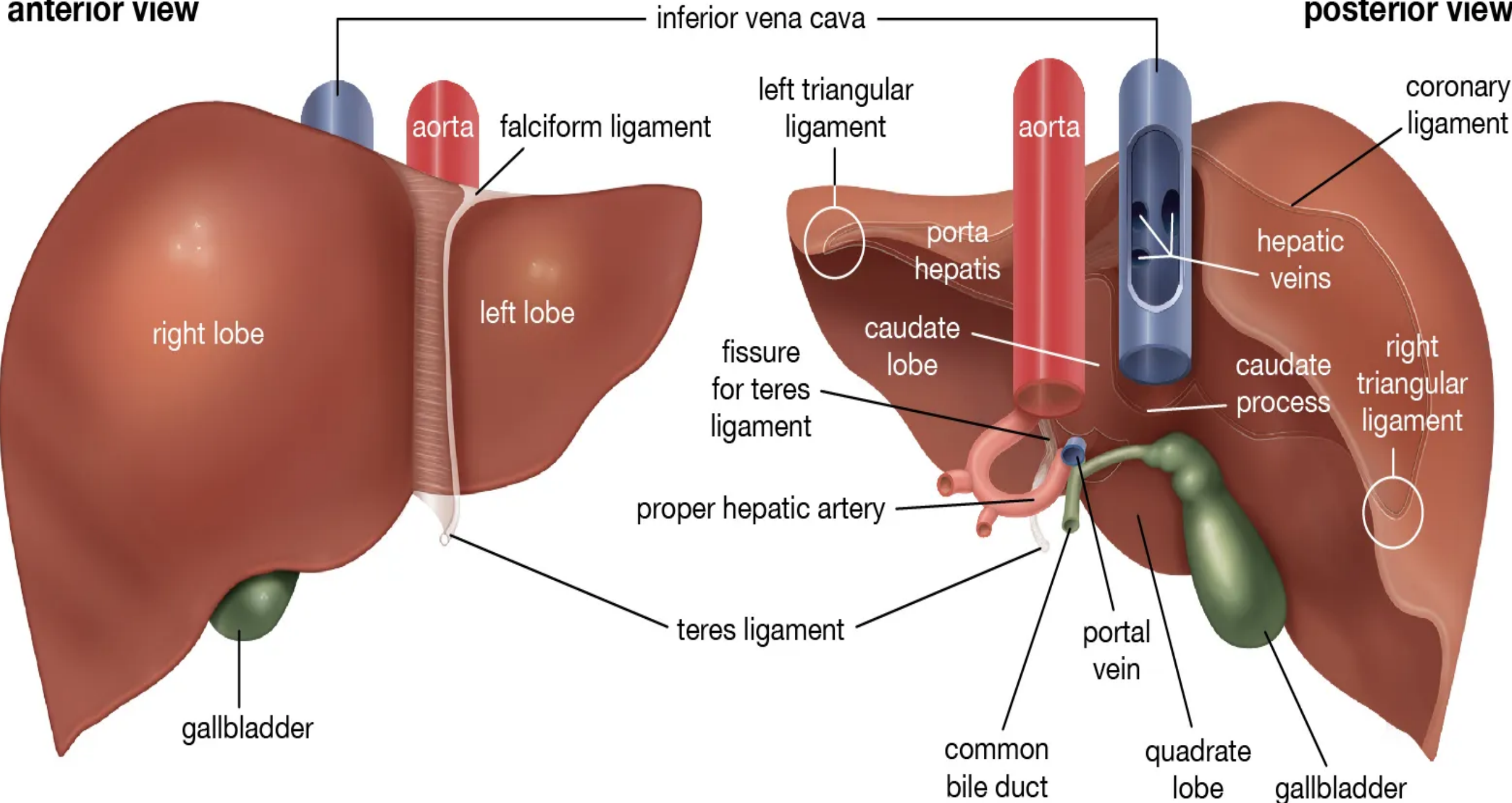
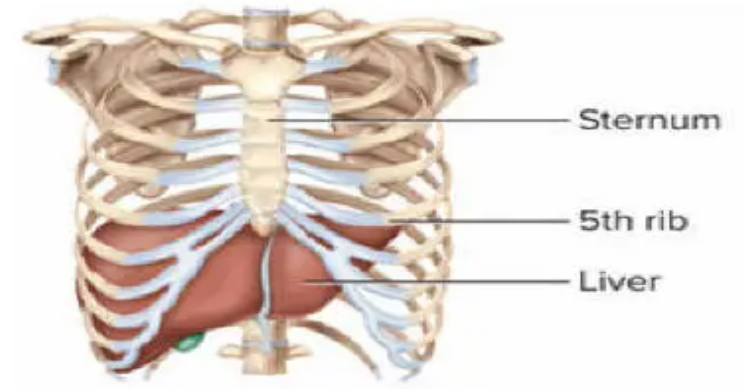
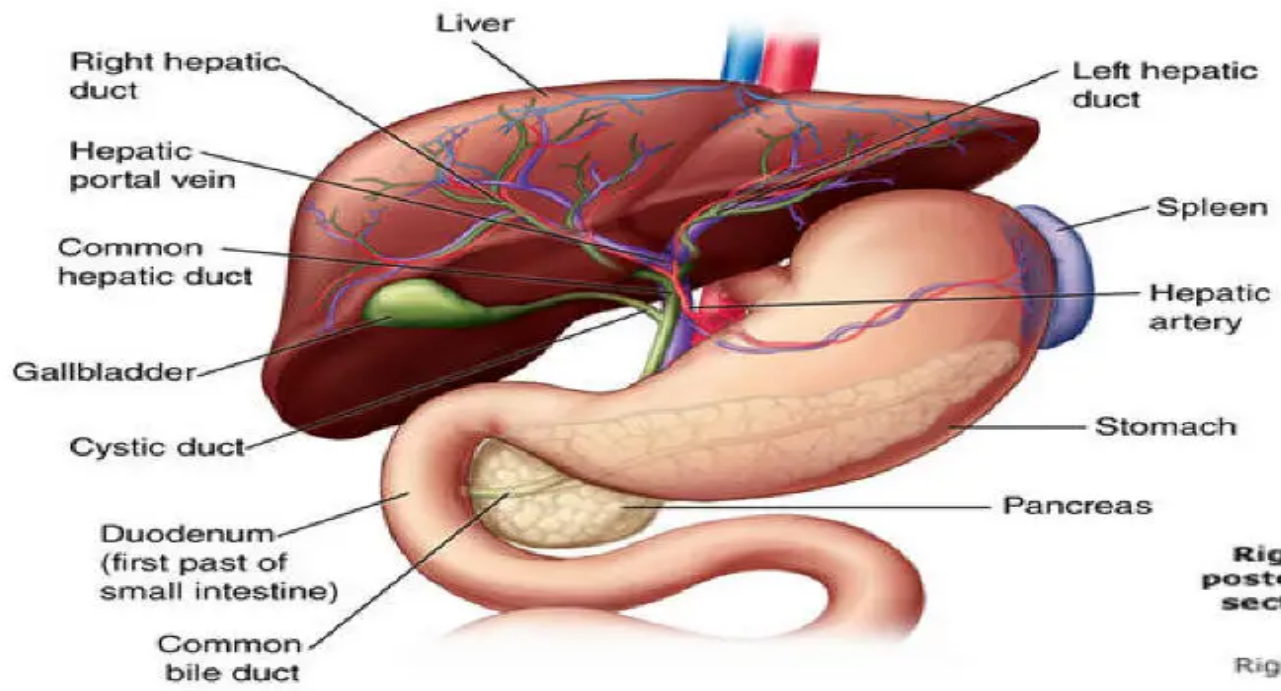


anterior view

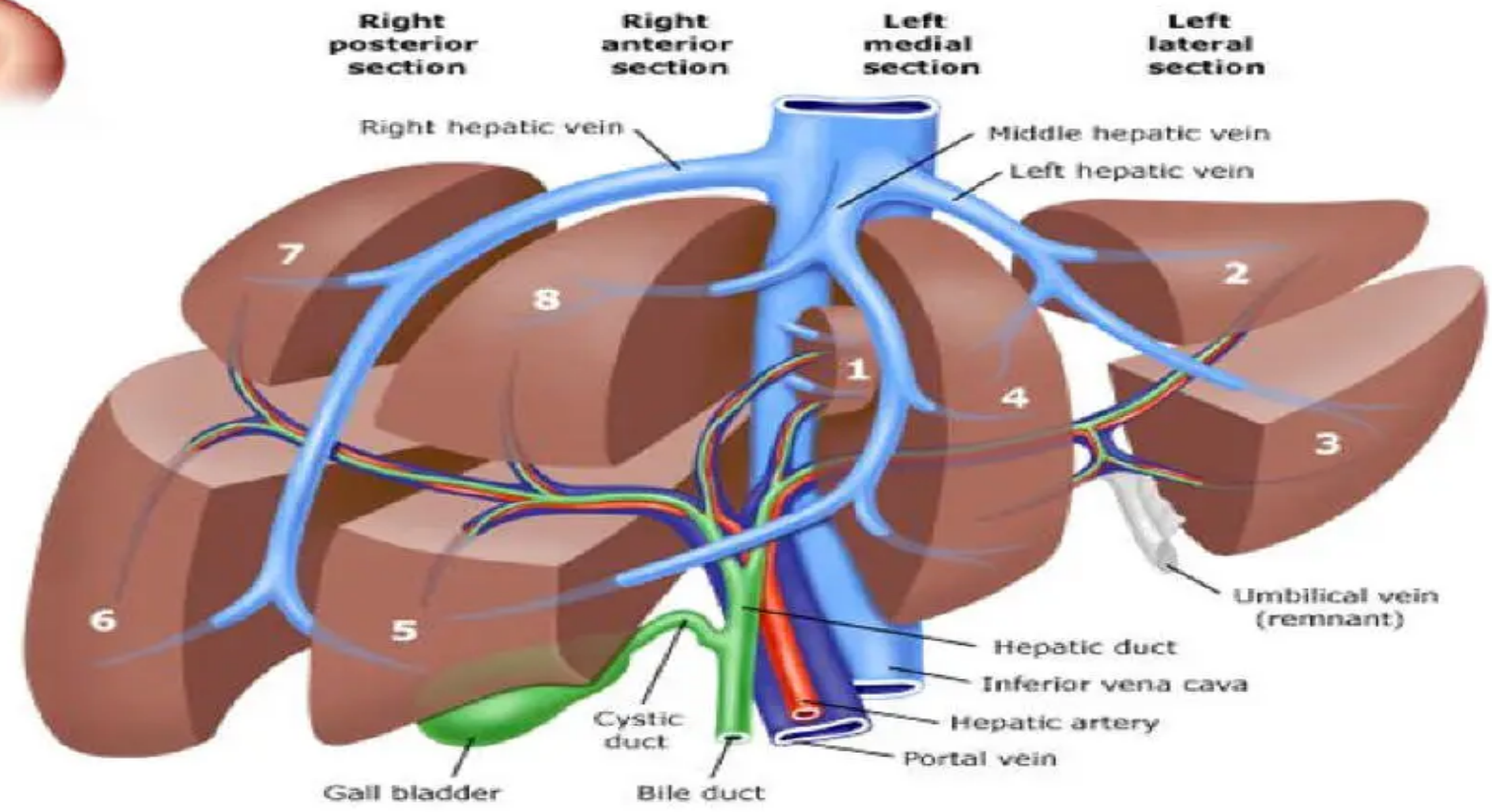
posterior view

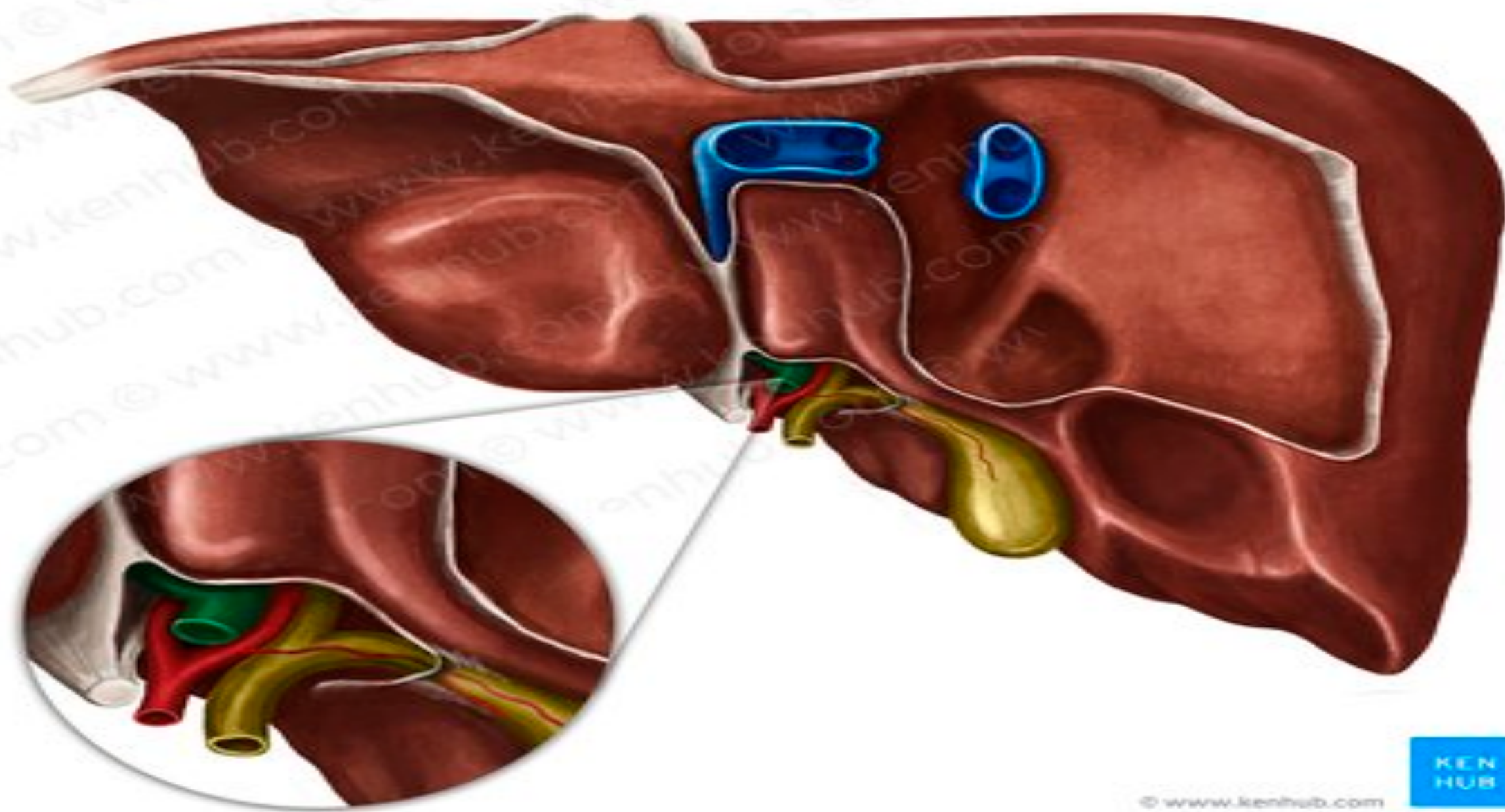


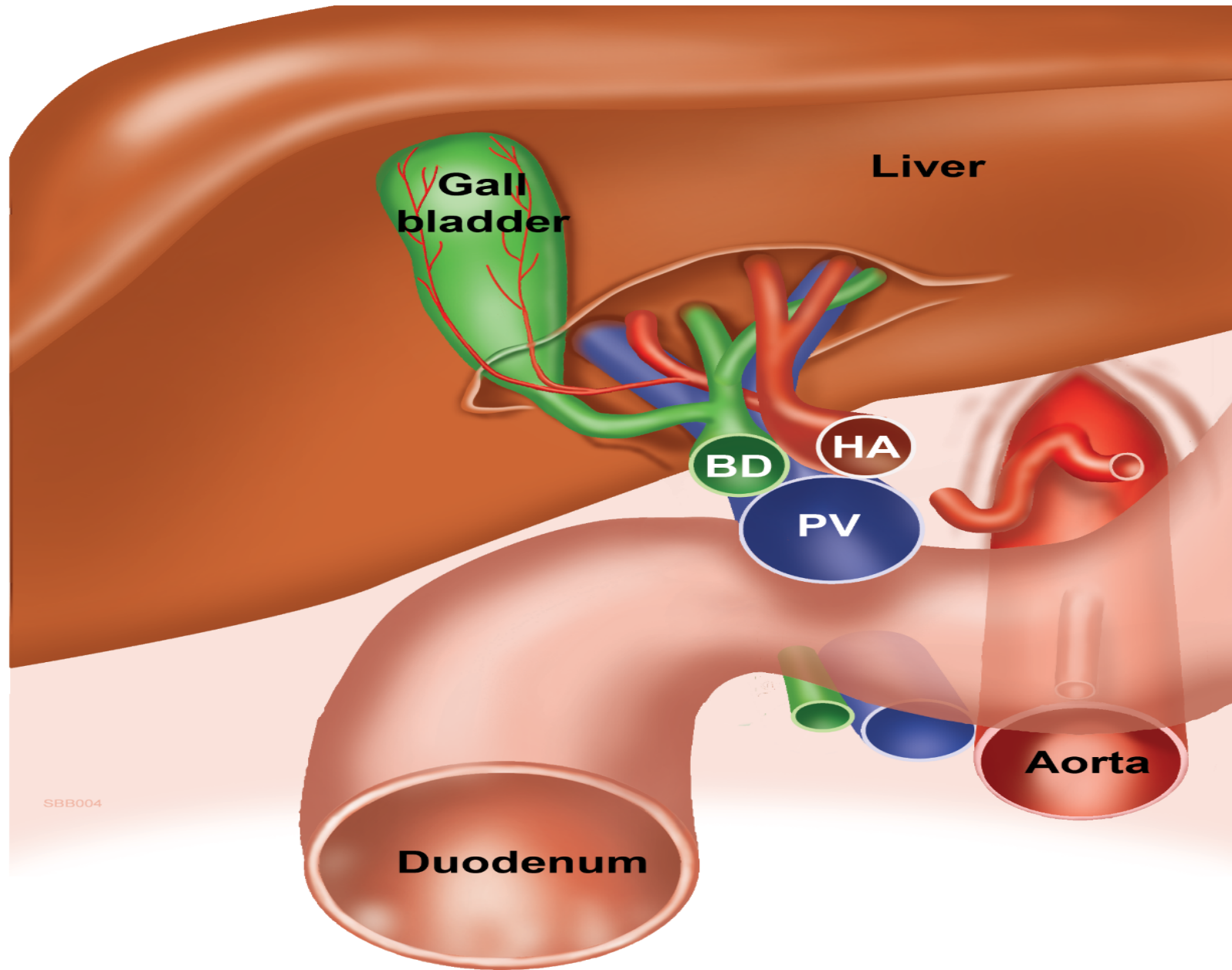


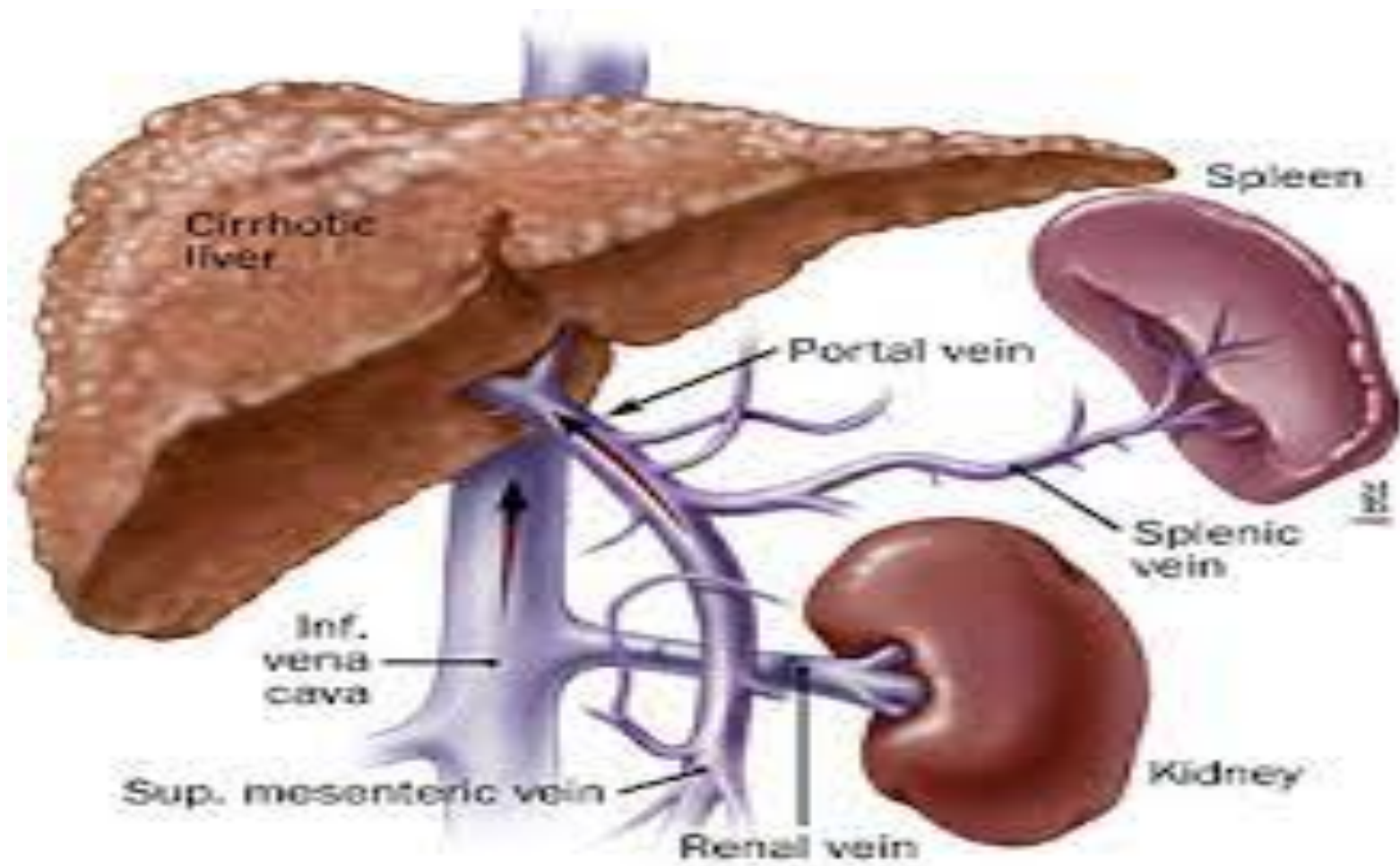
(a) Location

LIVER ANATOMY, segments





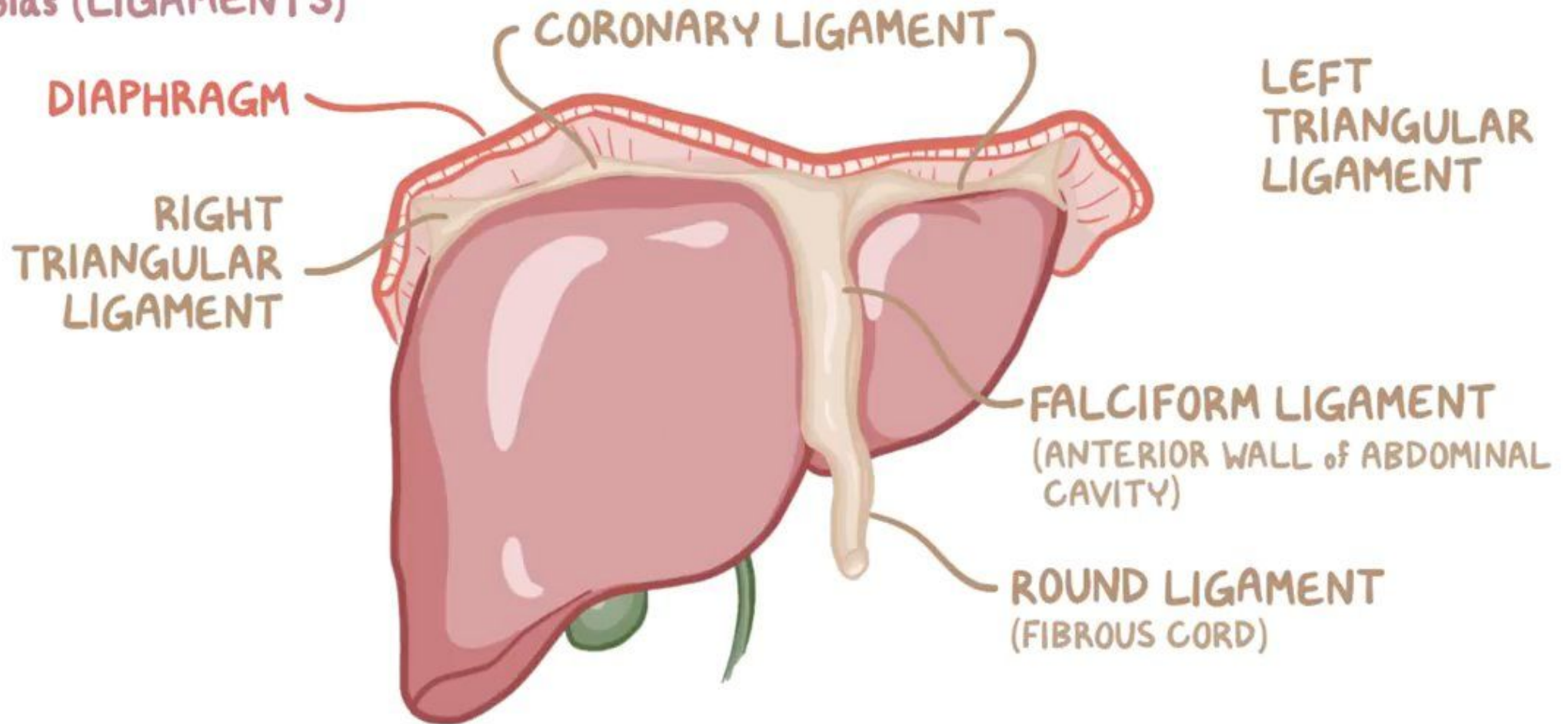


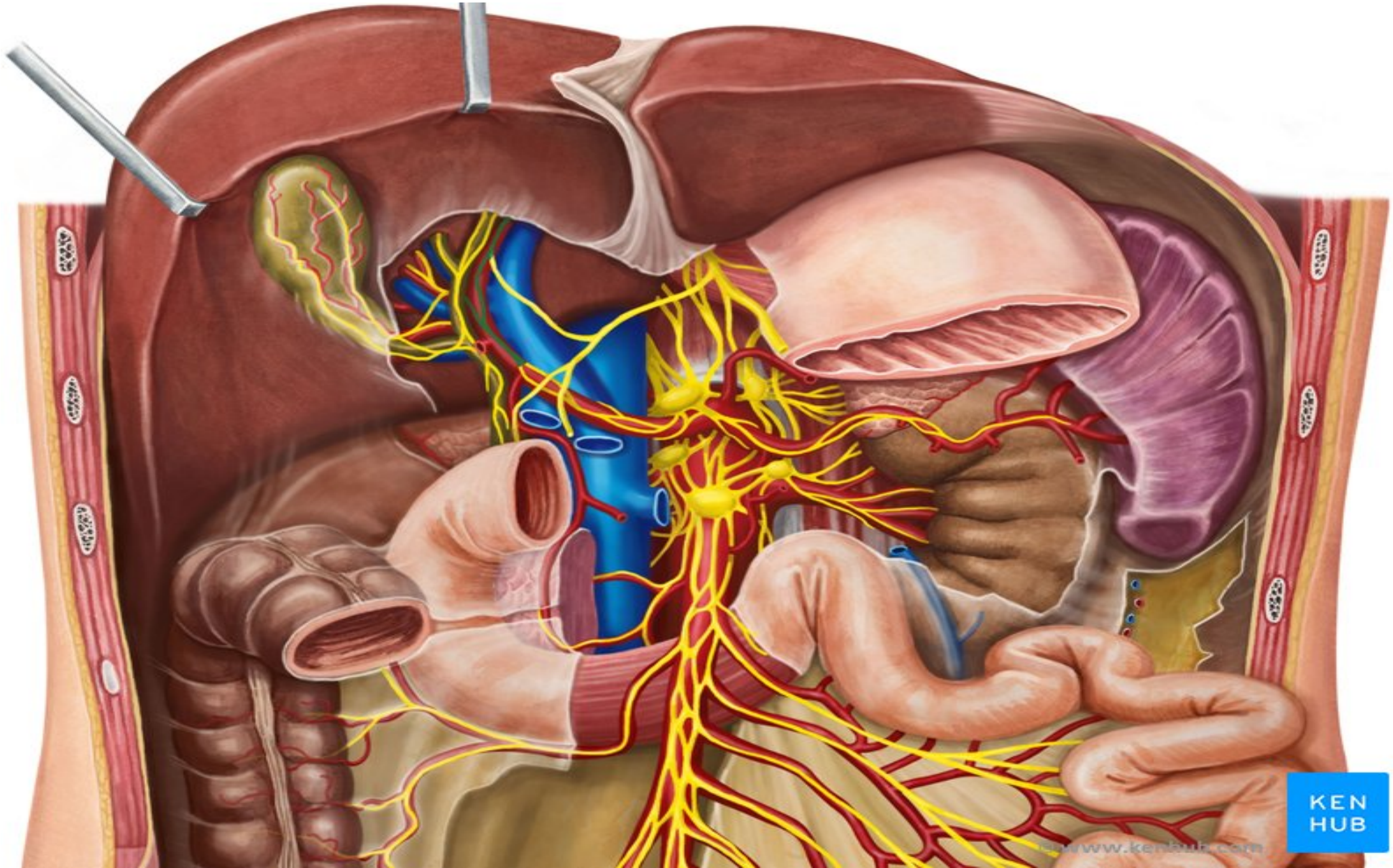


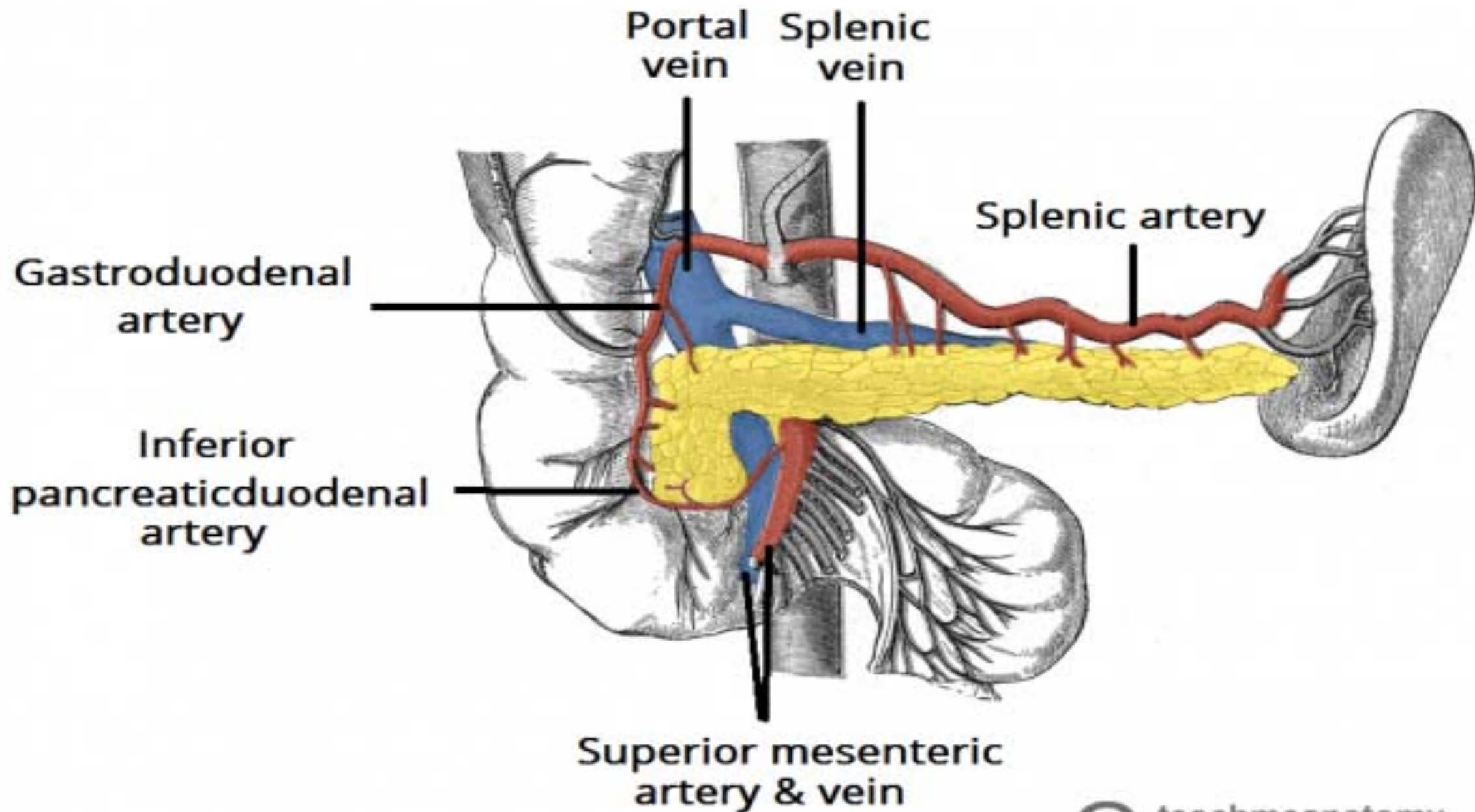
LIVER ~ COVERED by a SEROUS MEMBRANE [VISCERAL PERITONEUM]

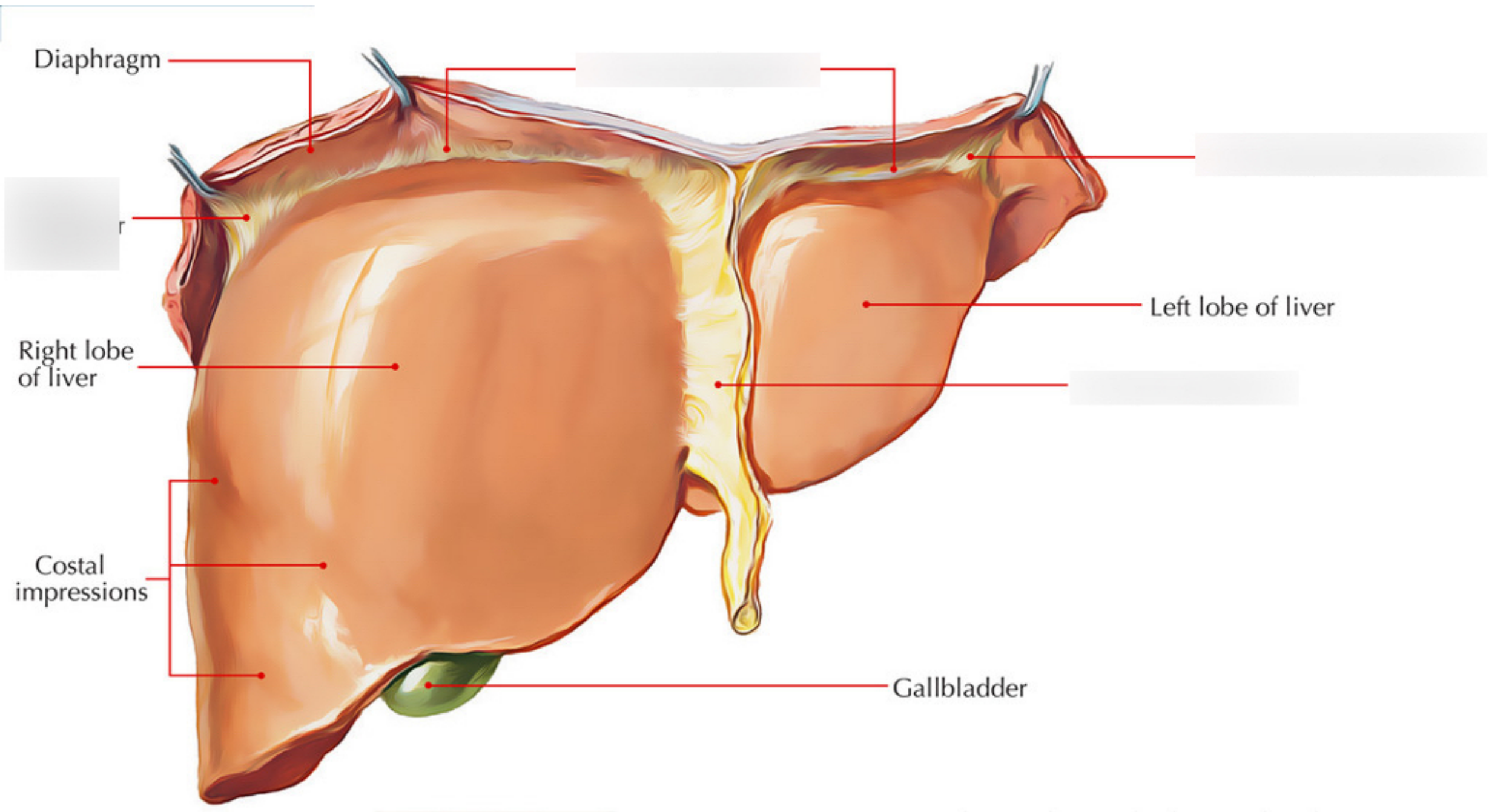
- SUSPENDS the LIVER from
ABDOMINAL WALL & DIAPHRAGM

* 5 PERITONEAL
folds (LIGAMENTS)









Diaphragm

[Grey box]

Right lobe of liver

Costal impressions

[Grey box]

[Grey box]

Left lobe of liver

[Grey box]

Gallbladder

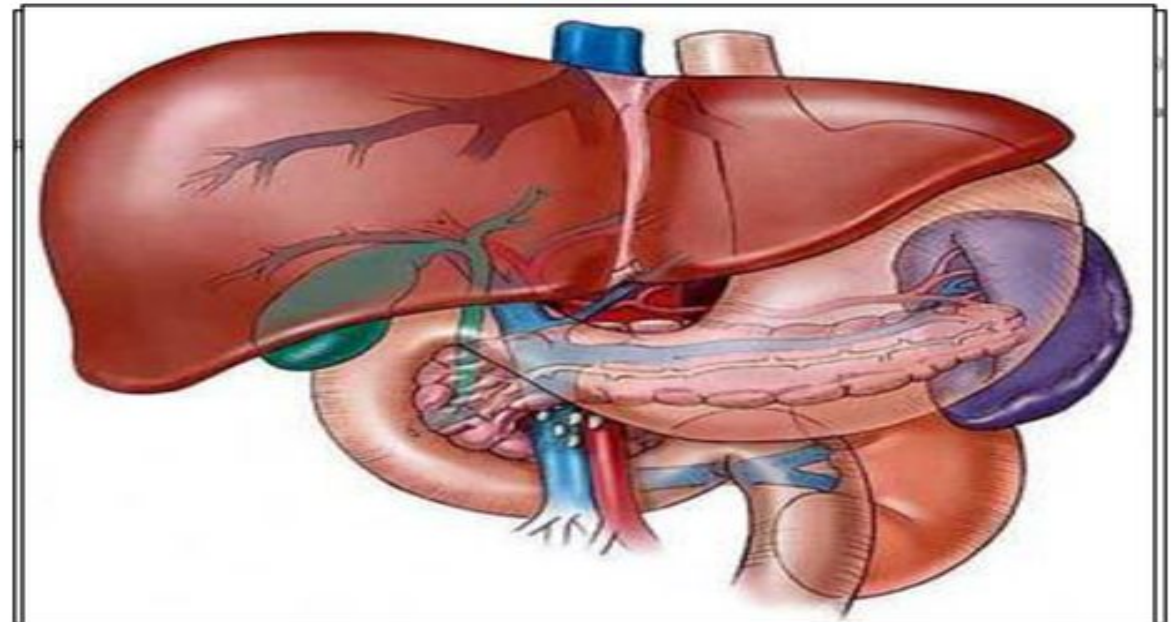
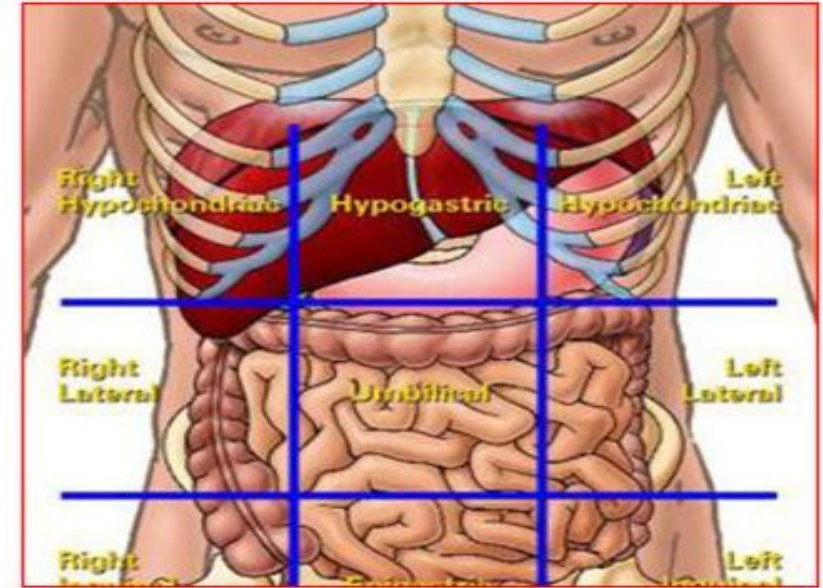
- **Anterior:**

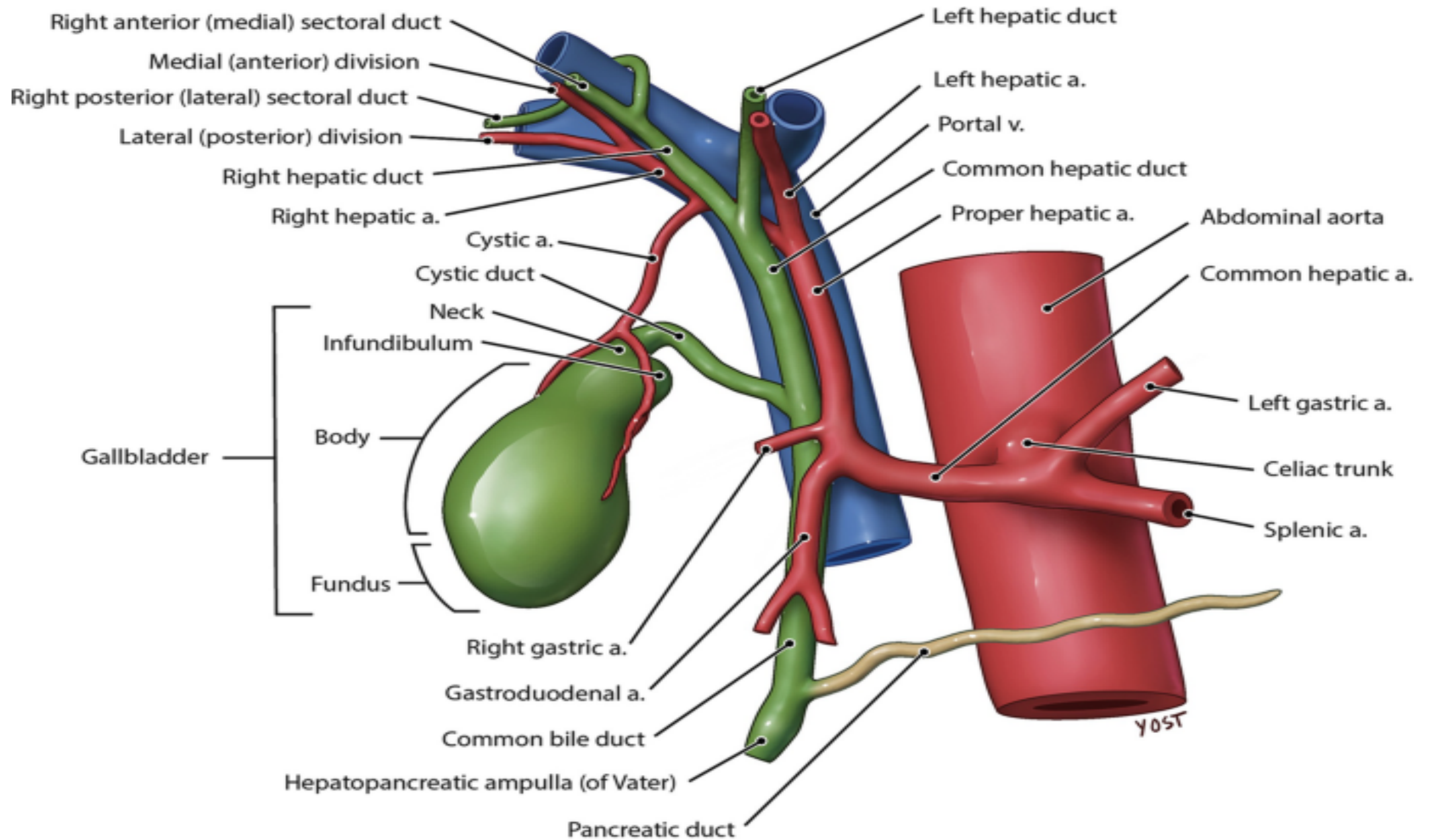
1. Diaphragm,
2. Right and left costal margins,
3. Right and left pleura,
4. Right and left lungs,
5. Xiphoid process,
6. Anterior abdominal wall.

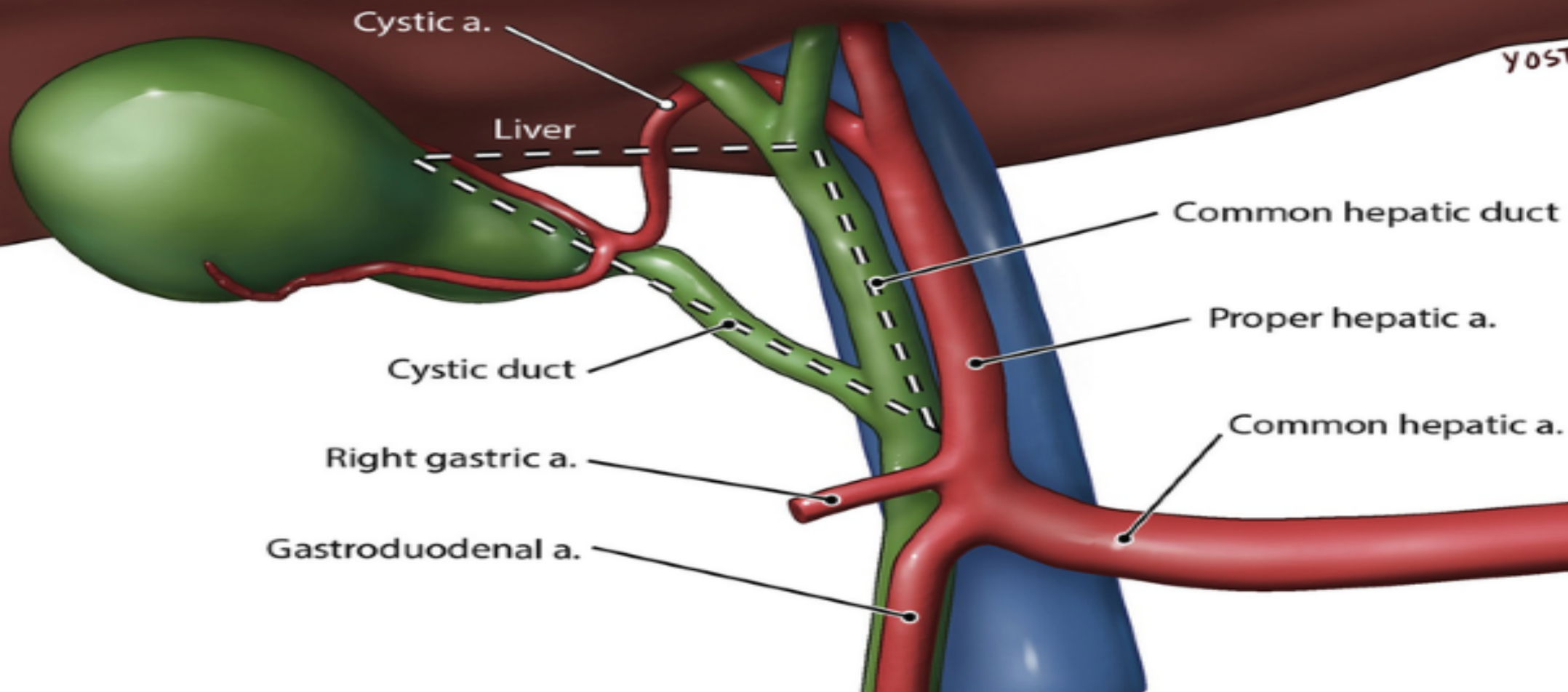
- **Posterior:**

1. Diaphragm,
2. Right kidney,
3. Right suprarenal gland,
4. Right colic (hepatic) flexure,
5. Duodenum,
6. Gallbladder,
7. Inferior vena cava,
8. Esophagus and
9. Fundus of the stomach.

Relations of Liver







Diaphragm

Hepatic artery

Left supra-renal

Portal vein

Common bile duct

Right supra-renal

Duodenum 1st part

Right kidney

Hepatic flexure

Superior mesenteric vein

Superior mesenteric artery

Inferior vena cava

Right common iliac artery

Left internal iliac artery

Spleen

Splenic artery

Pancreas

Left colic flexure

Left kidney

Descending colon

Left quadratus lumborum

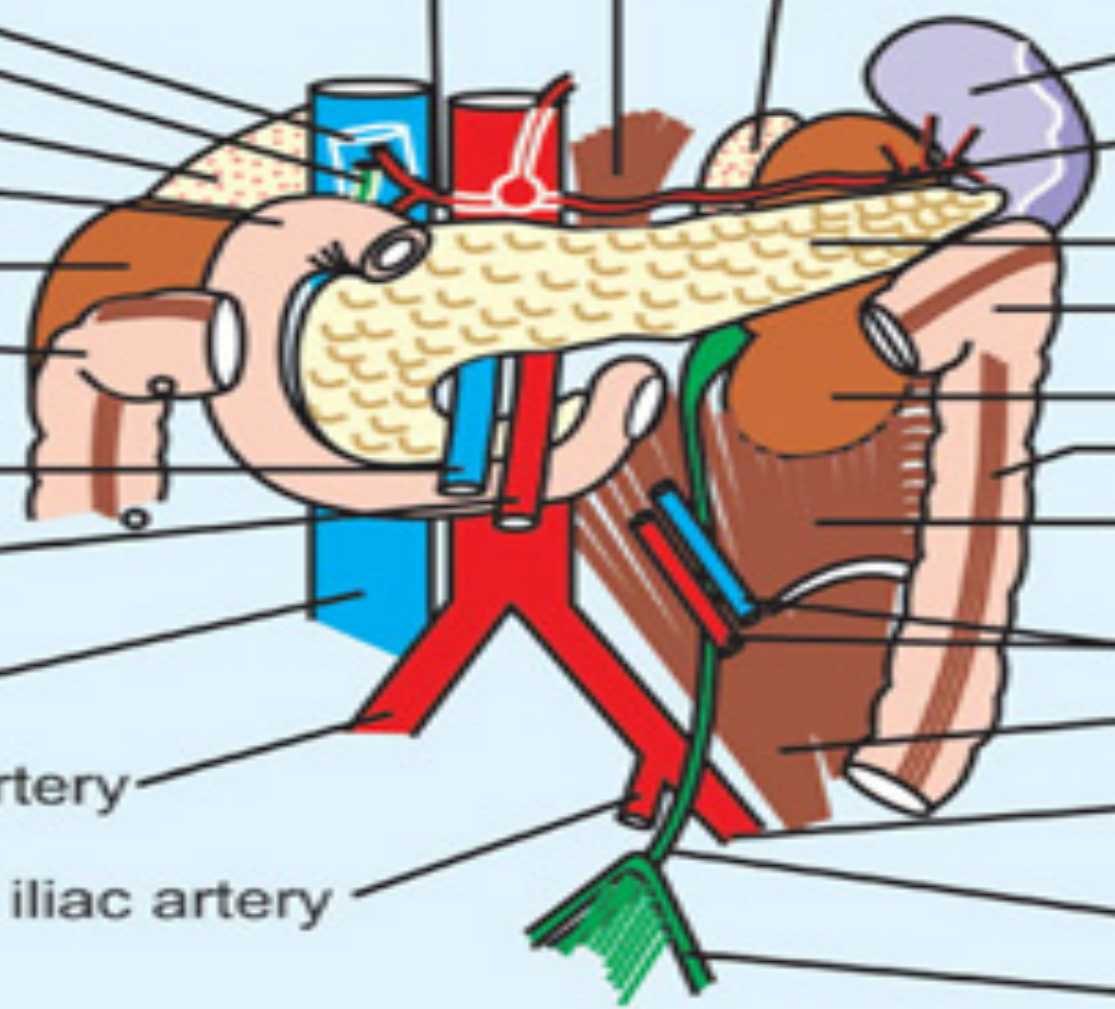
Left testicular vessels

Left psoas major

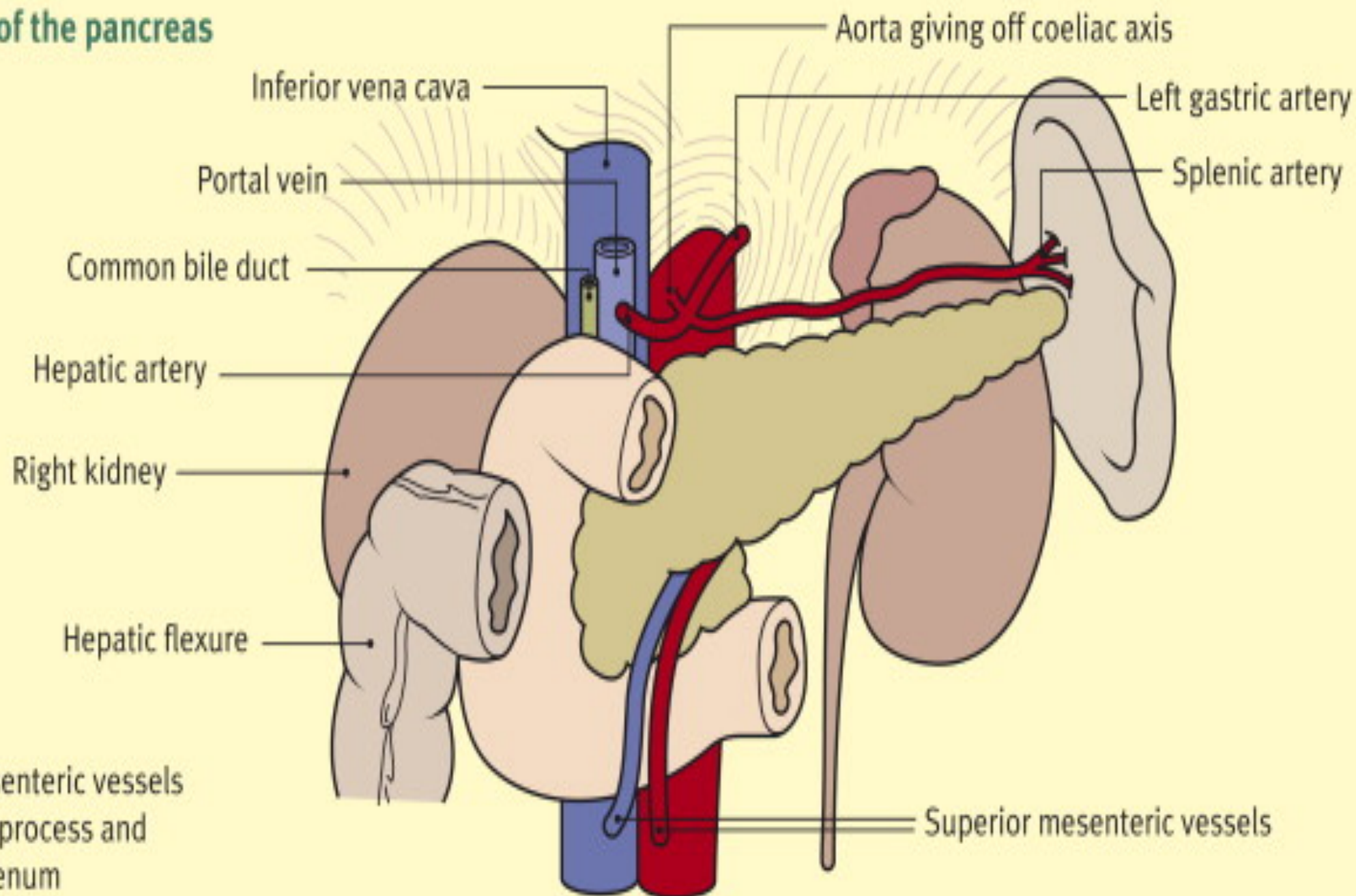
Left external iliac artery

Left ureter

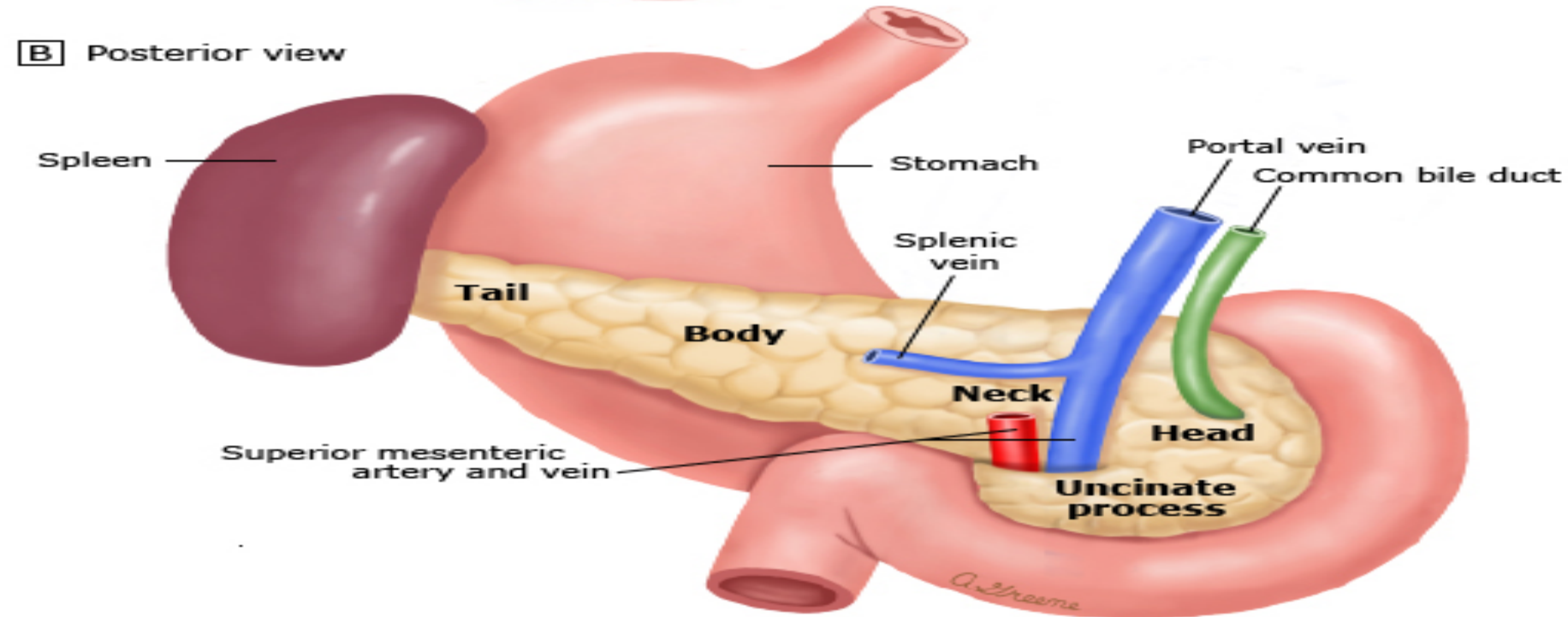
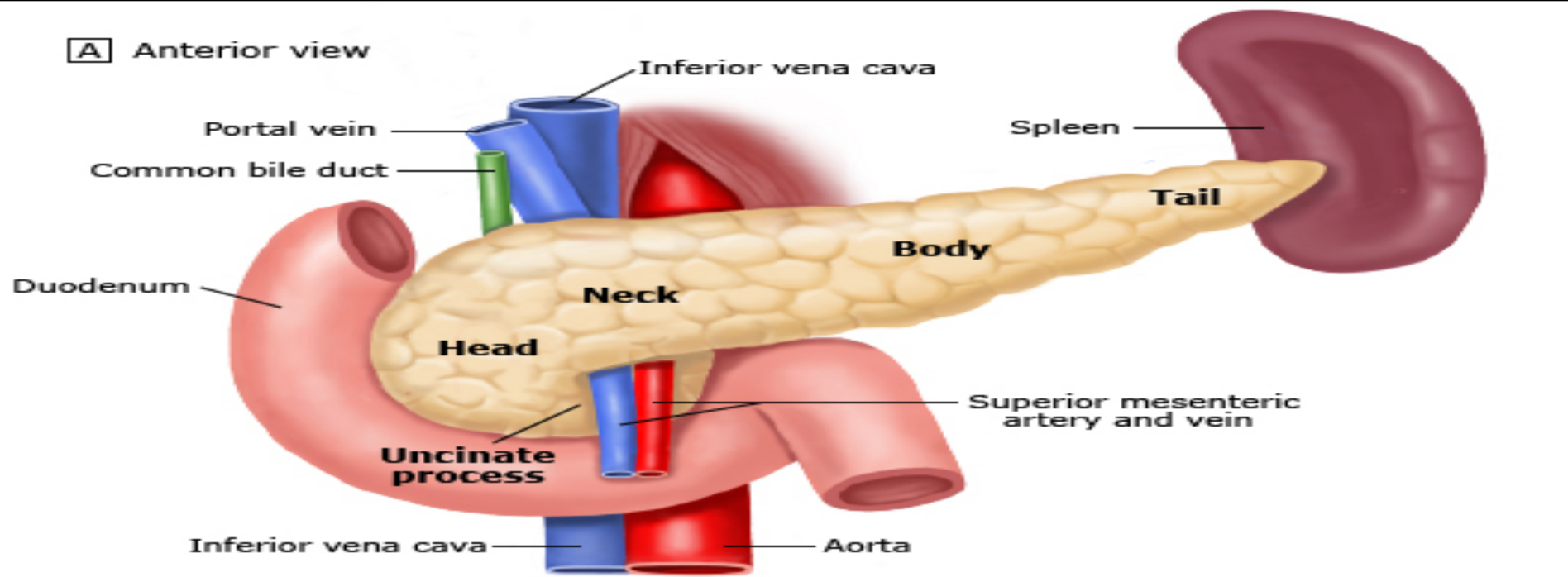
Attachment of sigmoid mesocolon

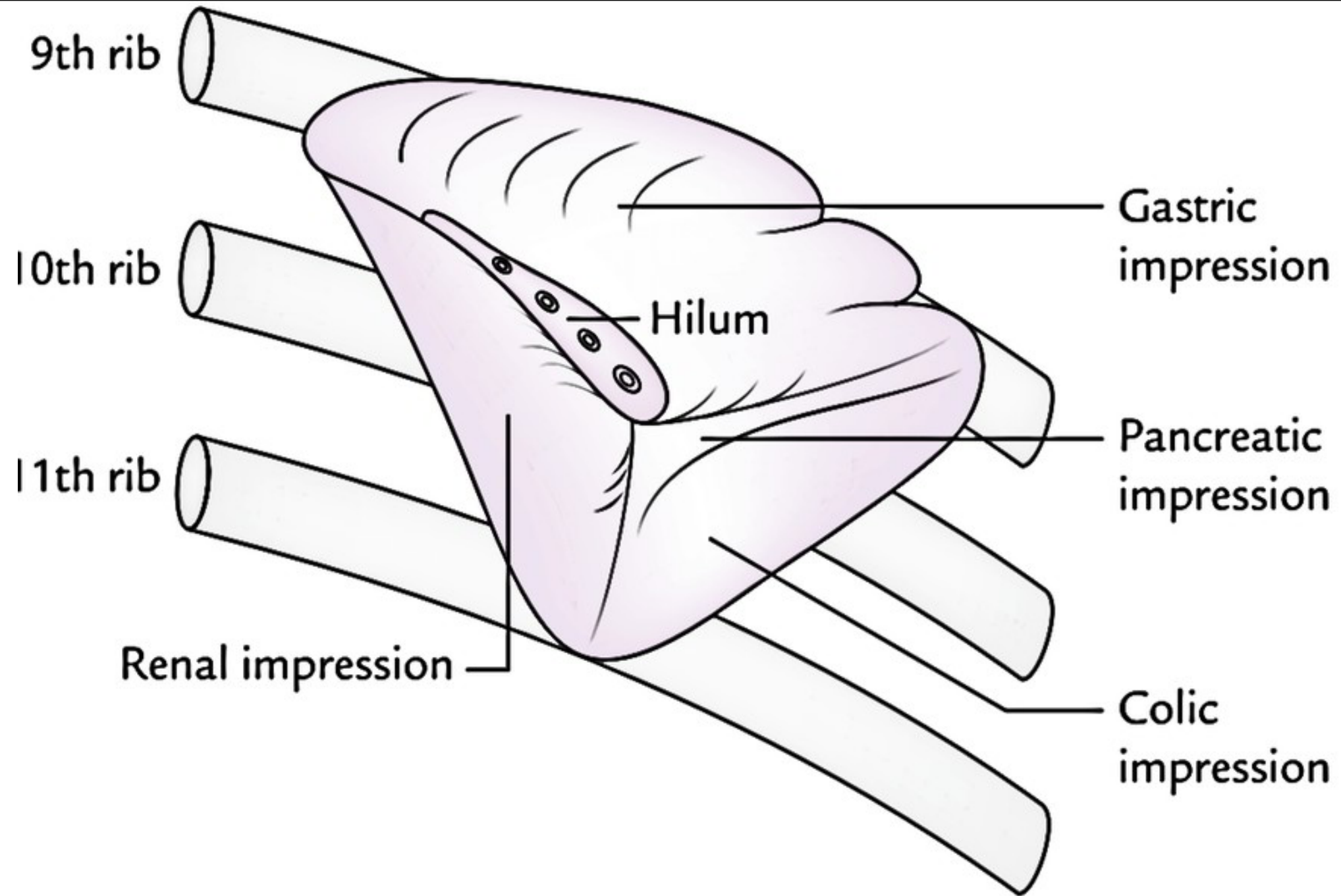


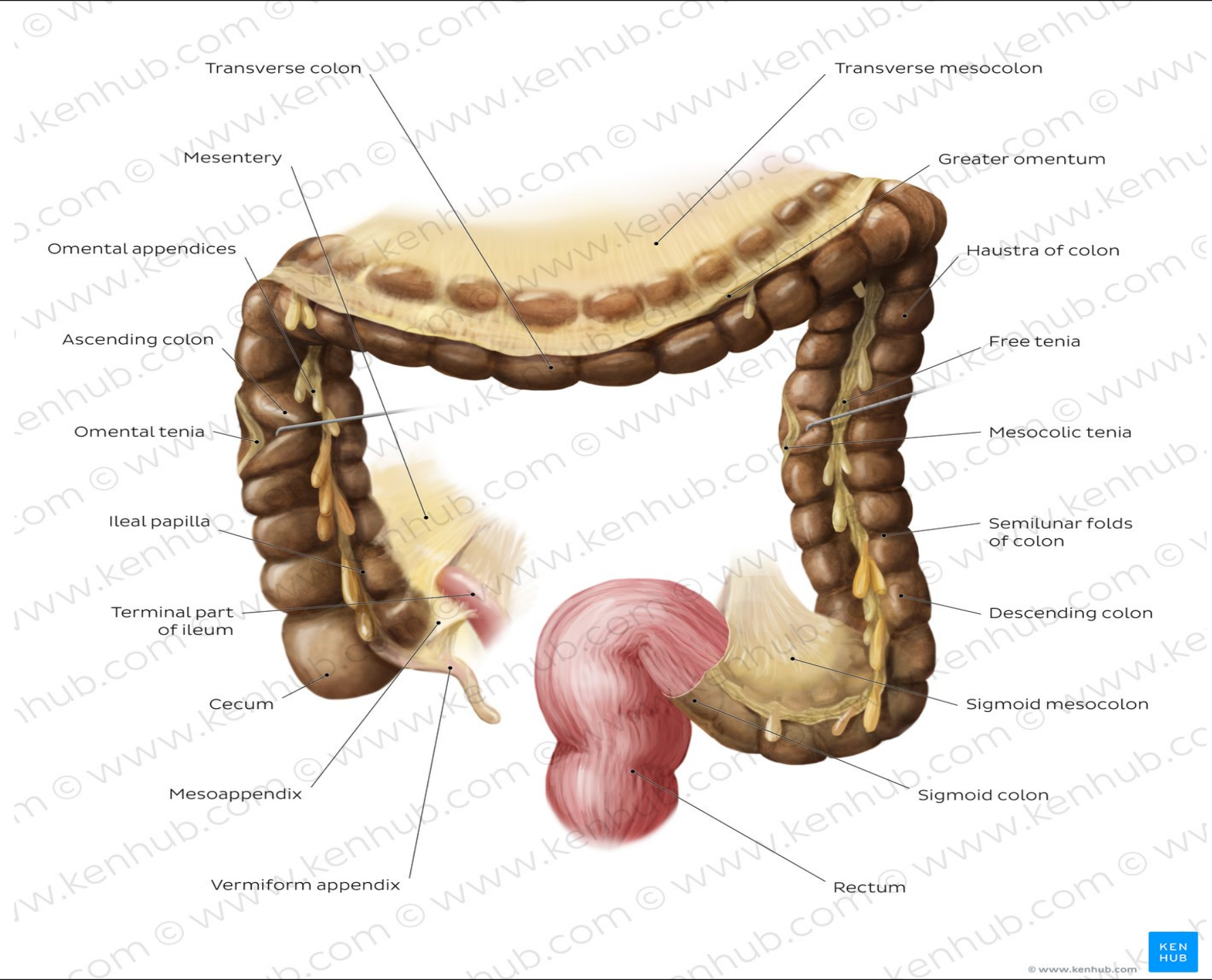
Principal relations of the pancreas

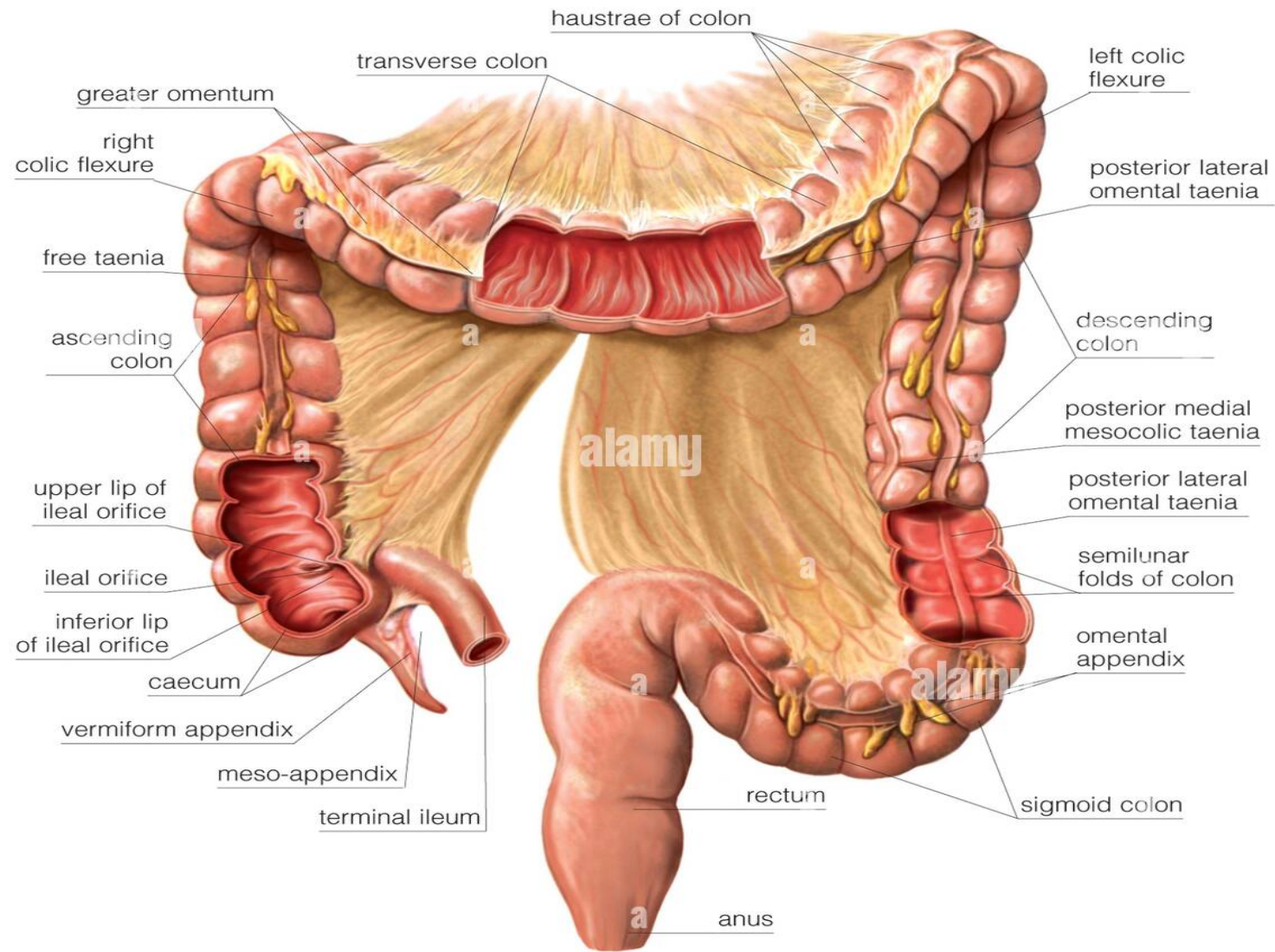


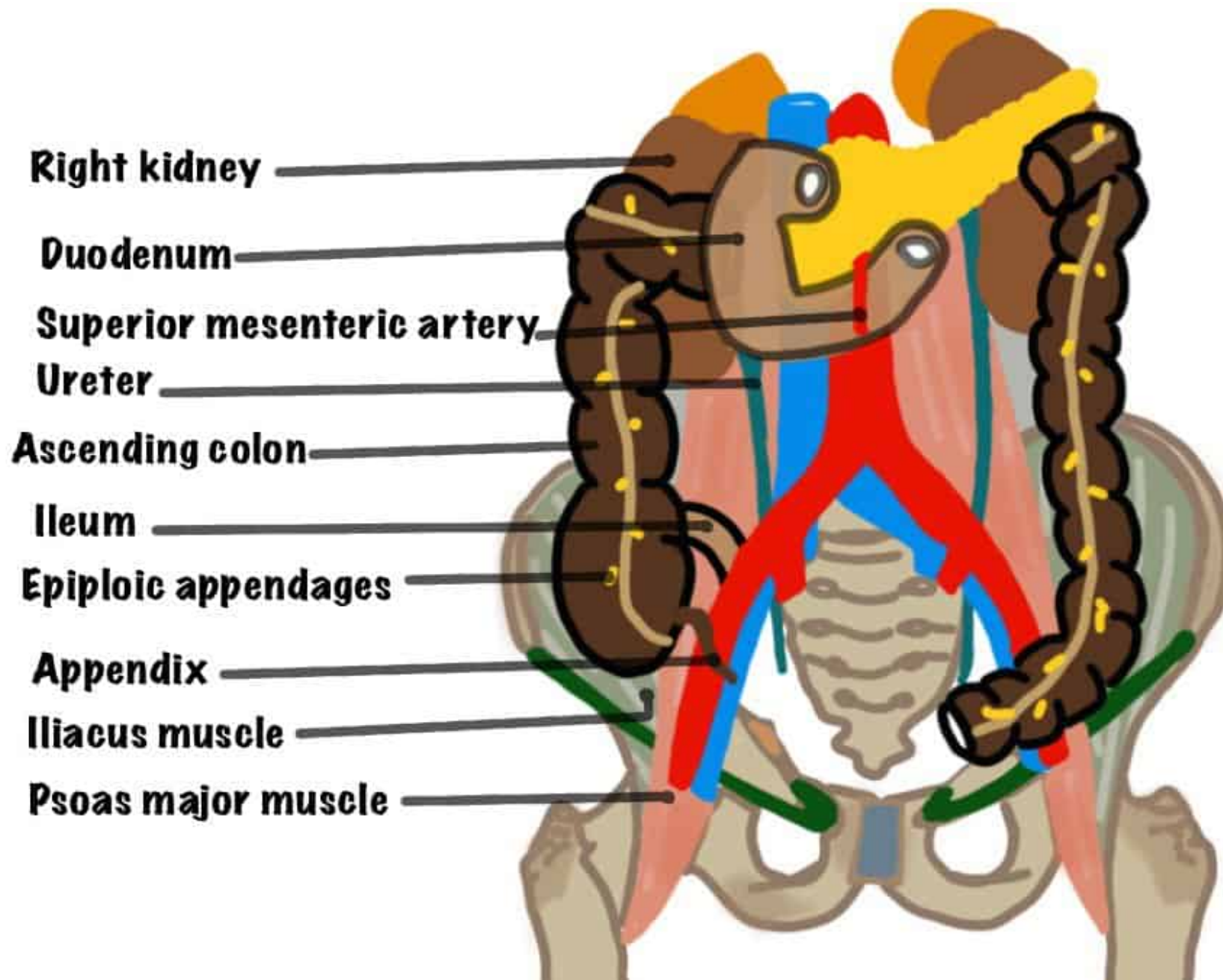
Note the superior mesenteric vessels crossing the uncinate process and third part of the duodenum

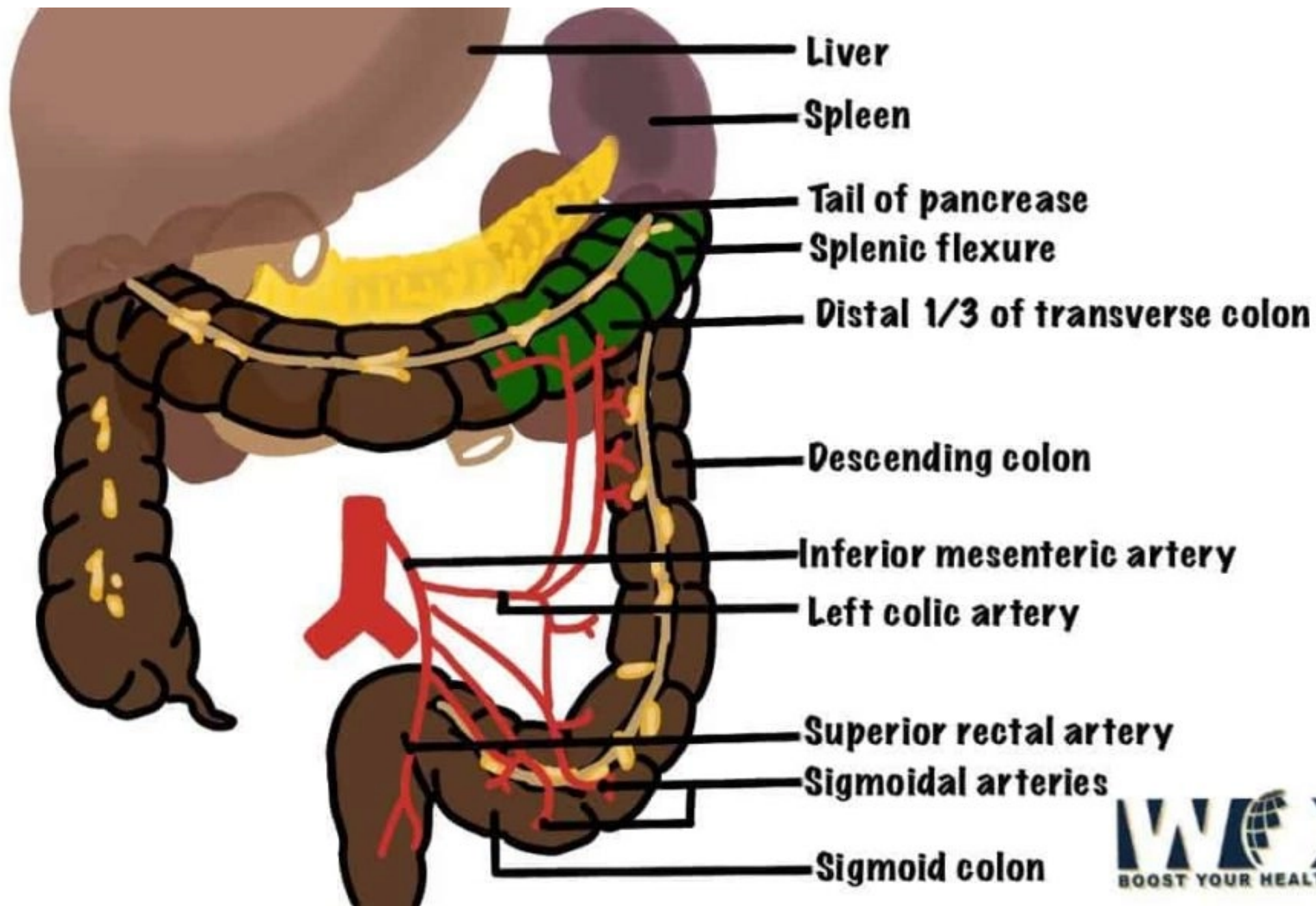












Colon Anatomy

- Parts
- Relations
- Topographic Anatomy

Abbreviations

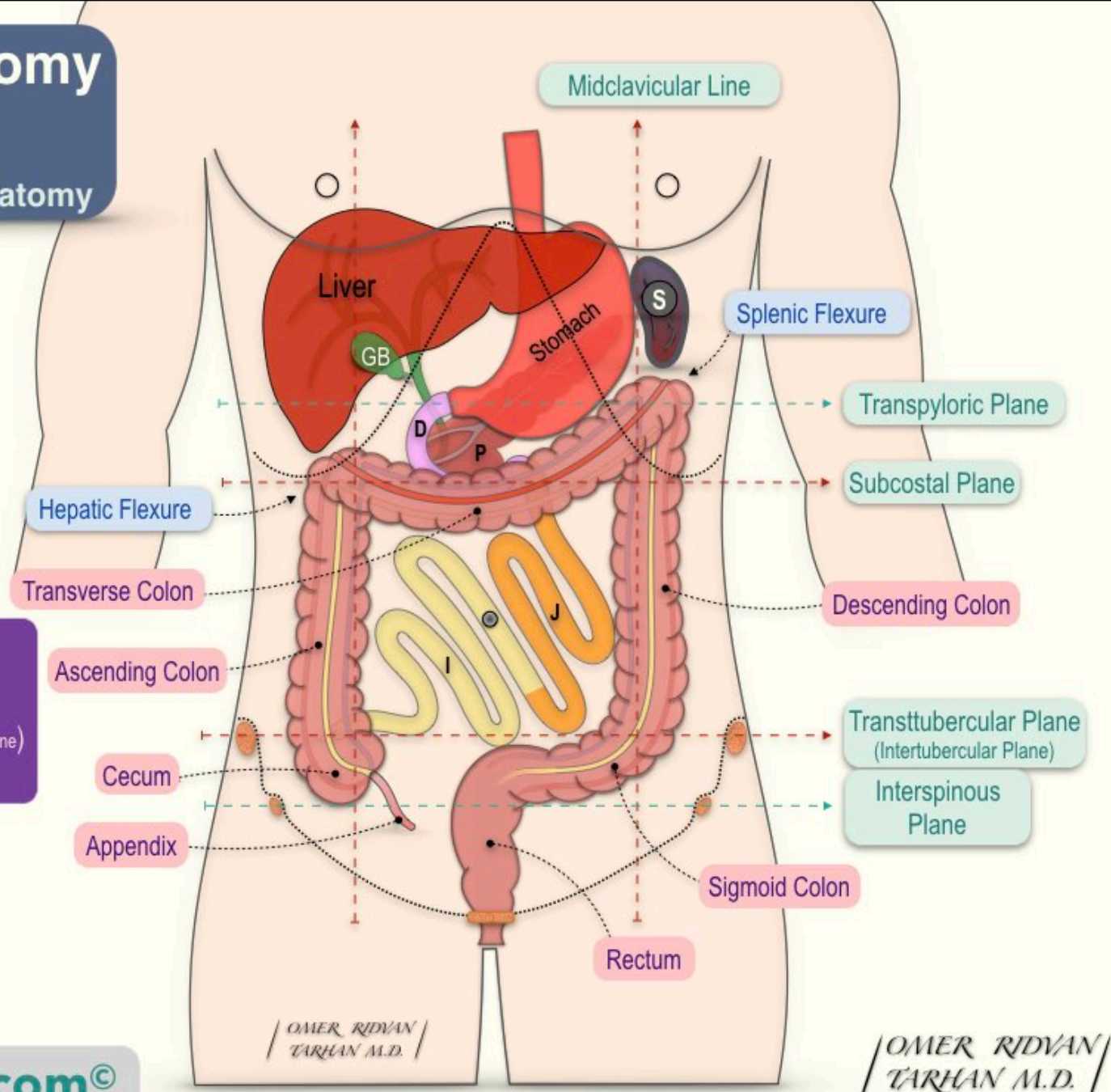
- P: Pancreas
- S: Spleen
- GB: Gallbladder
- Small Intestines
 - D : Duodenum
 - J : Jejunum
 - I : Ileum

Reference Point

- Iliac Tubercle
- ASIS (Anterior Superior Iliac Spine)
- Pubic Symphysis

Taeniae Coli

- Tenia libera
- Tenia omentalis
- Tenia mesocolica



Arteries of the Colon

Transverse colon folded upward

Superior mesenteric artery

Inferior pancreatico-duodenal artery

Arteries of the Right Colon

- Middle colic artery
- Right colic artery
- Ileocolic artery

Distal terminal SMA

Parts of the Colon

- 1 Cecum
- 2 Ascending Colon
- 3 Transverse colon
- 4 Descending colon
- 5 Sigmoid colon
- 6 Rectum

Appendix

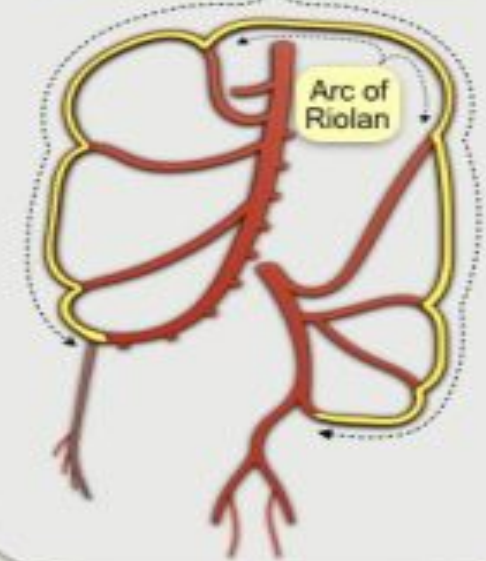
Apendicular artery

- Common iliac artery
- External iliac artery
- Internal iliac artery

Arteries of the Rectum and Anal Canal

- Superior rectal (hemorrhoidal) artery
- Middle rectal (hemorrhoidal) artery
- Inferior rectal (hemorrhoidal) artery

Marginal Artery of Drummond



Inferior mesenteric artery

Arteries of the Left Colon

- Left colic artery
- Sigmoidal arteries
- Superior rectal artery

Veins of the Colon

Transverse colon folded upward

Portal Vein (PV)

- Superior mesenteric vein
- Inferior mesenteric vein
- Splenic vein

Veins of the Right Colon

- Middle colic vein
- Right colic vein
- Ileocolic vein

Distal terminal SMV

Aorta (A)

1. Common iliac artery
2. External iliac artery
3. Internal iliac artery

Inferior Vena Cava (IVC)

- a. Common iliac vein
- b. External iliac vein
- c. Internal iliac vein
- d. Internal pudendal vein

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Coronary vein
(Left gastric vein)

Short gastric veins

Parts of the Colon

- 1 Cecum
- 2 Ascending Colon
- 3 Transverse colon
- 4 Descending colon
- 5 Sigmoid colon
- 6 Rectum

Veins of the Right Colon

- Left colic vein
- Sigmoidal veins
- Superior rectal vein

Veins of Rectum and Anal Canal

- Superior rectal (hemorrhoidal) vein
- Middle rectal (hemorrhoidal) vein
- Inferior rectal (hemorrhoidal) vein

Superior (internal)
hemorrhoidal plexus

Inferior (external)
hemorrhoidal plexus

Appendix

Appendicular vein

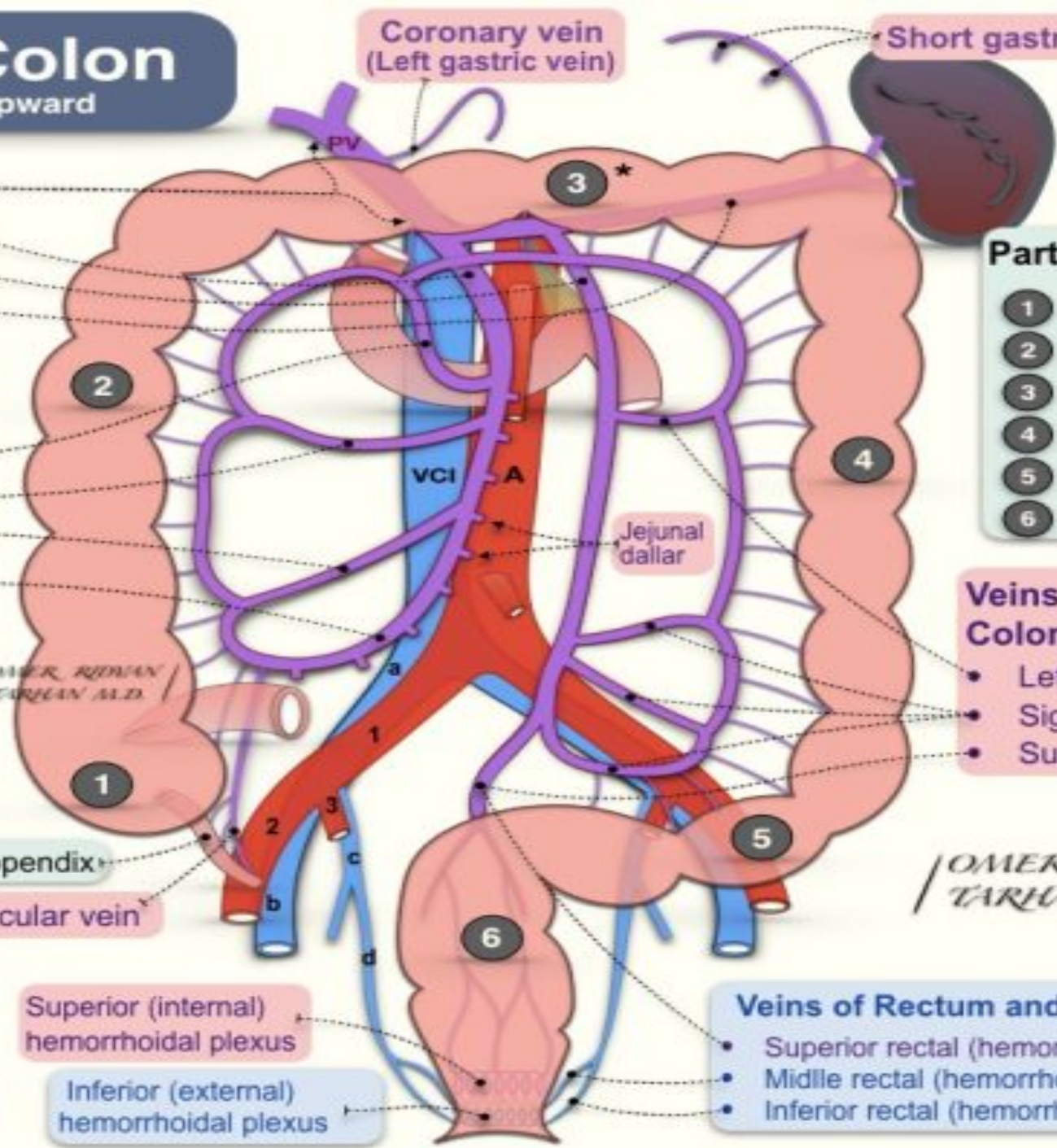
Jejunal
dallar

VCI

PV

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TARIHAN M.D.

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TARIHAN M.D.



Lymph Vessels and Nodes of The Colon

Transverse colon folded upward

Lymph Nodes of the Colon (LN)

- **Epicolik LN**
- **Pericolik (Paracolik) LN**
- **Intermediate LN**
 - ① LN along the ileocolic artery
 - ② LN along the right colic artery
 - ③ LN along the middle colic artery
 - ④ LN along the left colic artery
 - ⑤ LN along the sigmoidal arteries
- **Main (principal)**
 - ① Inferior mesenteric artery root LN
 - ② Superior mesenteric artery root LN

Let's Remember! Periaortic Lymph Nodes

- **Preaortic group**
 - ① Inferior mesenteric LN
 - ② Superior mesenteric LN
 - ③ Celiac LN
- **Paraaortic group (Lateral)**
- **Retroaortic group**

Parts of the Colon

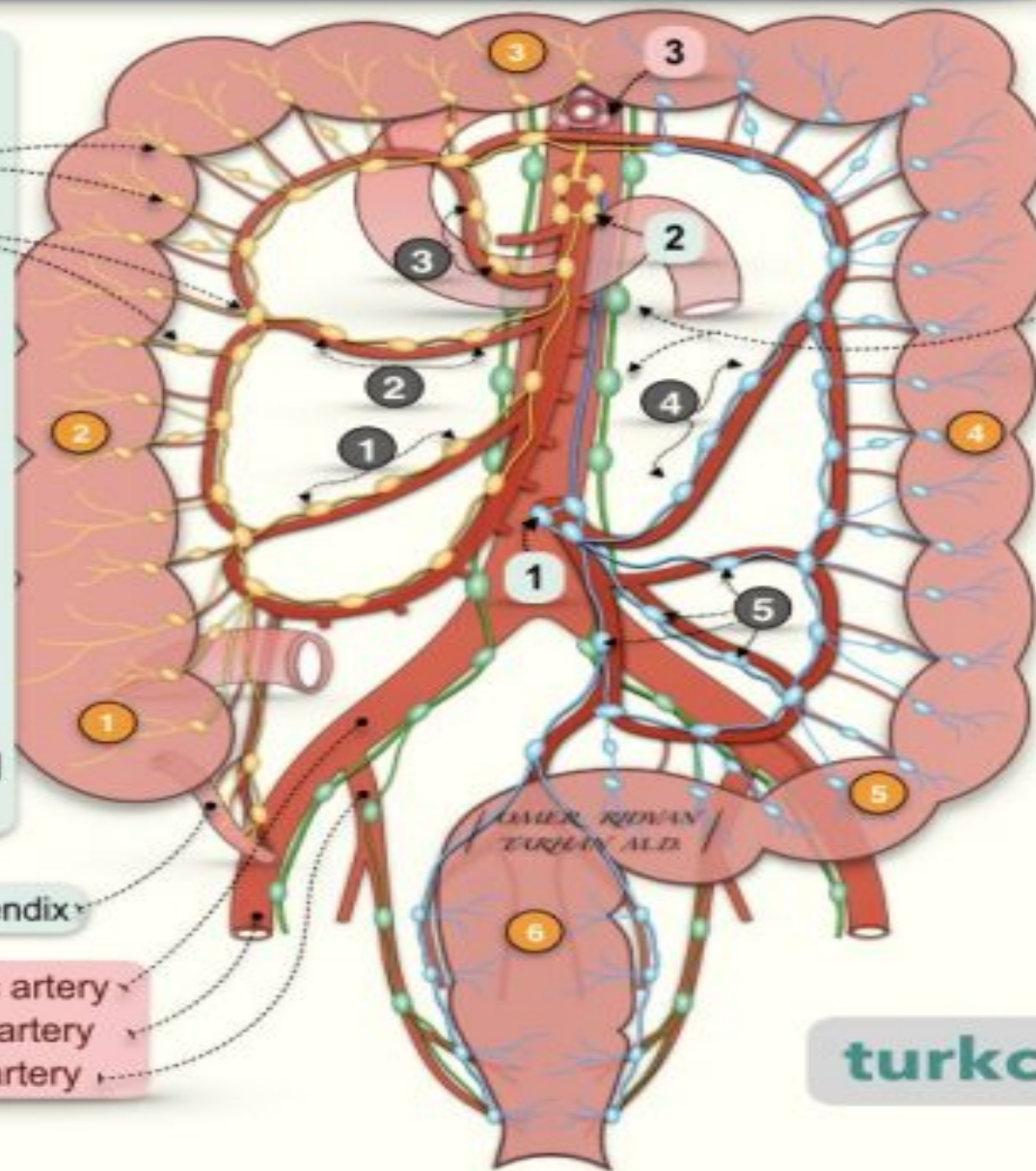
- ① Cecum
- ② Ascending Colon
- ③ Transverse colon
- ④ Descending colon
- ⑤ Sigmoid colon
- ⑥ Rectum

Appendix

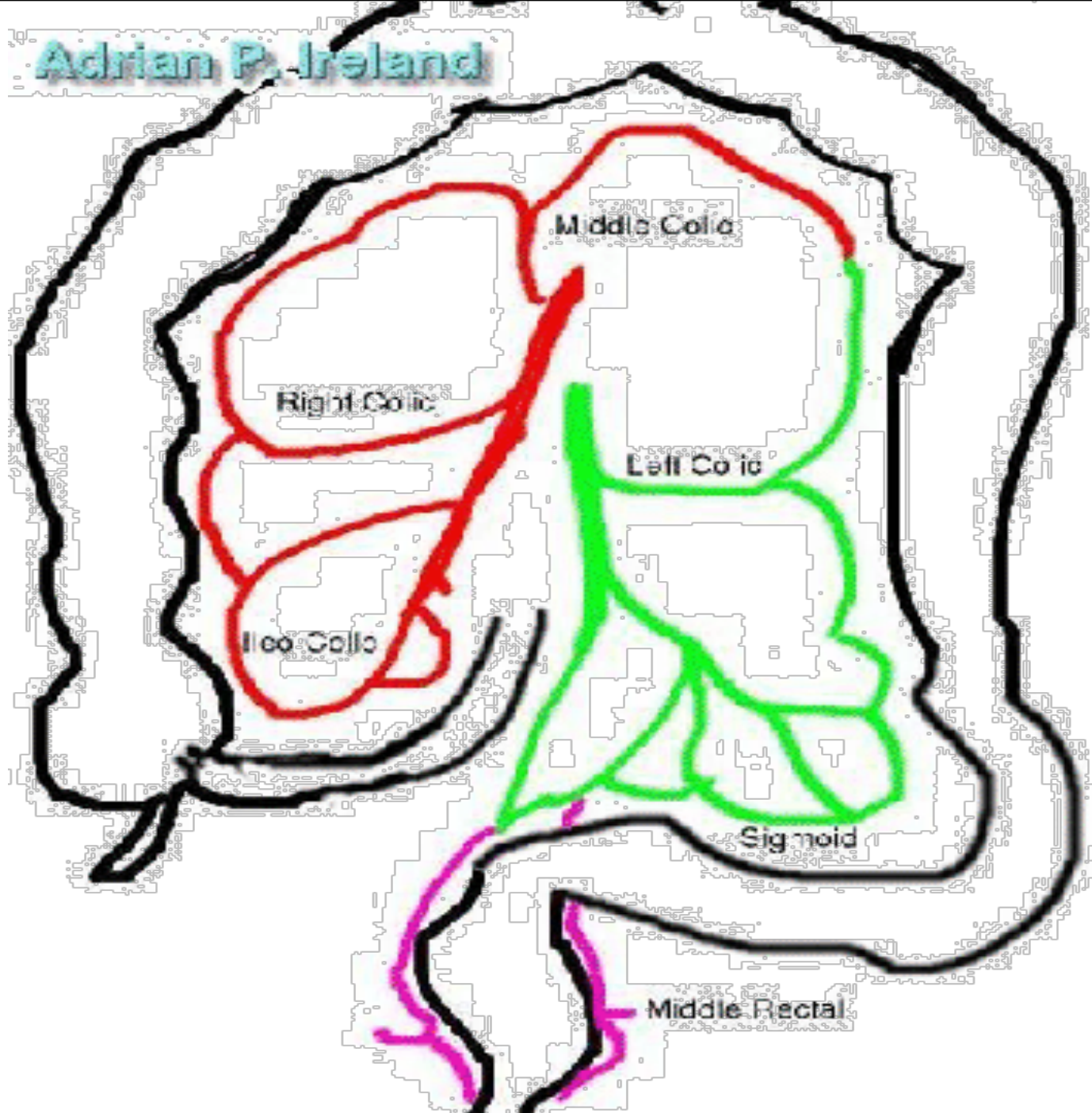
- Common iliac artery
- External iliac artery
- Internal iliac artery

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Adrian P. Ireland



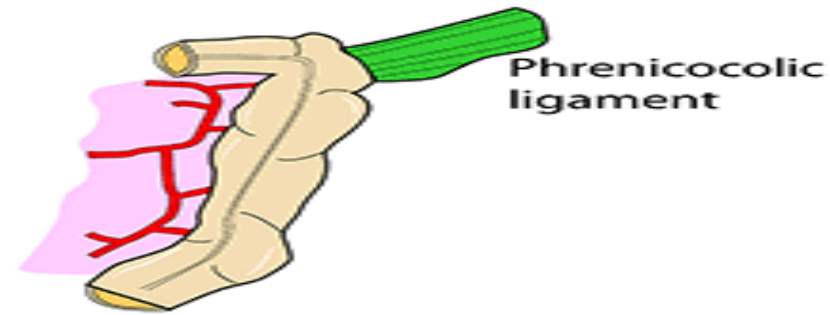
DESCENDING AND SIGMOID COLON

DESCENDING COLON

- 30cm (9-12")
- From splenic flexure to brim of pelvis
- Retroperitoneal
- Appendices epiploicae ++
- Lies on psoas, iliacus, transversus abdominis, quadratus lumborum

Posterior relations

- Left subcostal artery/vein/nerve
- Iliohypogastric nerve
- Ilio-inguinal nerve
- Lateral femoral cutaneous nerve
- Genitofemoral nerve
- Gonadal artery/vein
- External iliac artery/vein

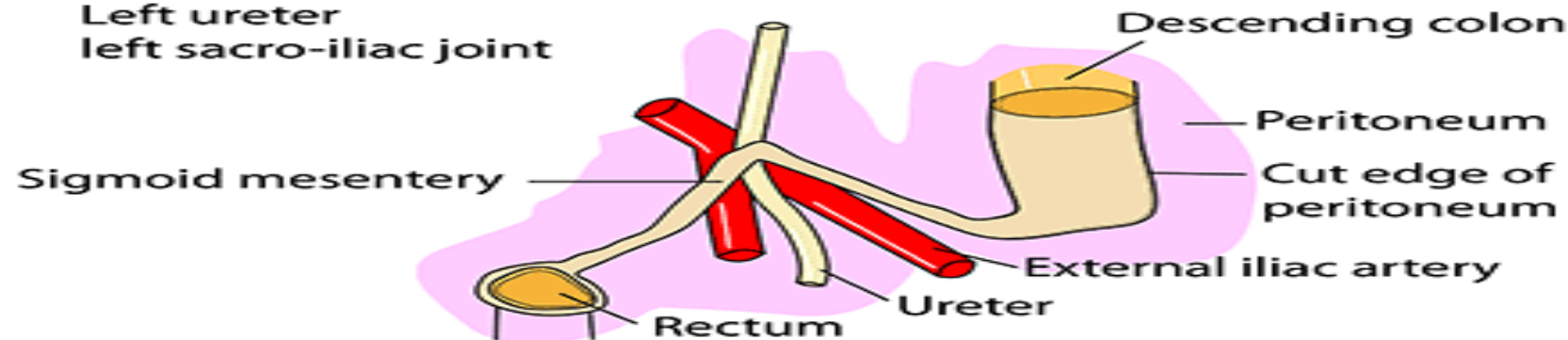


SIGMOID COLON

- 15-45cm (5-30")
- From pelvic brim to S3 midline
- On mesentery
- Appendices epiploicae +++
- Taenia become progressively more as a longitudinal coat

Sigmoid colon is excised to expose the base of its mesentery which crosses:

- Common iliac artery bifurcation
- Left ureter
- left sacro-iliac joint



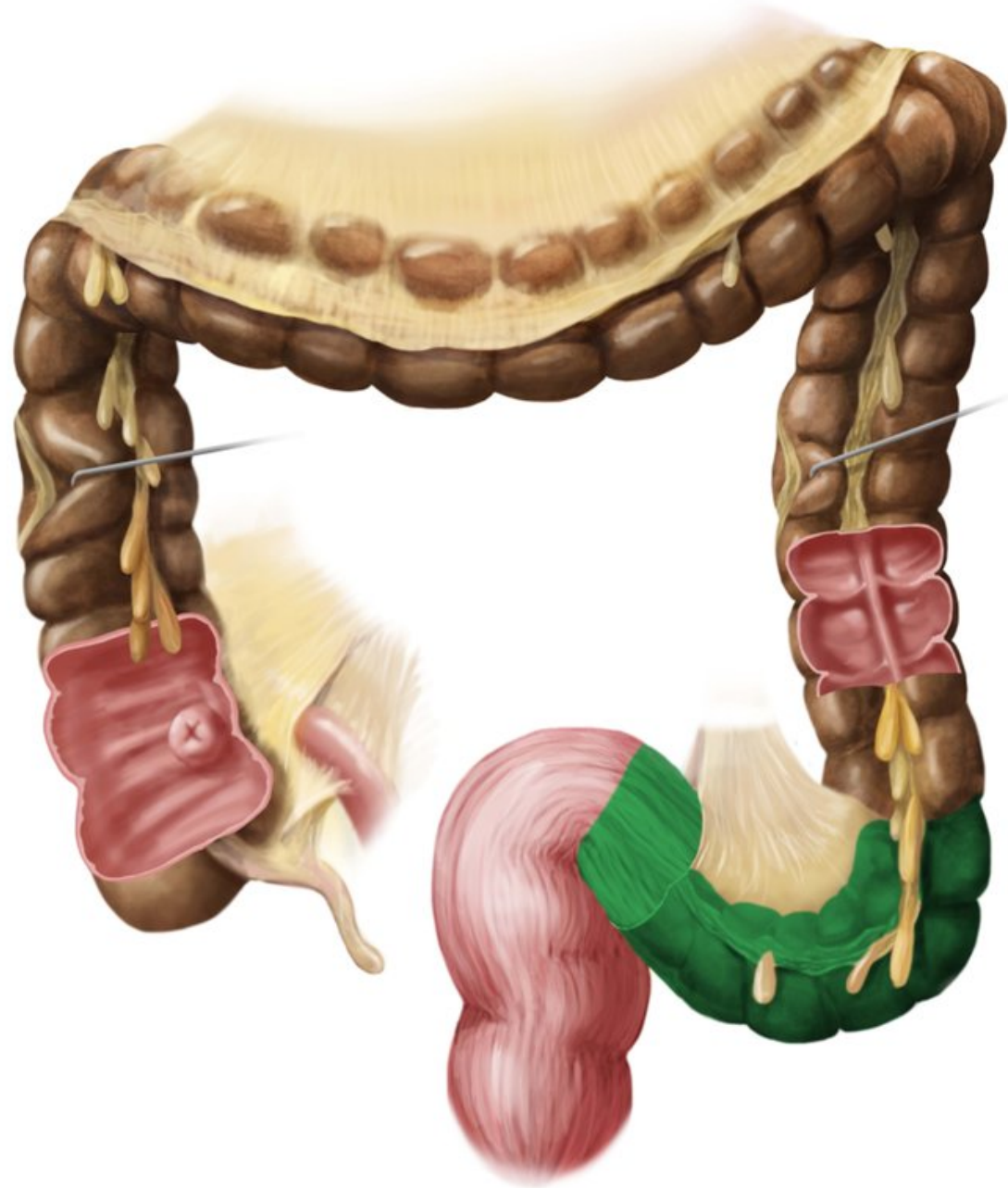
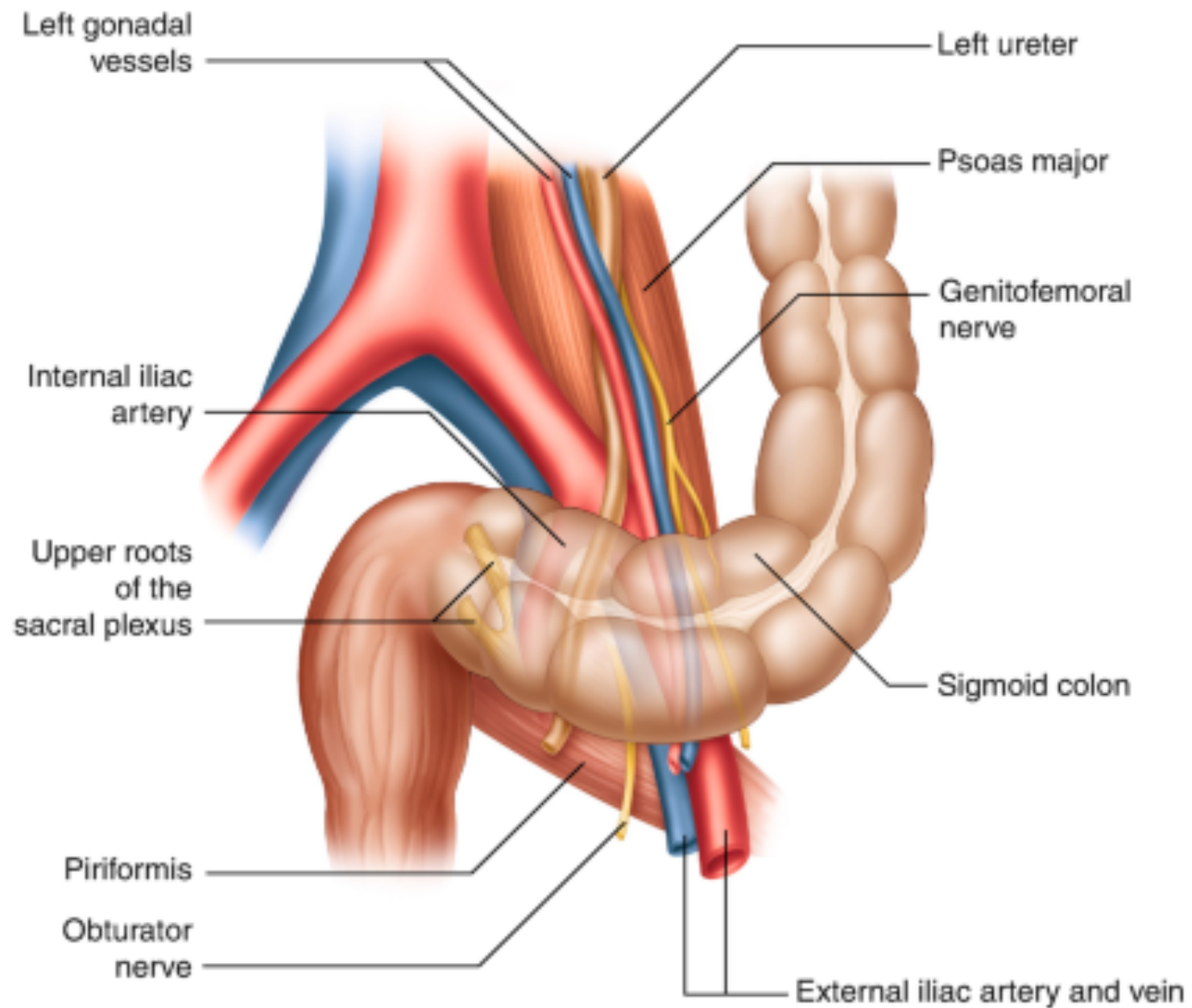
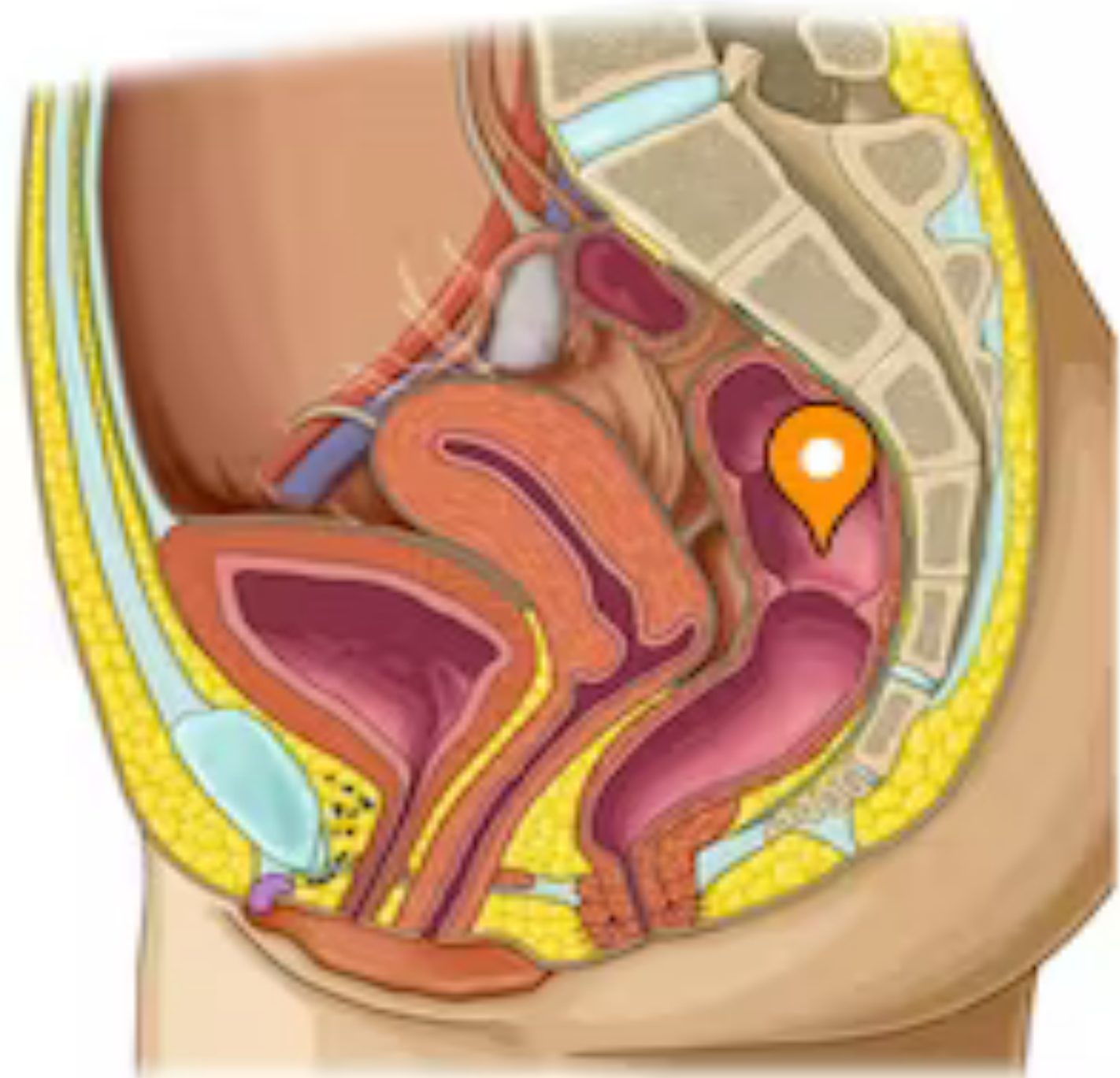


Figure 2.20





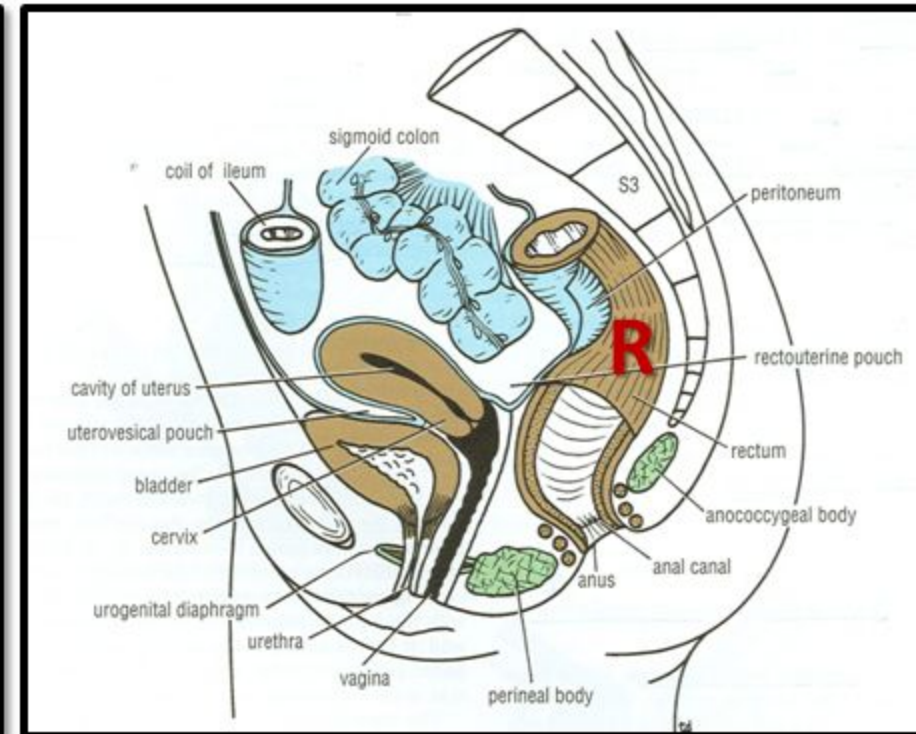
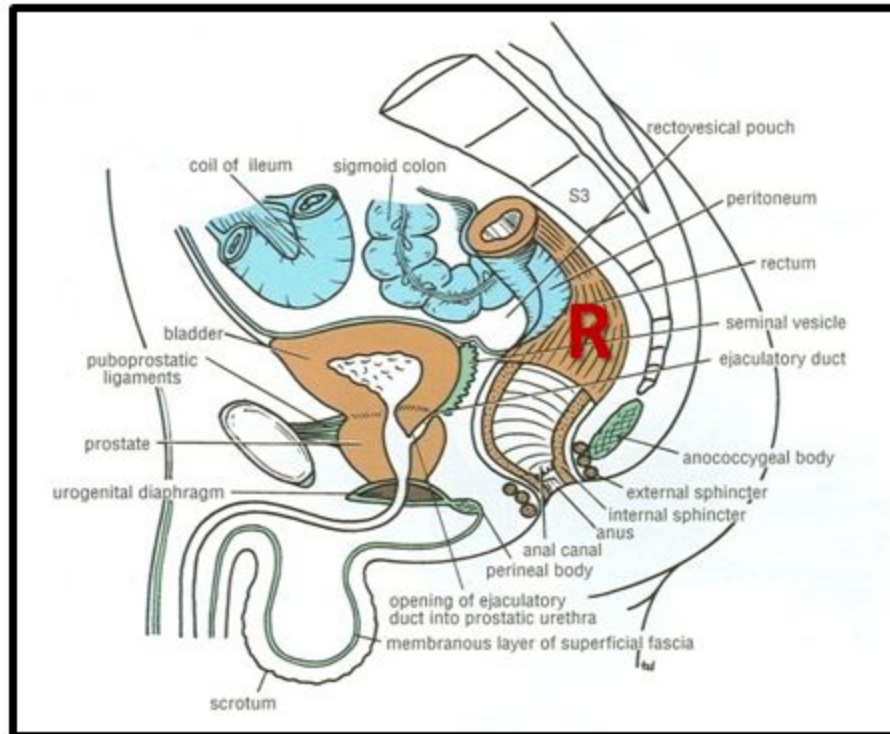
Relations of Rectum in Pelvis

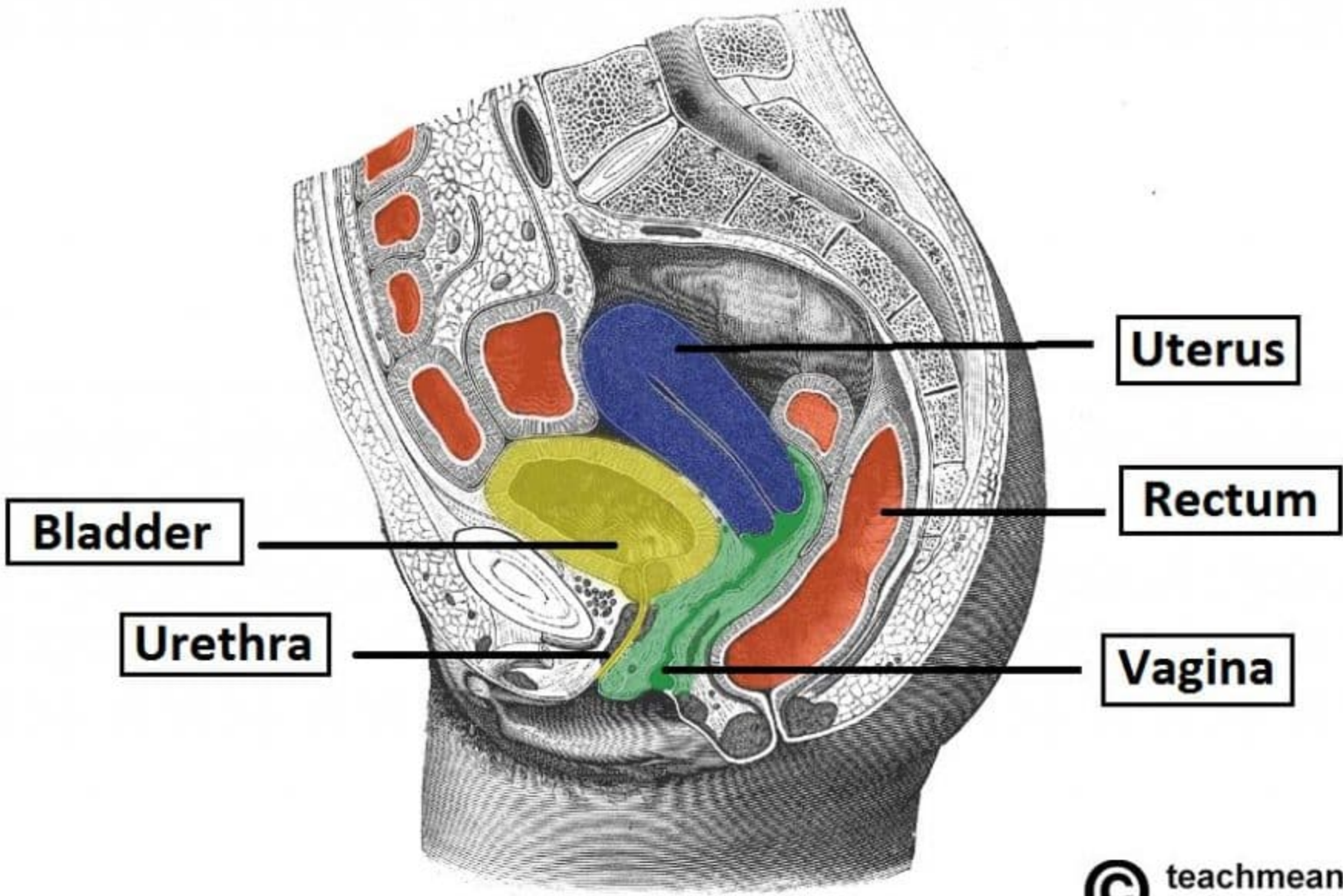
MALE PELVIS

- ❑ Anterior: seminal vesicles, posterior surfaces of urinary bladder & prostate gland
- ❑ Posterior: sacrum, sacral plexus & coccyx

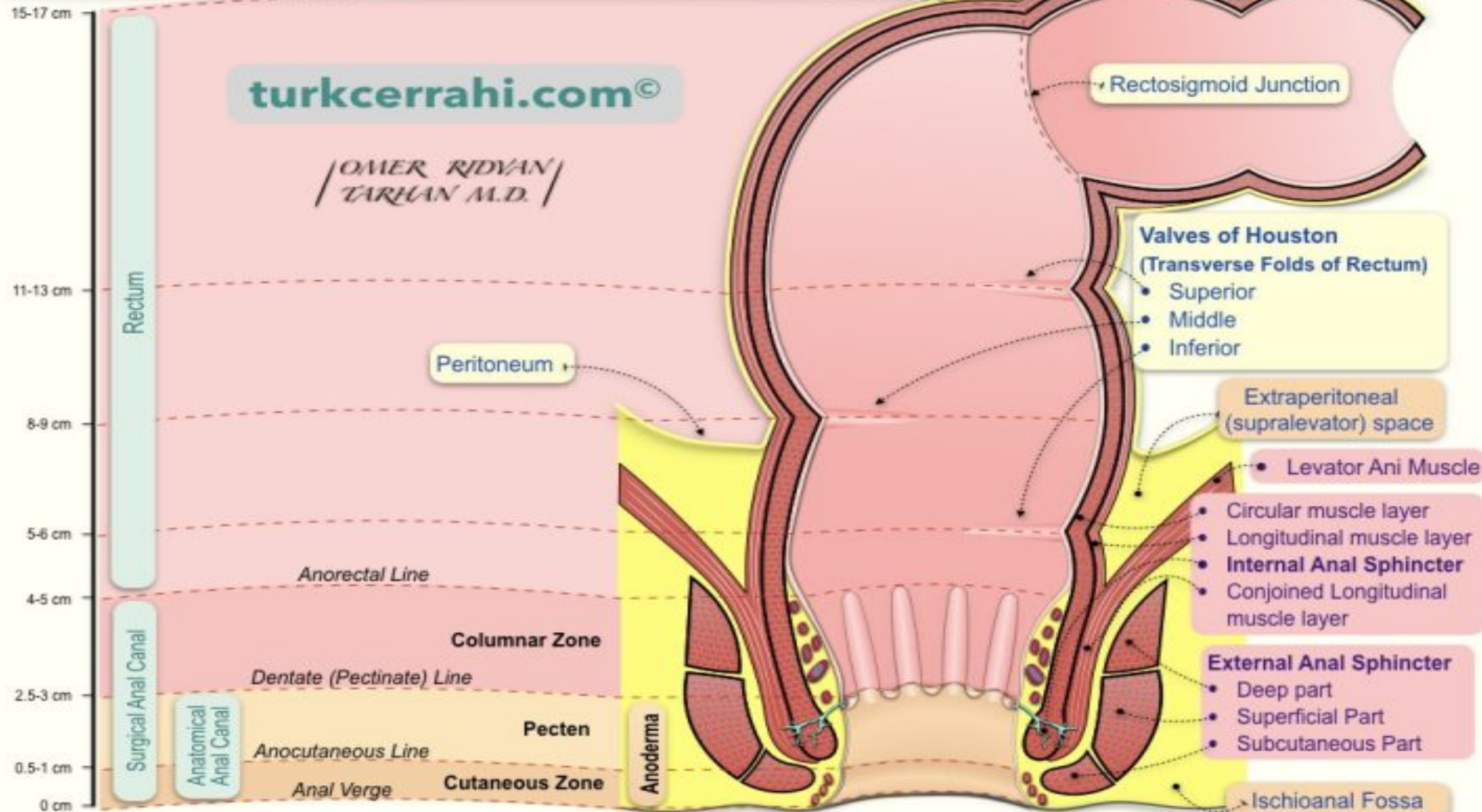
FEMALE PELVIS

- ❑ Anterior: posterior wall of vagina
- ❑ Posterior: sacrum, sacral plexus & coccyx





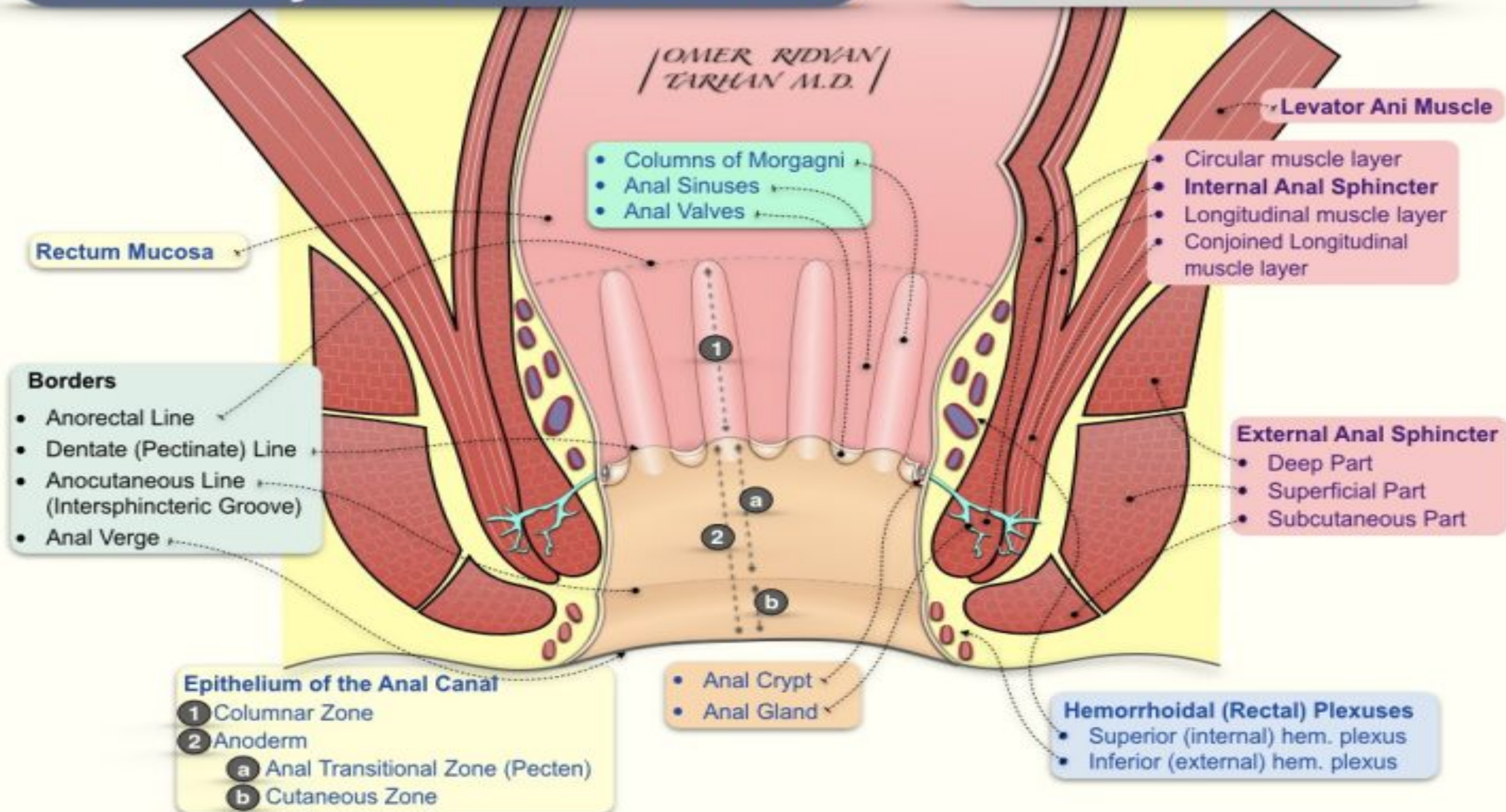
Anatomy of the Rectum and Anal Canal



Anatomy of the Anal Canal

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- Columns of Morgagni
- Anal Sinuses
- Anal Valves

Rectum Mucosa

- Levator Ani Muscle
- Circular muscle layer
- Internal Anal Sphincter
- Longitudinal muscle layer
- Conjoined Longitudinal muscle layer

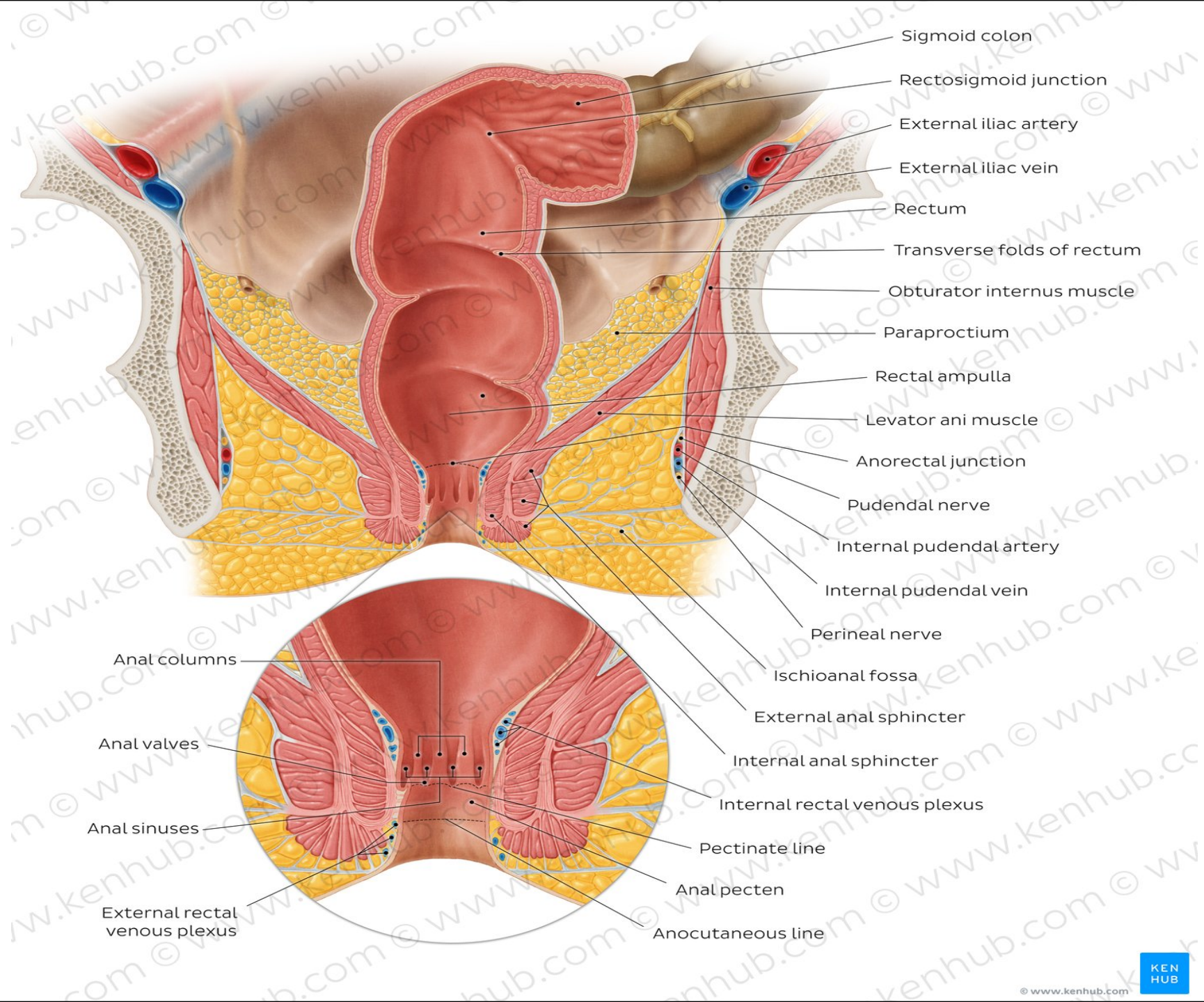
- Borders**
- Anorectal Line
 - Dentate (Pectinate) Line
 - Anocutaneous Line (Intersphincteric Groove)
 - Anal Verge

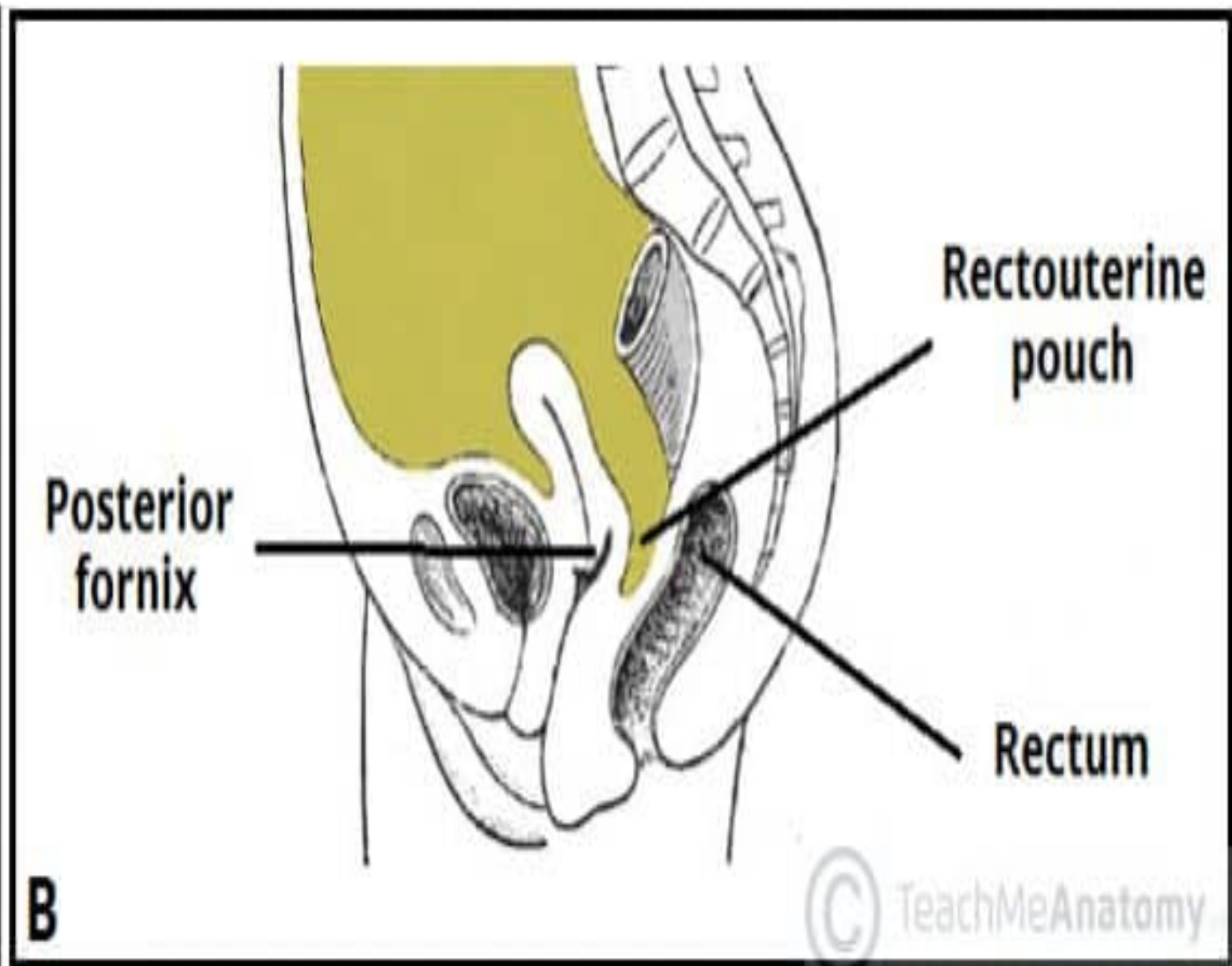
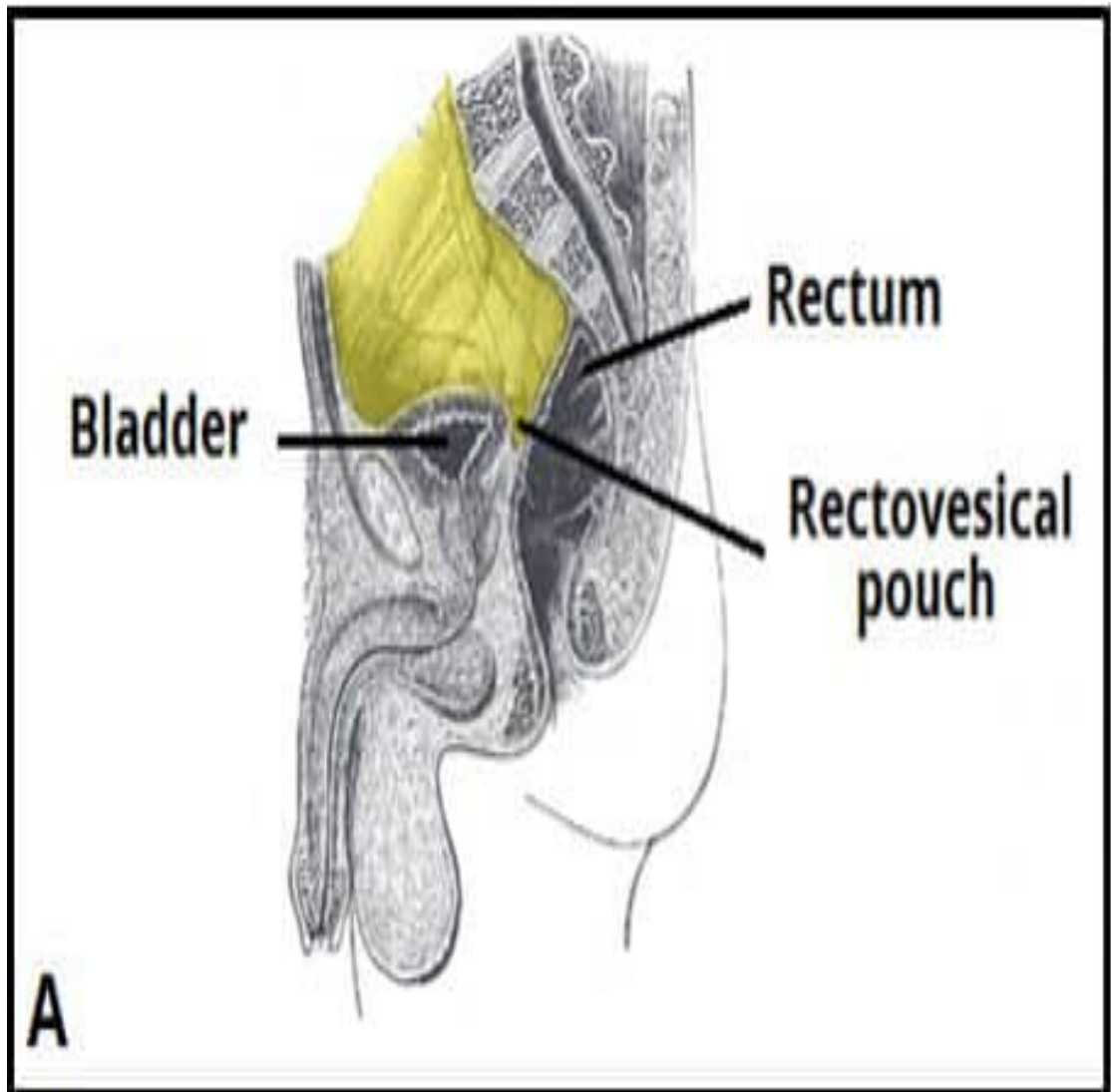
- External Anal Sphincter
 - Deep Part
 - Superficial Part
 - Subcutaneous Part

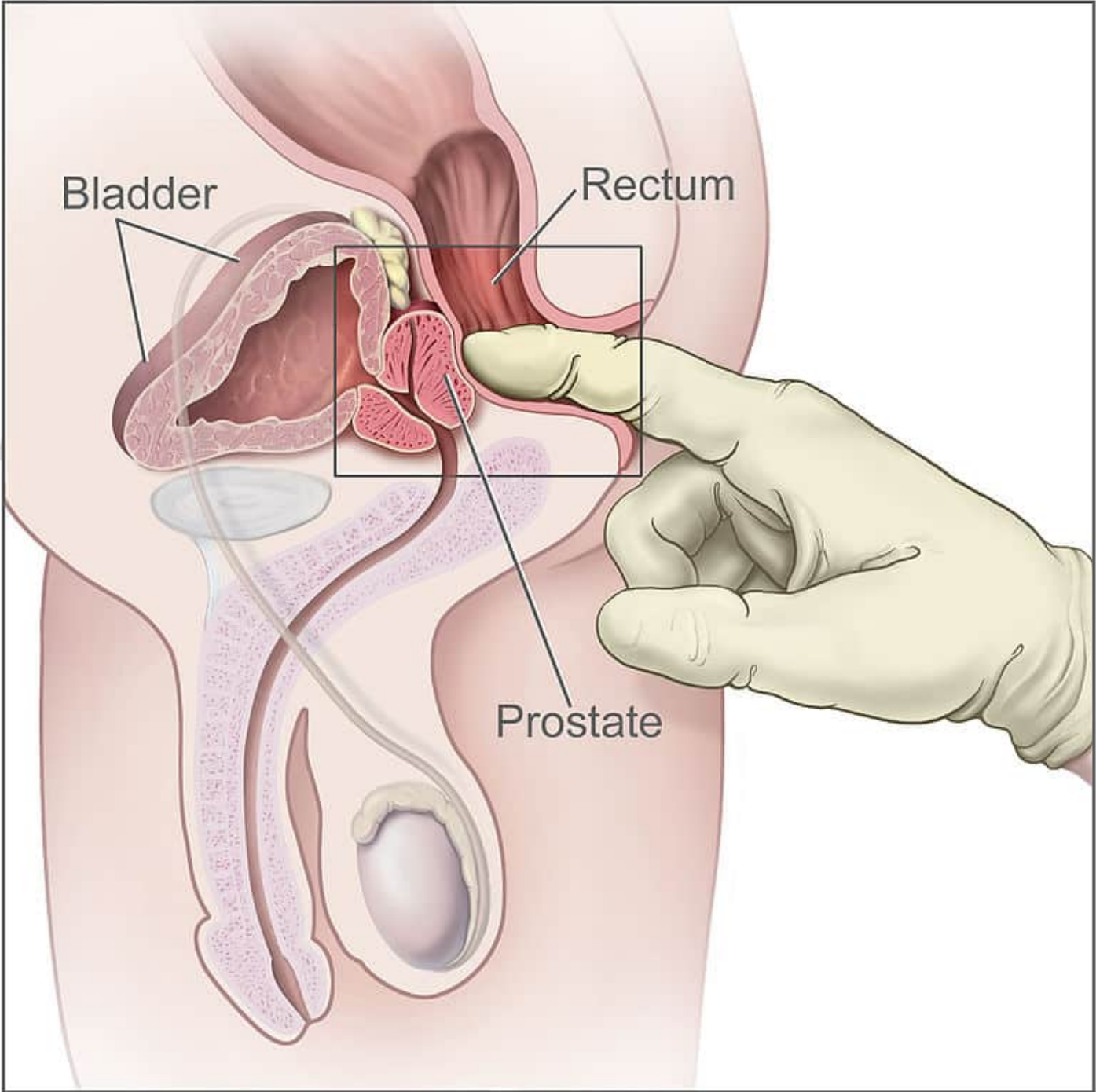
- Epithelium of the Anal Canal**
- 1 Columnar Zone
 - 2 Anoderm
 - a Anal Transitional Zone (Pecten)
 - b Cutaneous Zone

- Anal Crypt
- Anal Gland

- Hemorrhoidal (Rectal) Plexuses
 - Superior (internal) hem. plexus
 - Inferior (external) hem. plexus



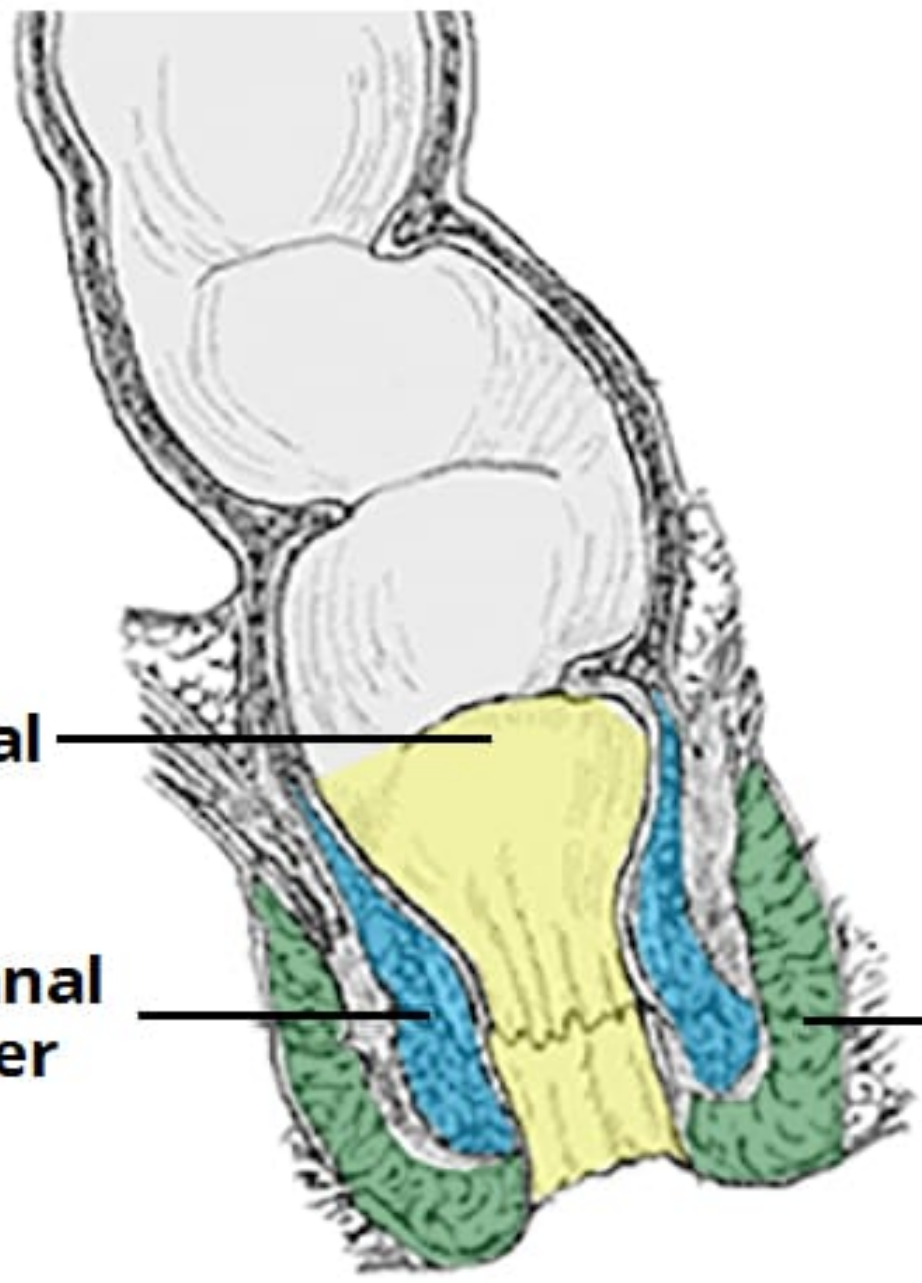


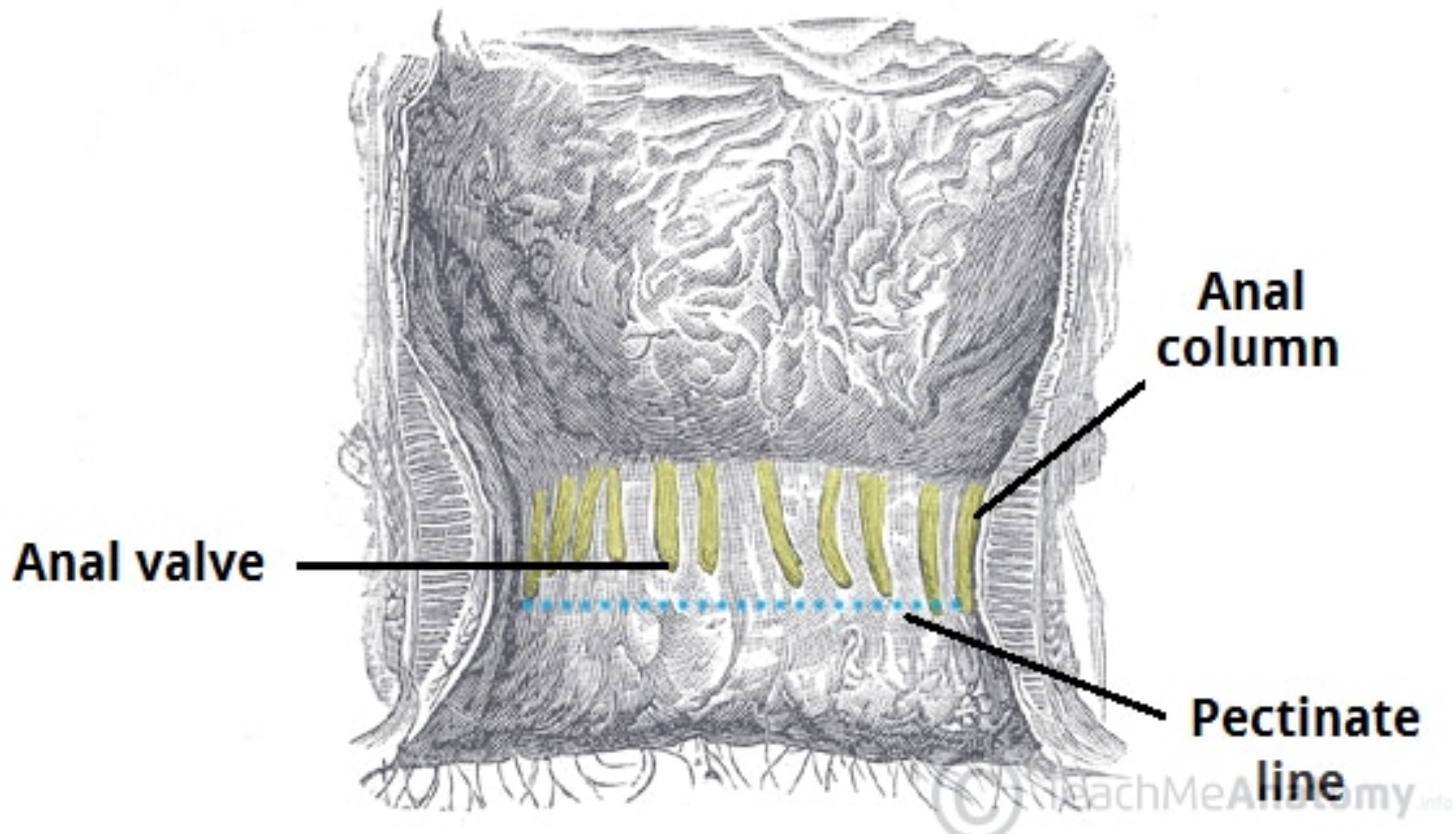


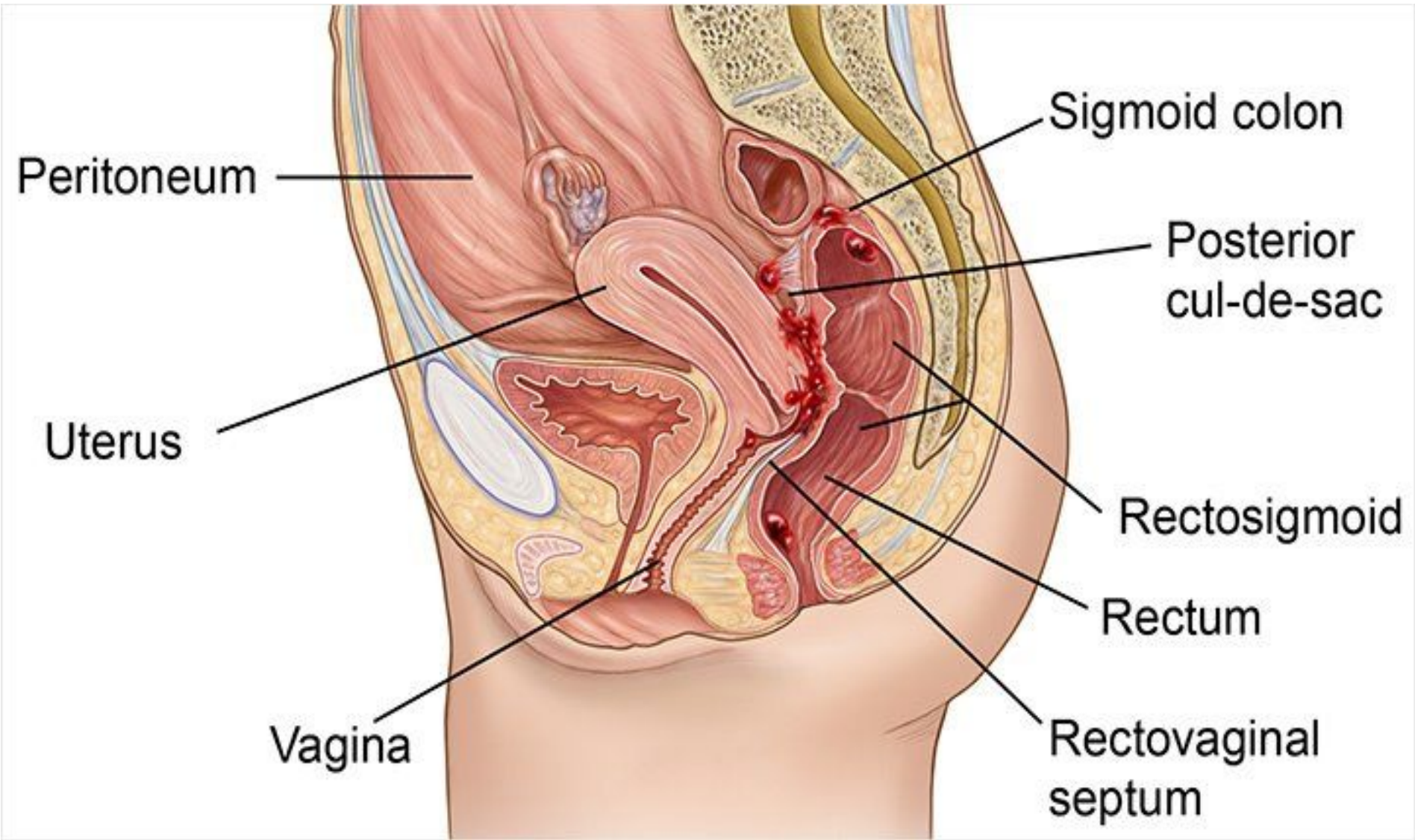
Anal canal

Internal anal sphincter

External anal sphincter







Fallopian tube
Ovary
Uterus

Pubic symphysis
Bladder
Urethra
Urethral sphincter
Cervix
Vagina
Labium

Rectum
Anus

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