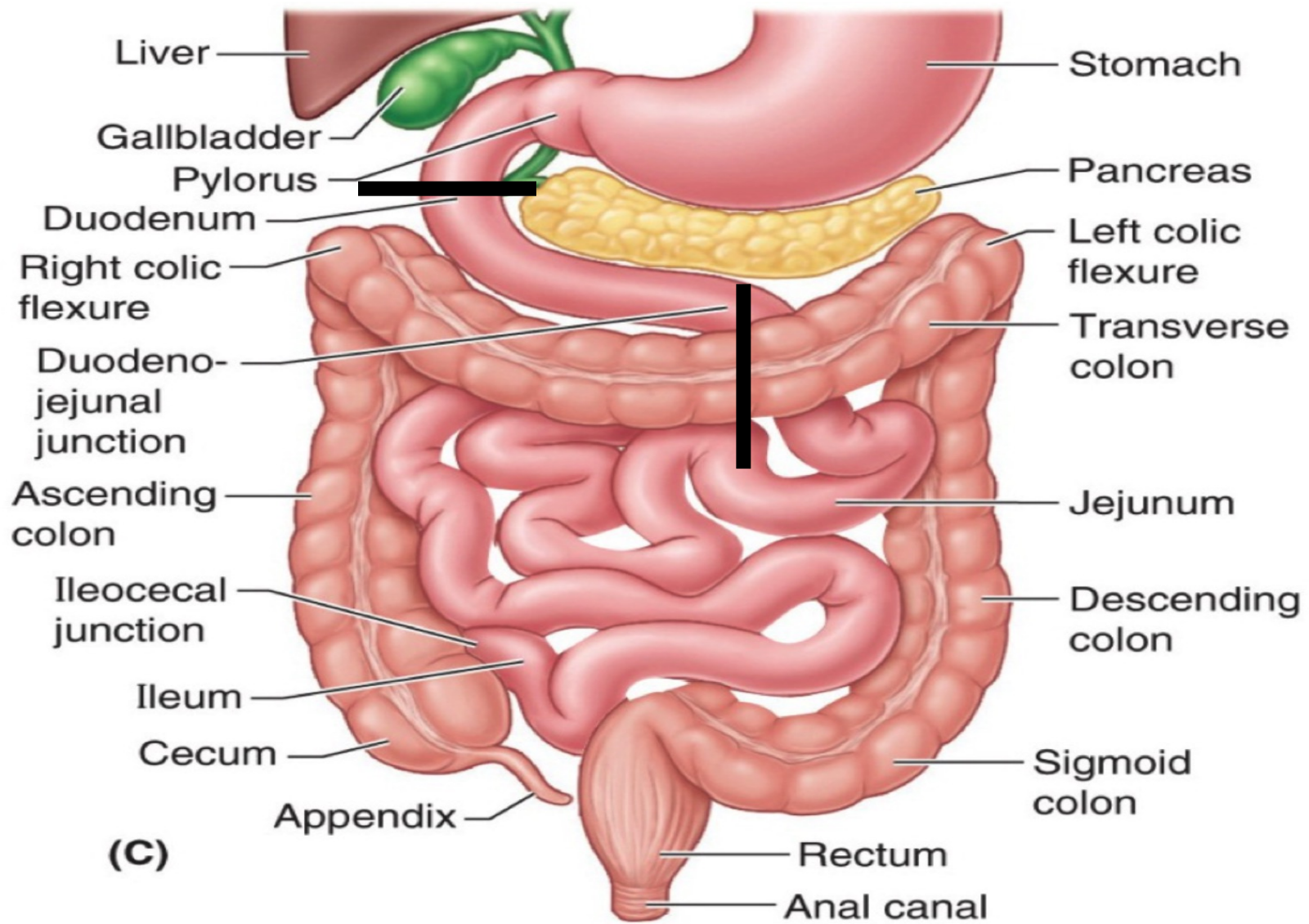
General topography of GIT

The GIT is divided into 3 parts; foregut, midgut, and hindgut

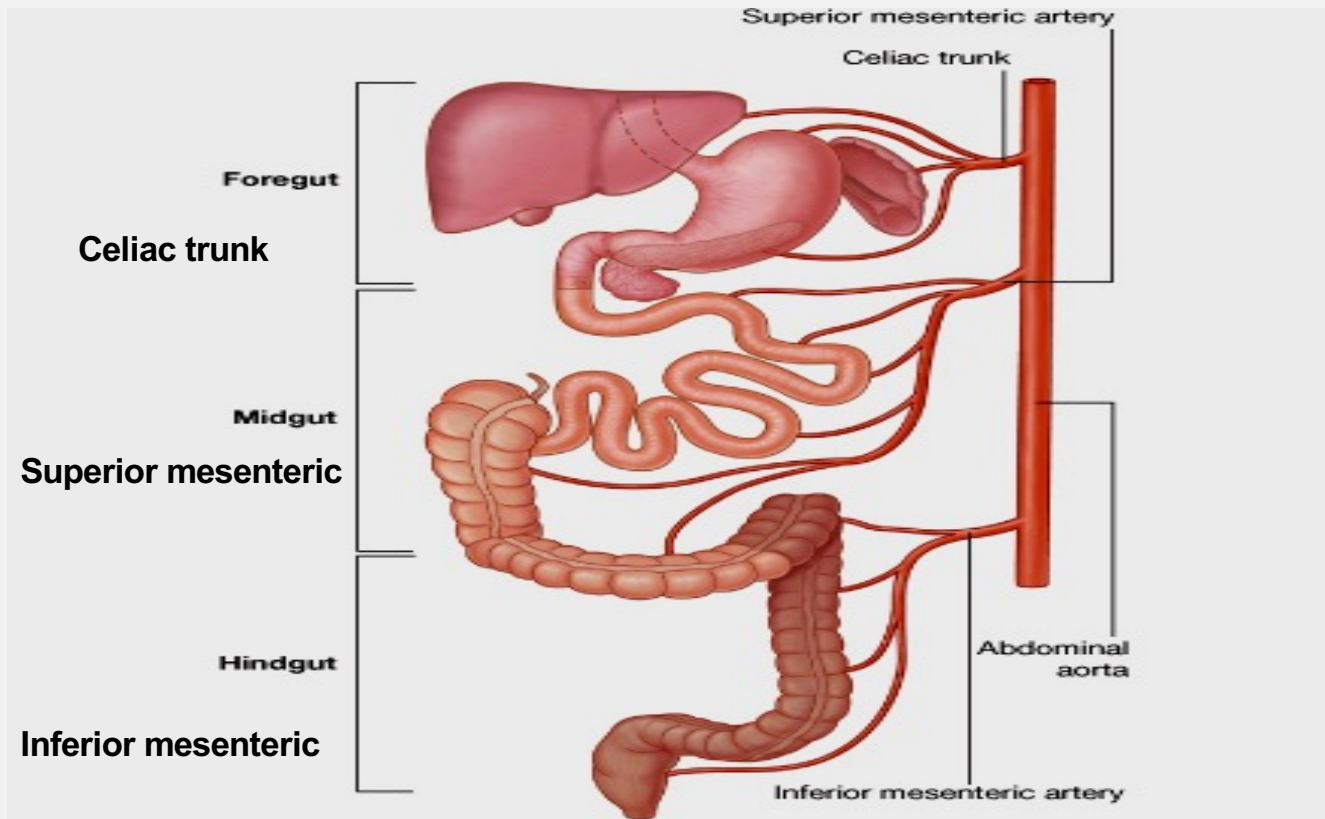
	Foregut	Midgut	Hindgut
Components	Abdominal end of esophagus, stomach, duodenum down to entrance of bile duct, liver, spleen, pancreas	Lower 1/2 of the duodenum, jejunum, ileum, large intestine as far as the right 2/3 of the transverse colon	The rest of large intestine down to the pectinate line of the anal canal
Arterial supply	Coeliac artery	Superior mesenteric artery	Inferior mesenteric artery
Venous drainage	End in the portal venous system EXCEPT lower part of anal canal		
(REED ONLY)			
Autonomic nerve supply (REED ONLY)	Parasympathetic Vagus nerve Sympathetic T5-T11 segments of the spinal cord → greater and lesser splanchnic nerves	Parasympathetic Vagus nerve Sympathetic T5 -T11 segments of the spinal cord → greater and lesser splanchnic nerves	Parasympathetic Pelvic splanchnic nerves (S2, 3, 4) Sympathetic L1, L2 segments → lumbar splanchnic nerves

Digestive system





Blood supply of the gut



Thank
you

