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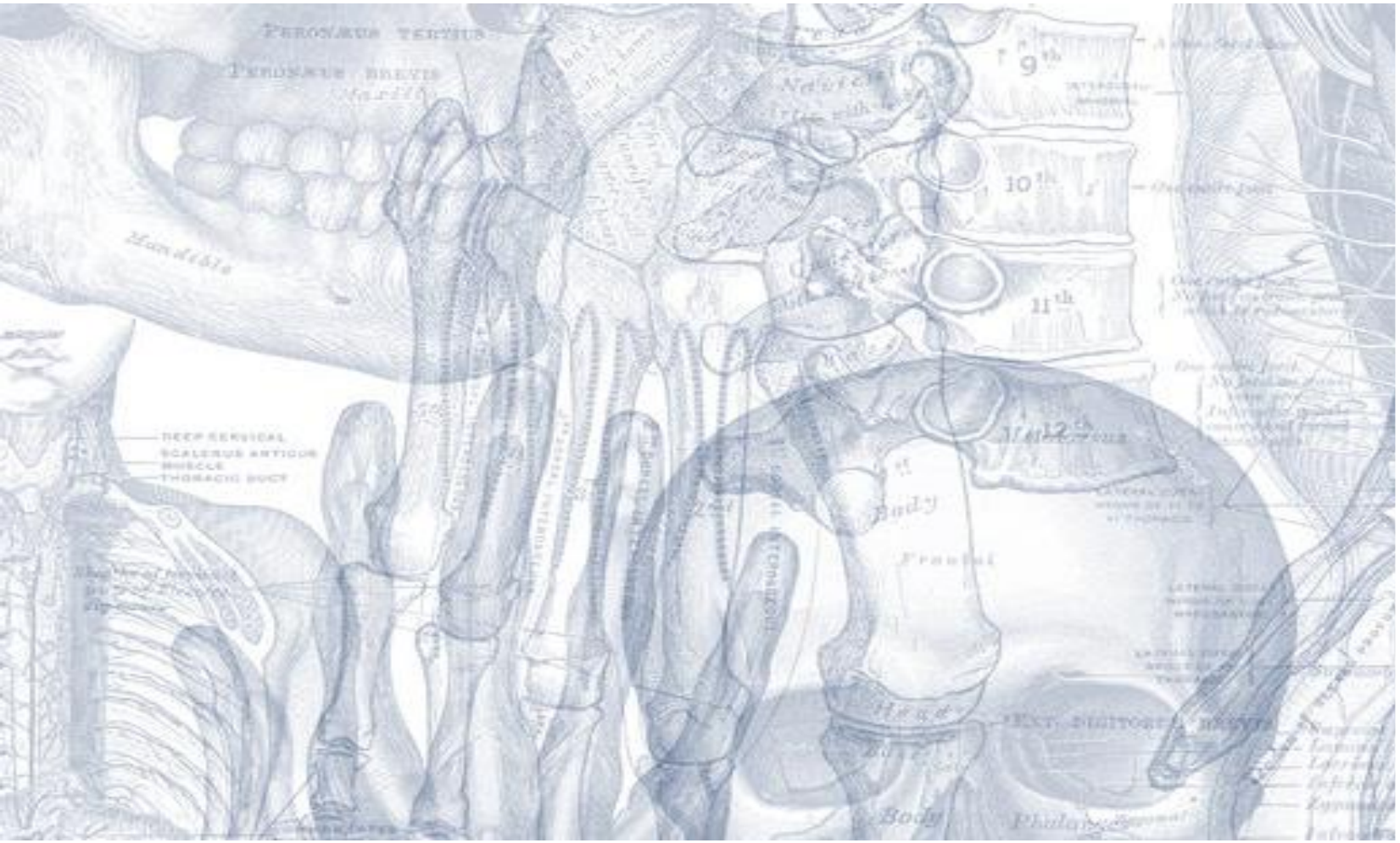


ANATOMY
TEAM 436

436
MEDICINE
KING SAUD UNIVERSITY

OSPE

GASTRONUTRITIONAL BLOCK

Color Code

- Nerves
- Arteries
- Veins
- Lymph
- Muscles
- Extra

اللهم لا سهل إلا ما جعلته سهل وأنت تجعل الحزن إذا شئت سهل

Important Points

1. Read the questions **carefully.**
2. Make sure your write the FULL name of the structures with the correct **spelling.**

   Example: IVC ✗→ Inferior Vena Cava ✓

   Thoracic aorta ✗→ Descending thoracic aorta ✓
3. There is NO guarantee whether or not the exam will go out of this file.

Good luck!

Case 1

Write the relations of the esophagus.

I. Cervical part:

Anteriorly:

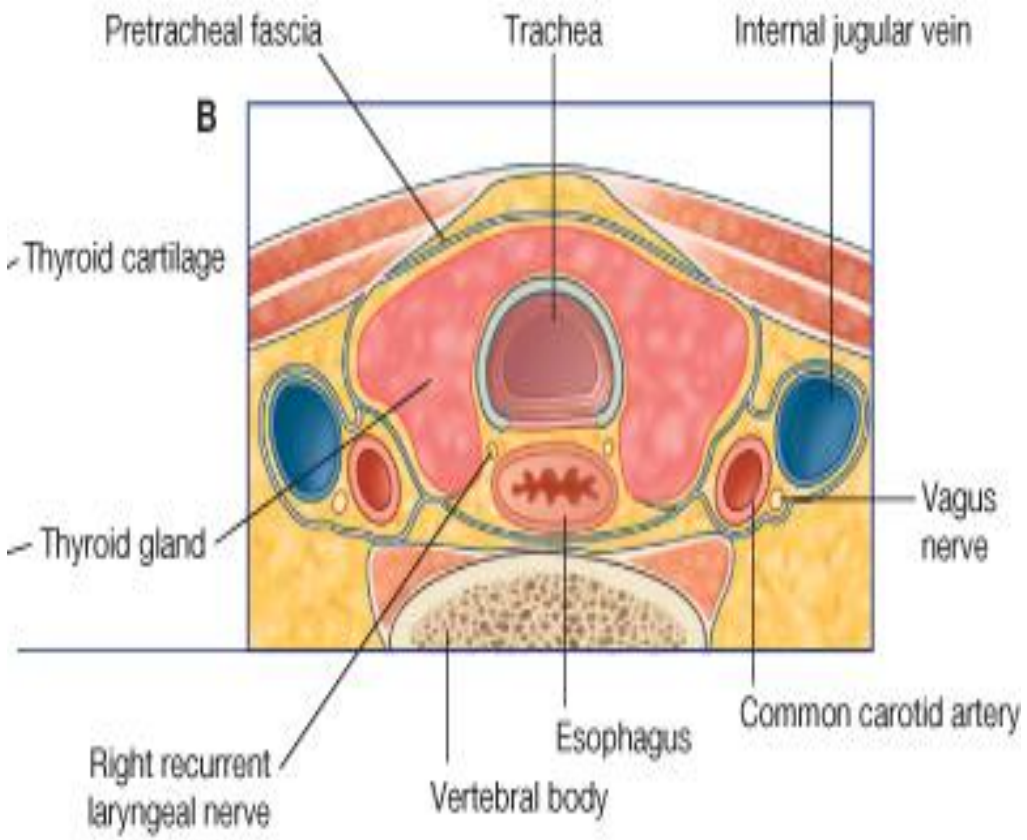
1) Trachea
2) Recurrent laryngeal nerves (vagus nerve)

Posteriorly:

1) Vertebral column

Laterally:

1) Lobes of thyroid gland



Case 1

Write the relations of the esophagus.

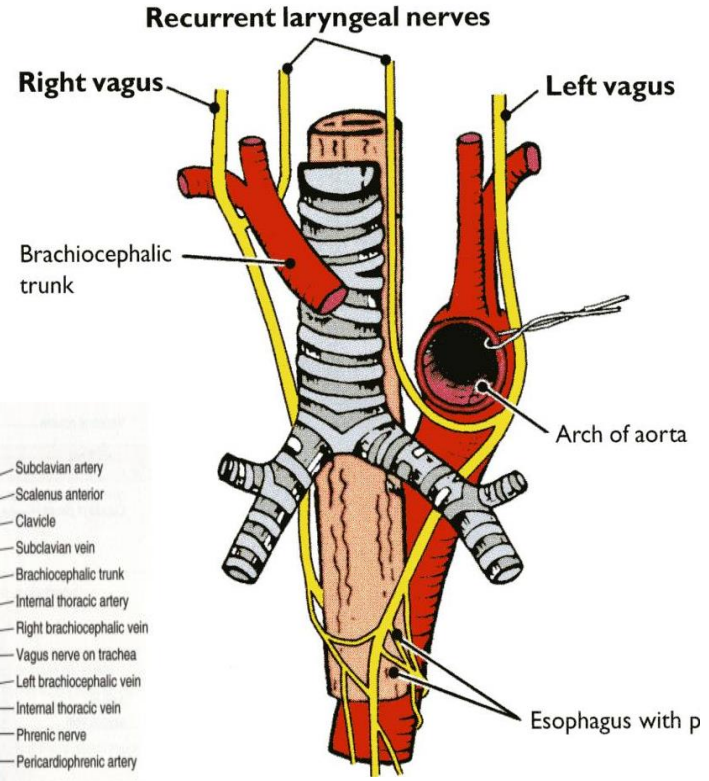
II. Thoracic part:

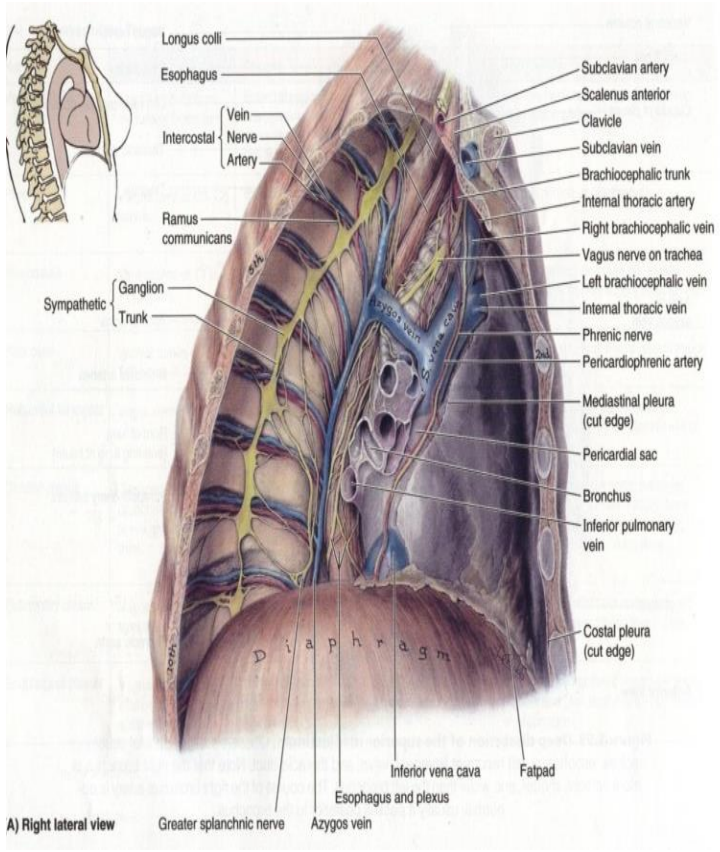
Anteriorly:

1) Trachea
2) Left recurrent laryngeal nerve
3) Left principal bronchus
4) Pericardium
5) Left atrium

Posteriorly:

1) Bodies of the thoracic vertebrae
2) Thoracic duct
3) Azygos vein
4) Right posterior intercostal arteries
5) Descending thoracic aorta (at the lower end)





Case 1

Write the relations of the esophagus.

II. Thoracic part:

Laterally - Right:

1) Mediastinal pleura
2) Terminal part of the azygos vein.

Laterally - Left:

1) Mediastinal pleura.
2) Left subclavian artery.
3) Aortic arch.
4) Thoracic duct.

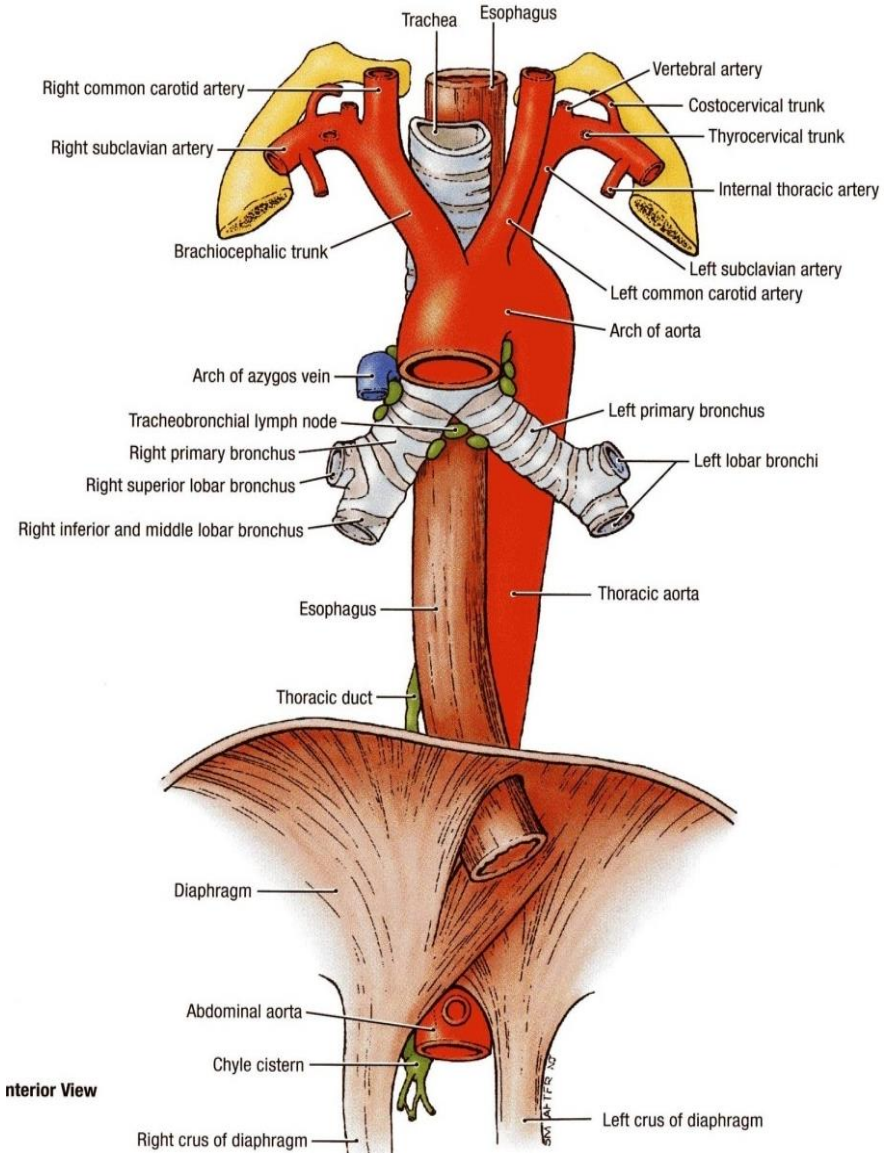
III. Abdominal Part

Anteriorly:

1) Left lobe of liver

Posteriorly:

1) Left crus of diaphragm



Case 2

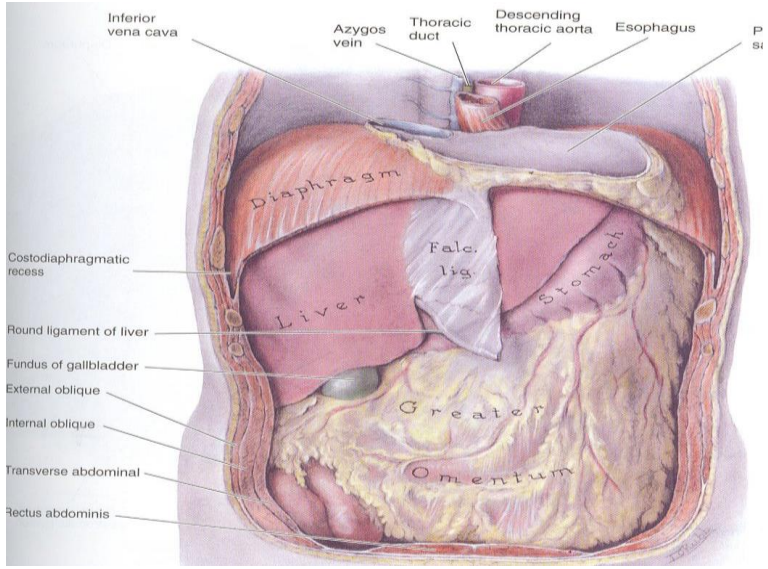
Write 3 structures passing anteriorly and 3 structures passing posteriorly to the stomach.

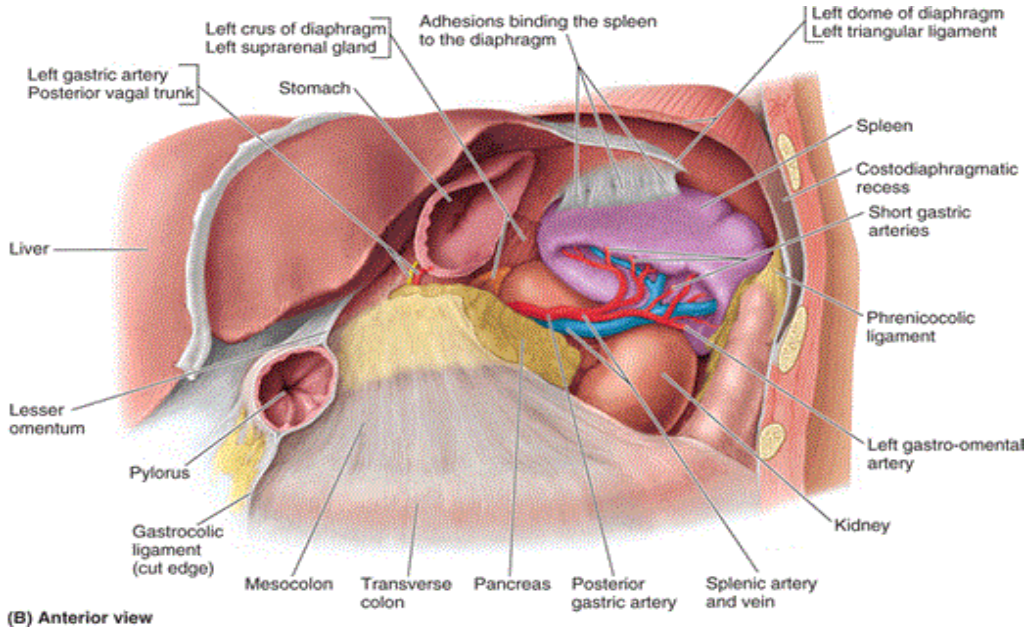
Anteriorly:

1) Anterior abdominal wall.
2) Left pleura & lung.
3) Diaphragm.
4) Left lobe of the liver.
5) Left costal margin.

Posteriorly:

1) Lesser sac
2) Splenic artery
3) Pancreas
4) Transverse mesocolon.
5) Transverse colon.
6) Left crus of diaphragm.
7) Left suprarenal gland.
8) Part of left kidney
9) Spleen





Case 3

A 55-year- old woman develops a hiatal hernia in which the fundus of the stomach protrudes through the esophageal hiatus of the diaphragm into the thorax.

I. What is the level of the esophageal opening of the diaphragm?

Thoracic 10.

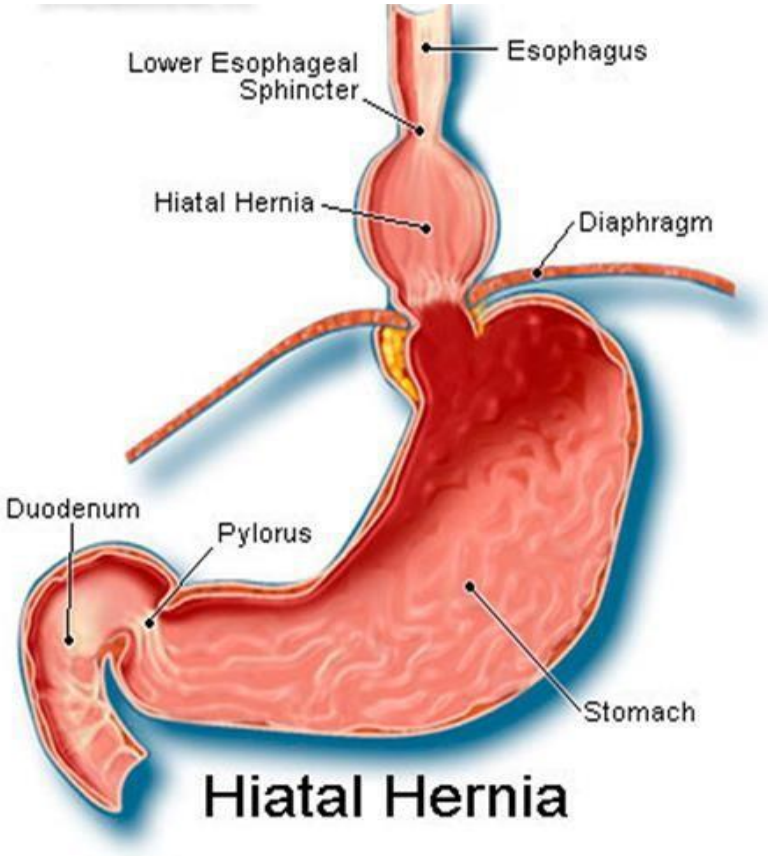
II. What structure is at great risk of injury during surgical repair in this case?

Vagus nerve.

More accurate to say: anterior gastric (left vagus) and posterior gastric (right vagus)

III. Enumerate 2 other structure that pass through the esophageal opening of the diaphragm?

1) Branches of left gastric vessels.
2) lymph vessels.

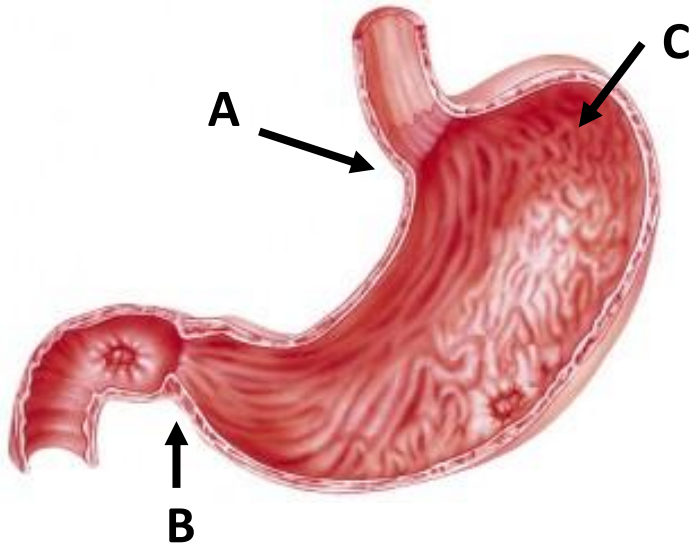


Case 4

A heavy smoker 50-year old man has an upper abdominal pain and heartburn that on and off for several months. 2 weeks ago he vomited dark blood. Gastroscopy examination revealed peptic ulcer.

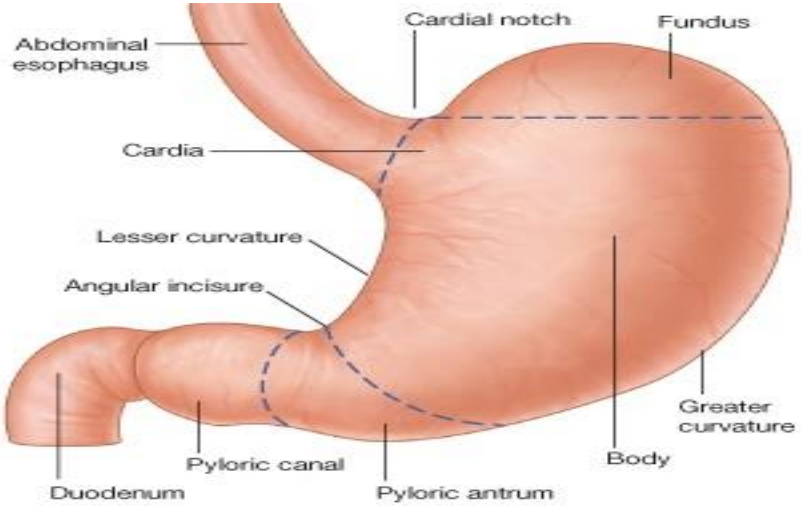
I. Identify

A. Cardiac orifice.
B. Pylorus.
C. Fundus.



II. List 4 arteries supplying the stomach.

1) Left gastric.
2) Right gastric.
3) Left gastroepiploic.
4) Right gastroepiploic.
5) Short gastric



This slide was added by Dr. Jameela

I. Enumerate the structures posterior to the head of pancreas.

Bile duct and portal vein

II. What are the arteries supplying the transverse colon & their origin.

Superior mesenteric artery (from midgut) and inferior mesenteric artery (from hind gut)

III. What are the sites of the esophageal constrictions?

1. The first (pharyngo-esophageal) is at the junction with the pharynx.
2. The second (aortobronchial) is at the crossing with the aortic arch and the left main bronchus.
3. The third (diaphragmatic) is at the junction with the stomach.

IV. Describe the relations of the spleen.

Anteriorly: Stomach, tail of pancreas, left colic flexure & left kidney
Posteriorly: Diaphragm, that separates it from the left pleura (left costo-diaphragmatic recess), left lung & 9, 10 & 11 ribs.
Inferiorly: left colic flexure
Medially: left kidney

Level	Surface Anatomy
5th Intercostal Space	Stomach fundus
Tip of **9th** costal cartilage	Gallbladder Fundus comes in contact with anterior abdominal wall
T10	(7th Costal Cartilage) - Cardiac orifice
T12	Pancreas (tail)
L1	Transpyloric plane – Stomach pylorus - Pancreas (head, neck, body) Duodenum 1st part (superior)
L1 → L3	Duodenum 2nd part (descending)
L3	Subcostal plane - Duodenum 3rd part (horizontal)
L3 → L2	Duodenum 4th part (ascending)

Case 5

A 57-year-old male brought to the ER where he diagnosed with perforated duodenal ulcer in the posterior wall of the first part of the duodenum.

I. Which artery lies behind the ulcer in his case?

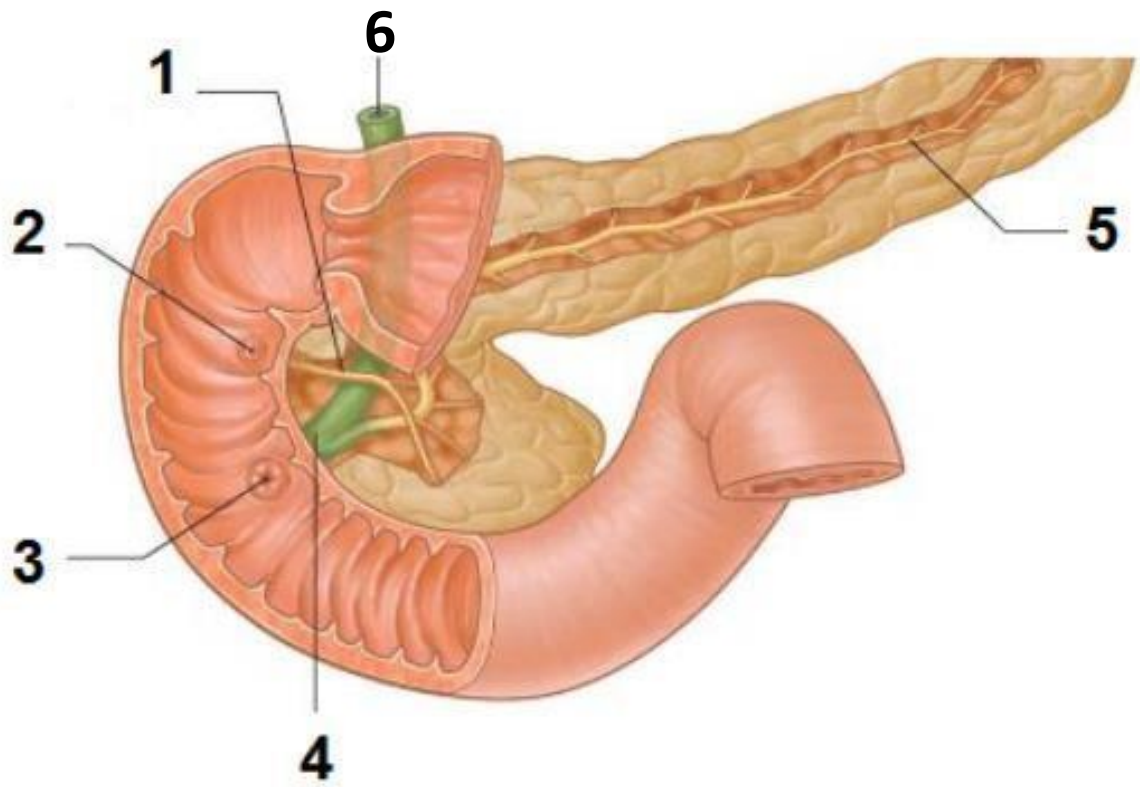
Gastroduodenal artery

II. Enumerate 3 different organs supplied by this artery.

1) Stomach (pylorus)
2) Duodenum
3) Head of pancreas

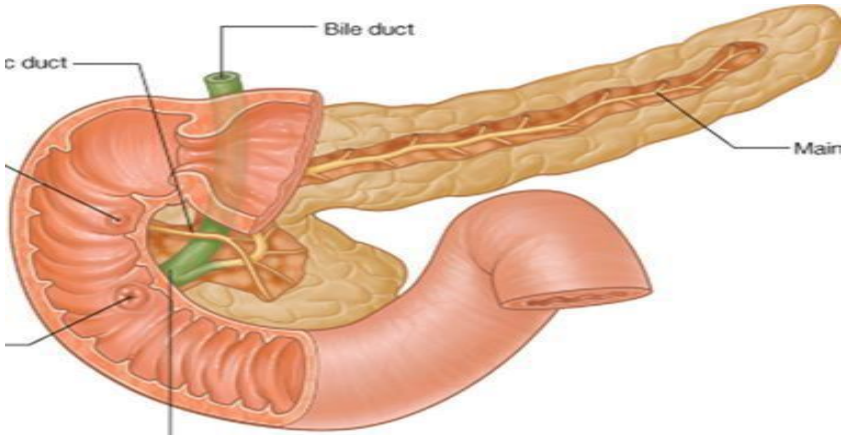
III. Identify:

1. Accessory pancreatic duct
2. Minor duodenal papilla
3. Major duodenal papilla
4. Hepatopancreatic ampulla
5. Main pancreatic duct
6. Bile duct



Case 6

A 48-year-old man has lost 10 kilos over the last 3 months and presented with upper abdominal pain that radiates to the back between the scapulae. During examination the doctor noticed jaundice. CT scan reveals tumor of the head of the pancreas.

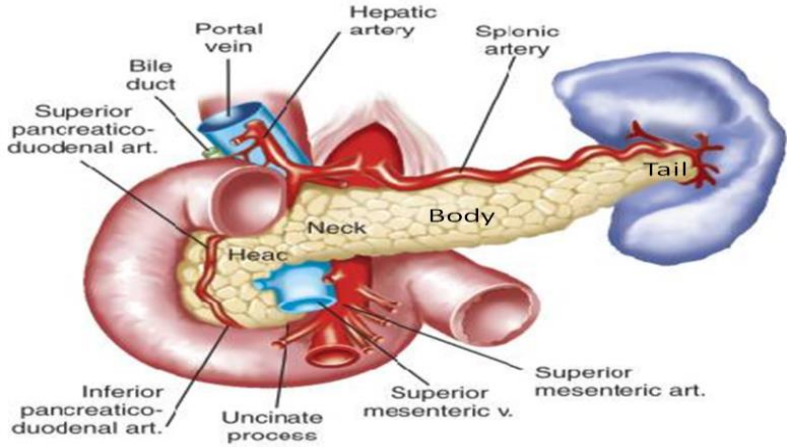


I. List the arterial supply of the pancreas.

1) Superior pancreaticoduodenal artery
2) Inferior pancreaticoduodenal artery
3) Splenic artery

II. Where does the main pancreatic duct open?

Major duodenal papilla in the 2nd part of the duodenum



III. From where do the arteries supplying the pancreas originate?

1. Superior pancreaticoduodenal artery originates from gastroduodenal branch of hepatic artery of celiac
2. Inferior pancreaticoduodenal artery from superior mesenteric artery

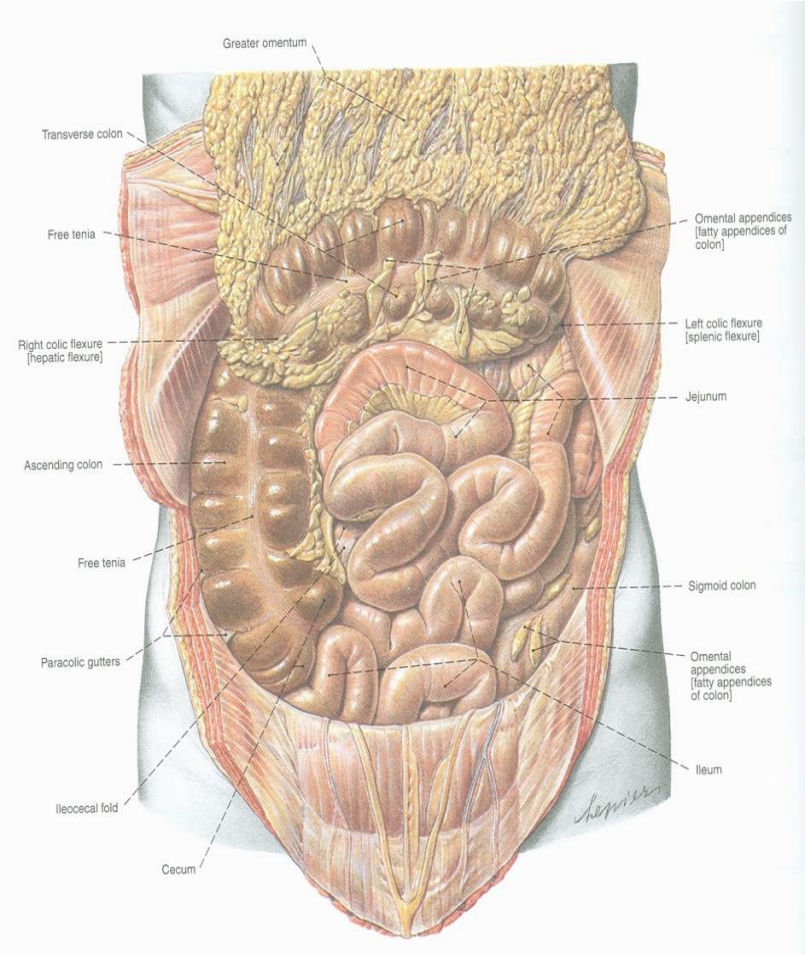
IV. What is the cause of jaundice in this case?

Posthepatic: the tumor will obstruct the bile duct and block the flow of bile from the gallbladder to the small intestine (duodenum)

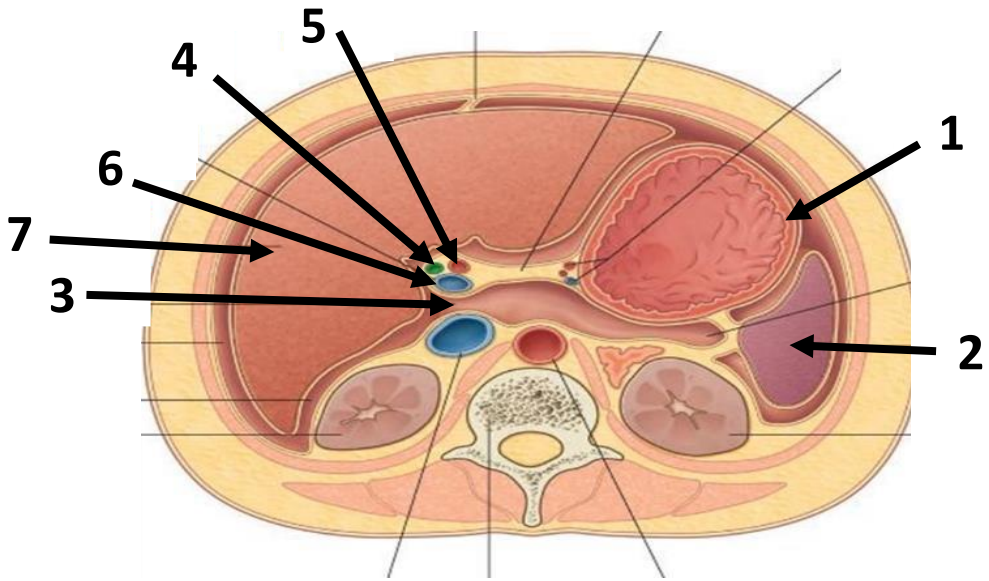
Case 7

Write 3 differences between jejunum and ileum.

	Jejunum	Ileum
Length	Shorter (proximal 2/5) of SI	Longer (distal 3/5) of SI
Diameter	Wider	Narrower
Wall	Thicker (more plicae circulares)	Thinner (less plicae circulares)
Appearance	Dark red (more vascular)	Light red (less vascular)
Vessels	High & Less arcades (long terminal branches)	Low & More arcades (short terminal branches
Mesenteric Fat	Small amount & away from intestinal border	Large amount & close to intestinal border
Lymphoid Tissue	Few aggregations	Numerous aggregations (Peyer's patches)

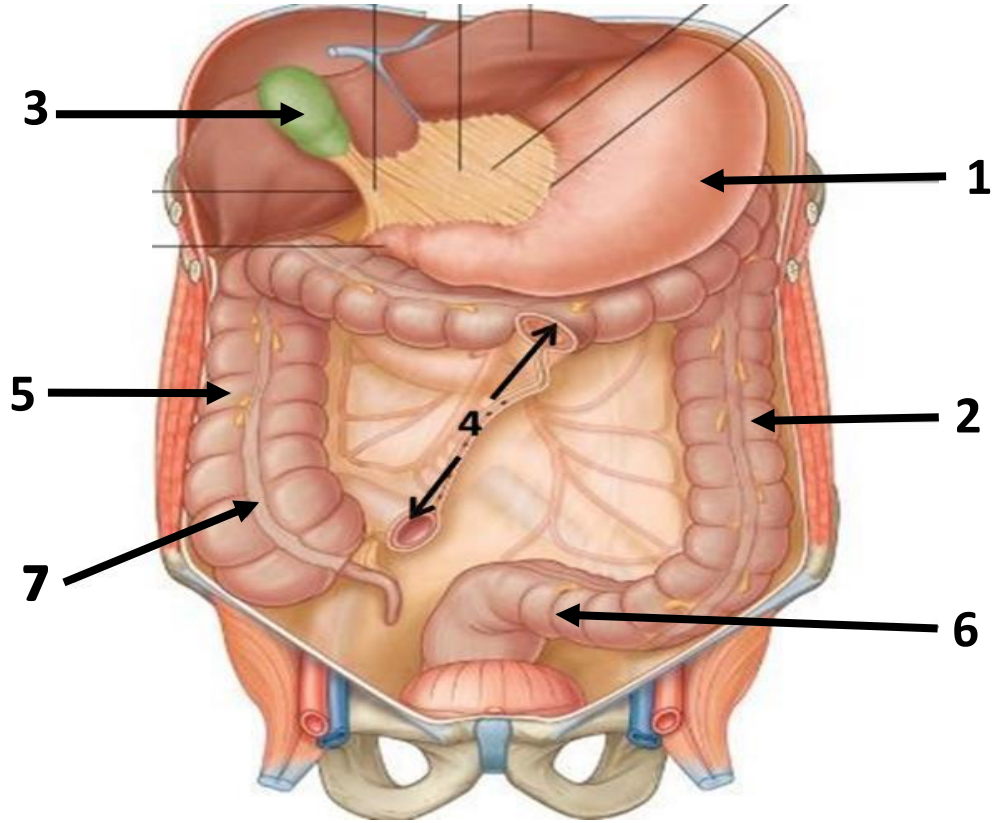


Case 8



Identify:

1. Stomach
2. Spleen
3. Opening into lesser sac (epiploic foramen)
4. Bile duct
5. Hepatic artery
6. Portal vein
7. Liver

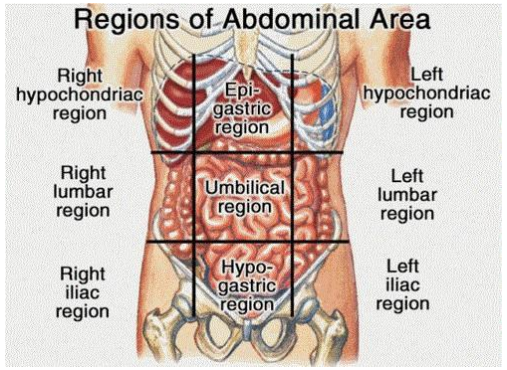


Identify

1. Stomach
2. Descending colon
3. Gallbladder
4. Root of mesentery
5. Ascending colon
6. Sigmoid colon
7. Teniae coli

Case 9

A 52 year old man has been feeling unwell, he always feels tired. The doctor noticed that he is jaundiced. Abdominal examination showed splenomegaly, ascites, caput medusa, and increased abdominal girth. Investigations revealed chronic liver cell failure.



I. In which abdominal regions lies the liver?

Right and left hypochondrium and epigastrium

II. Enumerate the contents of porta hepatis in order (from anterior to posterior).

From anterior to posterior

1) 2 hepatic ducts
2) 2 hepatic arteries
3) 2 branches of portal vein
4) Autonomic nerve fibers
5) Hepatic lymph nodes

III. From where does the liver receive its blood supply?

Hepatic artery (30%) and portal vein (70%)

IV. Where do the hepatic veins terminate?

In the inferior vena cava.

Case 10

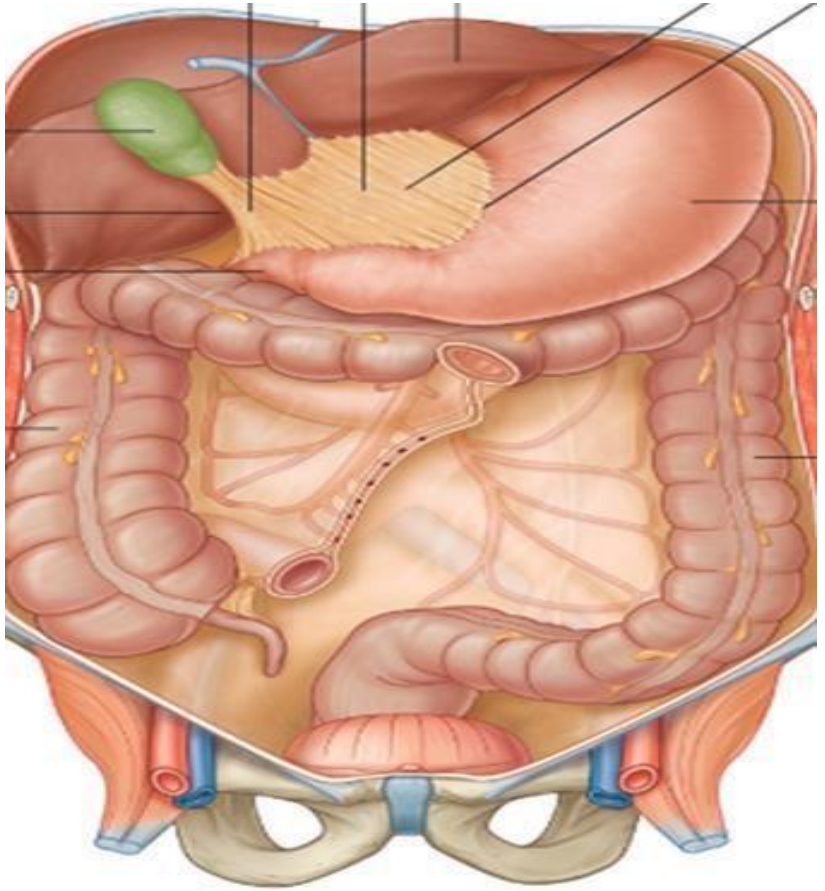
During cholecystectomy a resident damaged the cystic artery before the clamp was properly placed. The assistant surgeon applied pressure on top of the free margin of the lesser omentum to stop the bleeding.

I. **Which artery runs in the free margin of the lesser omentum?**
Hepatic artery

II. **From which artery the cystic artery usually arises?**
Right hepatic artery

III. **What are the other structures that runs in the free margin of the lesser omentum?**
Common bile duct
Portal vein
Hepatic plexus of nerves
Lymphatics

IV. **Enumerate 2 other structures that run in the lesser omentum along the lesser curvature of the stomach.**
1) Right gastric vessels
2) Left gastric vessels

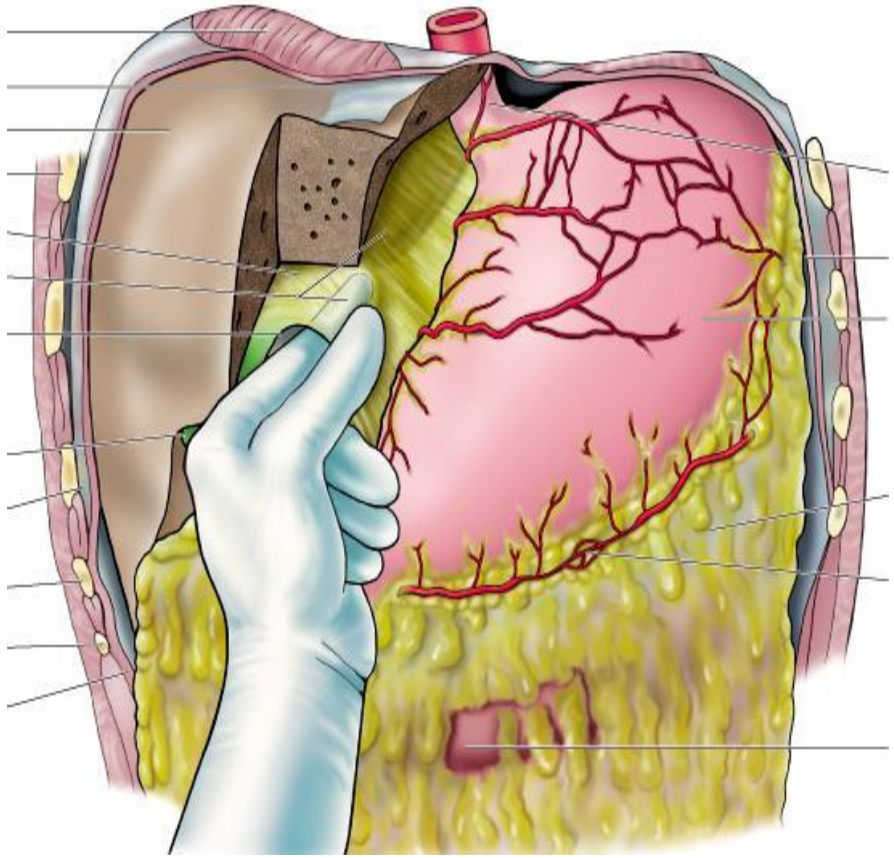


Case 11

A 52-year-old woman undergoes an open abdominal cholecystectomy. During surgery her doctor inserts his index finger into the epiploic foramen.

Enumerate the 4 boundaries of the epiploic foramen?

1) Superior: peritoneum caudate process of caudate lobe of liver.
2) Inferior: peritoneum covering 1st part of duodenum and hepatic artery
3) Anterior: free margin of lesser omentum, hepatic artery, common bile duct & portal vein.
4) Posterior: Peritoneum covering the inferior vena cava.



Case 12

I. Identify:

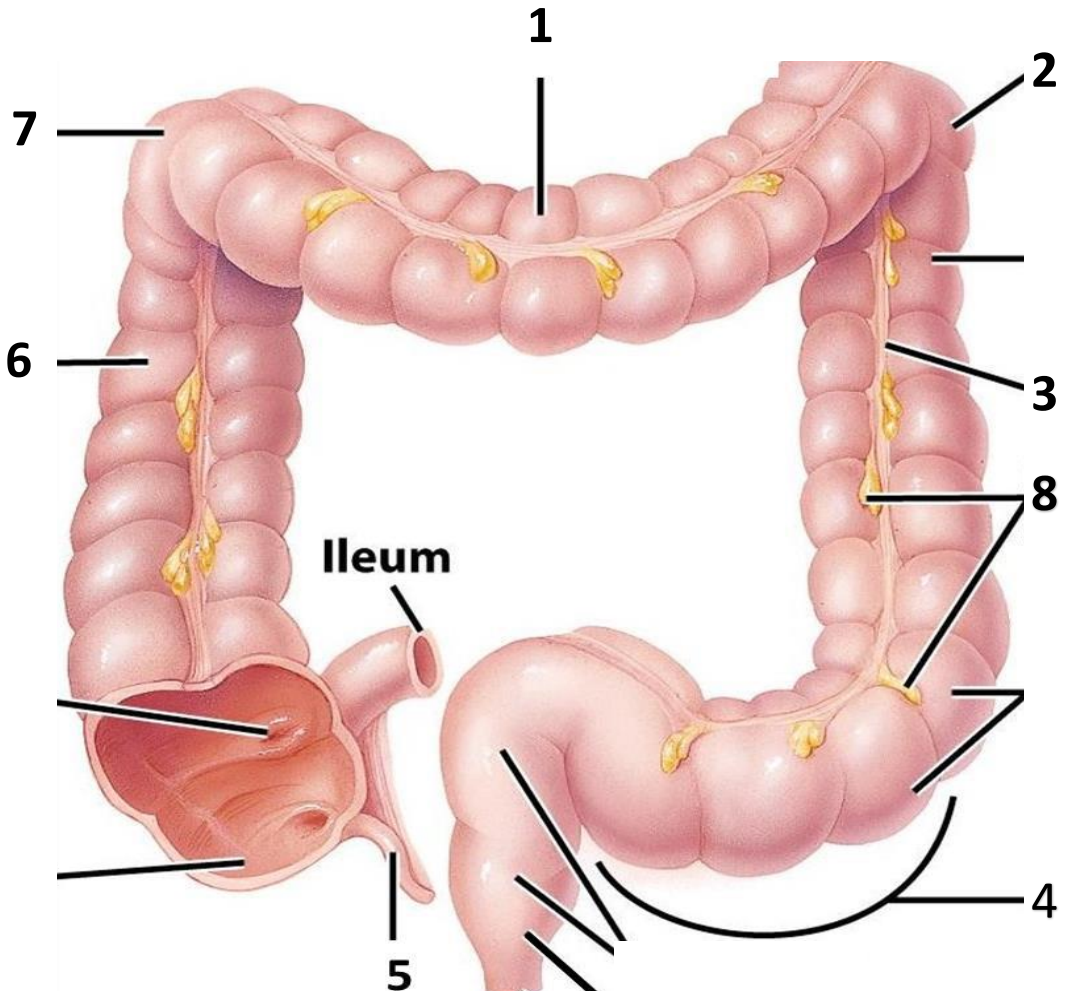
1. Transverse colon.
2. Left colic (splenic) flexure.
3. Teniae coli.
4. Sigmoid or pelvic colon.
5. Appendix.
6. Ascending colon.
7. Right colic (hepatic) flexure.
8. Epiploic Appendices .

II. What is the level of the beginning of the rectum?

S3 (in front of 3rd sacral vertebra).

III. Where does the rectum terminate?

One inch below & in front of tip of coccyx.

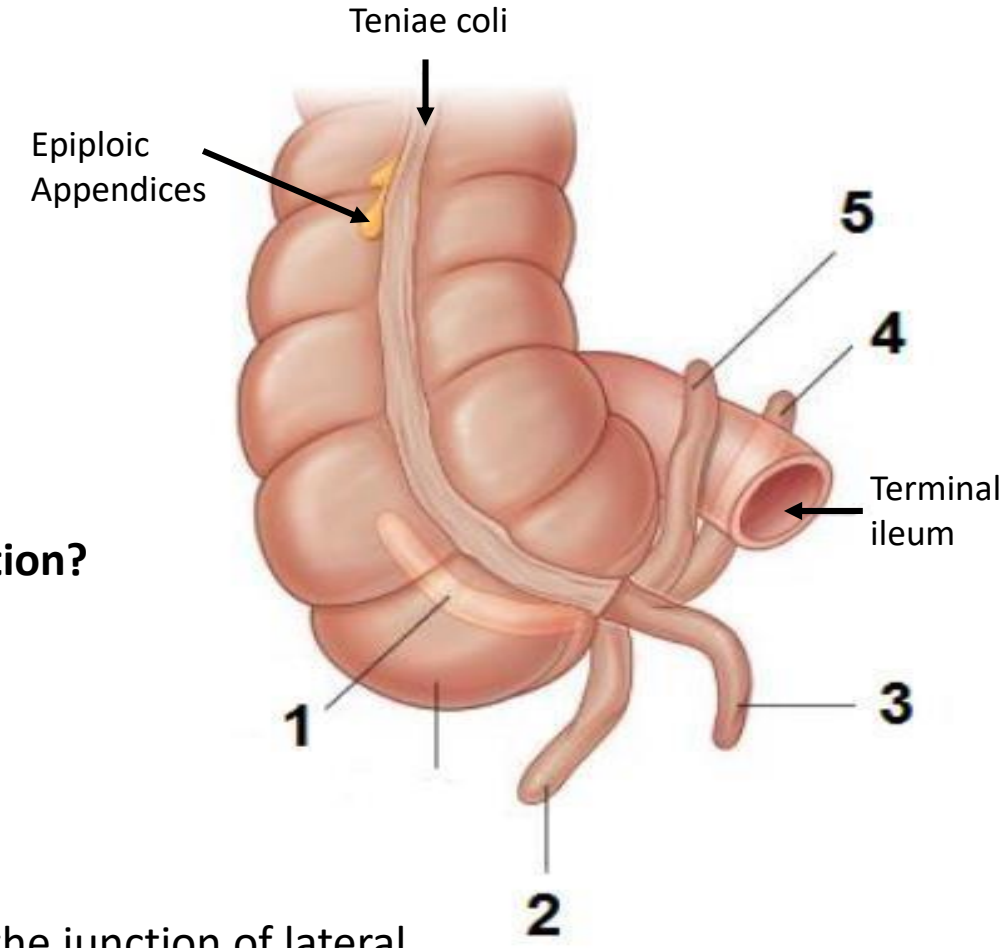


Case 13

A 12 year old boy is brought to the ER with a fever, nausea, and abdominal pain. Investigation revealed leucocytosis. The case is diagnosed as acute appendicitis.

I. Identify the position of the appendix according to the numbers :

1. Retrocecal
2. Subcecal
3. Pelvic
4. Postileal
5. Preileal



II. What is the most common site?

Retrocecal

III. What artery will need to be ligated during appendectomy operation?

Appendicular artery

IV. From where does this artery arise?

Ileocolic branch of superior mesenteric artery

V. Describe the surface anatomy of the appendix.

The base of appendix is marked by McBurney's point: A point at the junction of lateral 1/3 & medial 2/3 of a line traced from right anterior superior iliac spine to umbilicus.

Case 14

A 46-year-old male brought to ER with hematemesis. Investigation revealed liver cirrhosis and portal hypertension.

I. How the portal vein is formed?
Union of superior mesenteric and splenic veins

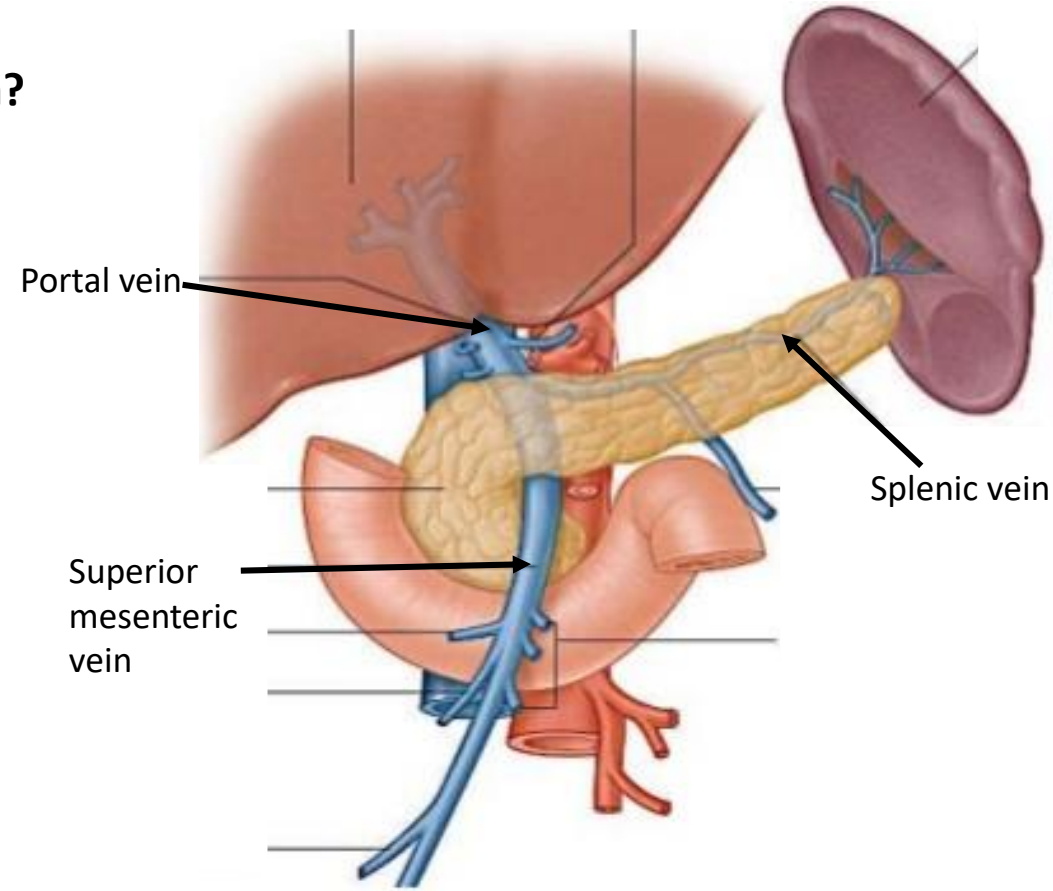
II. What structure lies in front of the beginning of the portal vein?
Neck of the pancreas.

III. What structure lies behind the beginning of the portal vein?
Inferior vena cava.

IV. What is the cause of bleeding in this case?
Esophageal varices.

V. List 2 other site of portosystemic anastomosis.
1) Upper part of anal canal.
2) Paraumbilical region.

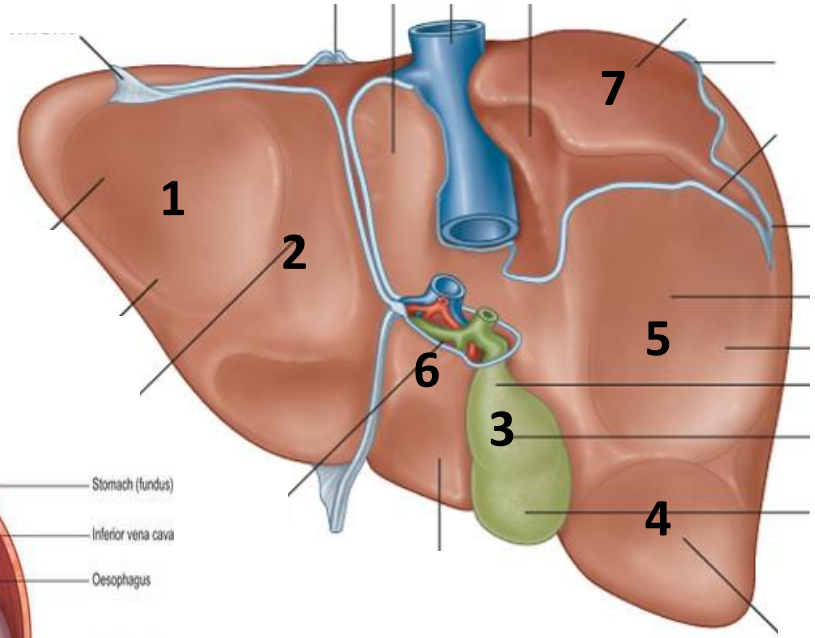
Full list:
3) Esophagus
4) intrahepatic
5) retroperitoneal

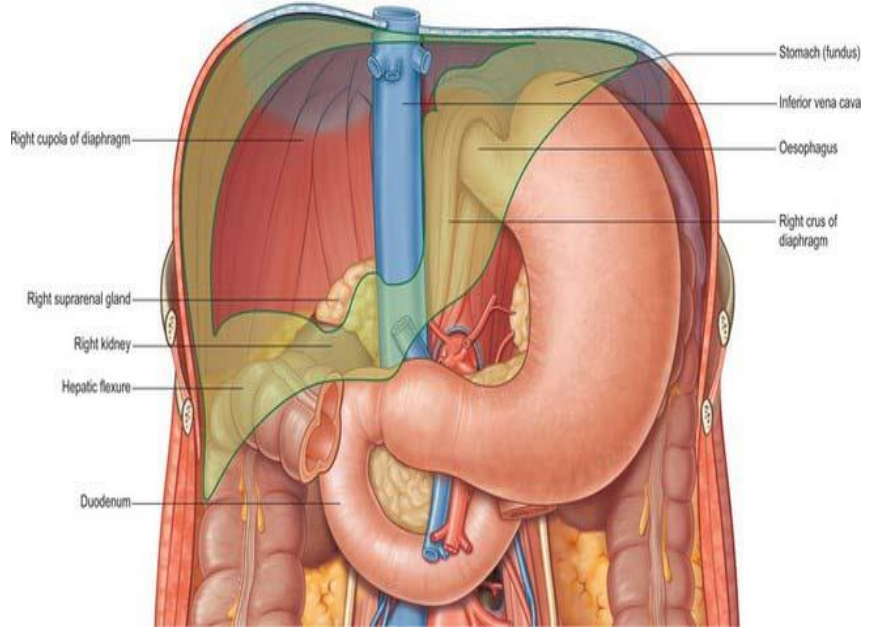


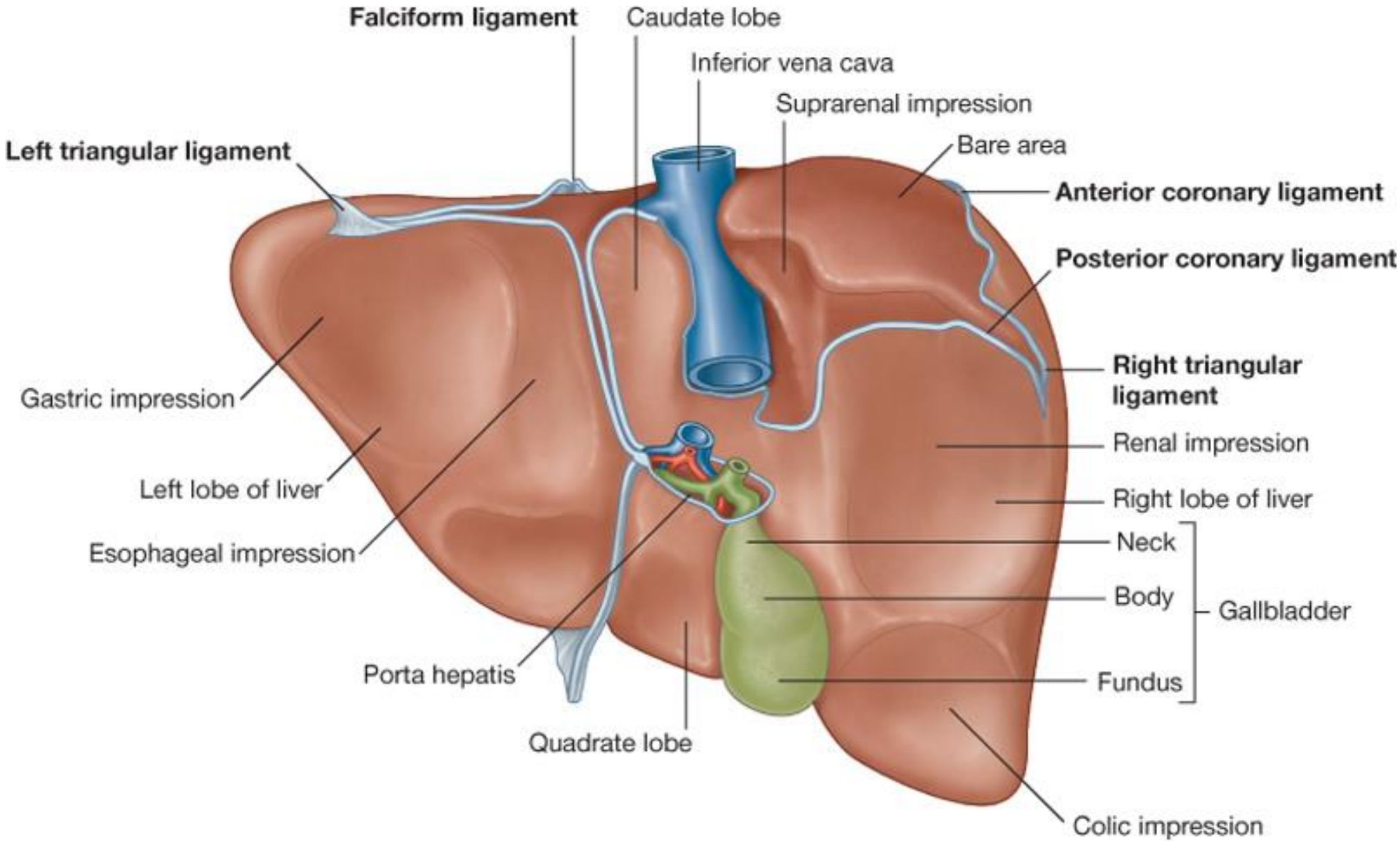
Case 15

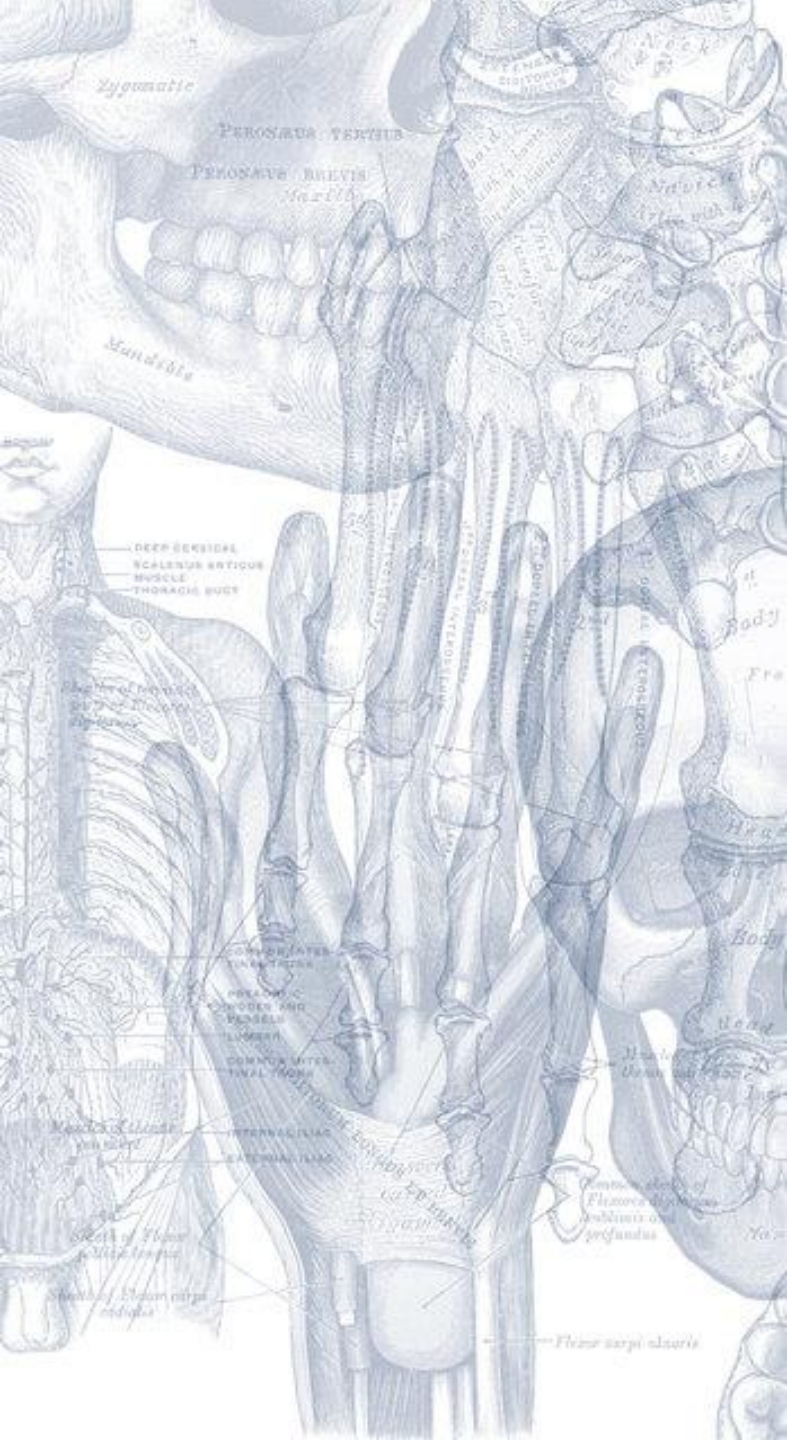
Identify the structures related to the marked impressions :

1. stomach and duodenum
2. esophagus
3. gallbladder
4. right colic flexure
5. right kidney and right suprarenal gland
6. lesser omentum
7. bare area



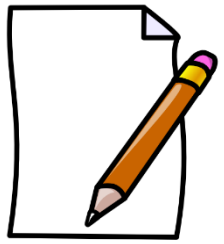



Falciform ligament
Caudate lobe
Inferior vena cava
Suprarenal impression
Bare area
Left triangular ligament
Anterior coronary ligament
Posterior coronary ligament
Right triangular ligament
Gastric impression
Renal impression
Left lobe of liver
Right lobe of liver
Esophageal impression
Neck
Body
Gallbladder
Fundus
Porta hepatis
Quadrate lobe
Colic impression



Done by:

Jawaher Abanumy
Nada Aldakheel
Mohammed Ghandour
Mohammed Alyousef
Khalid Aleedan



Practice Test

Extra Pictures For Practice

Feedback

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References:

1- Team 435
2- Greys Anatomy for Students