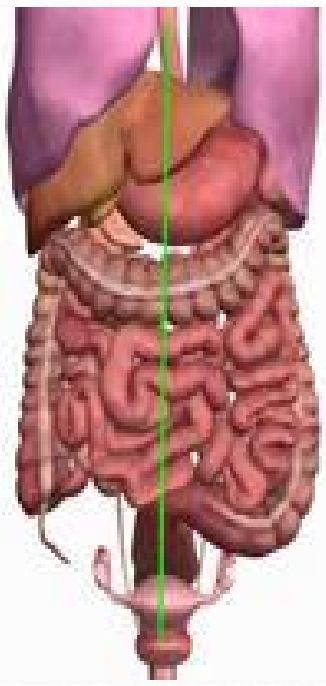
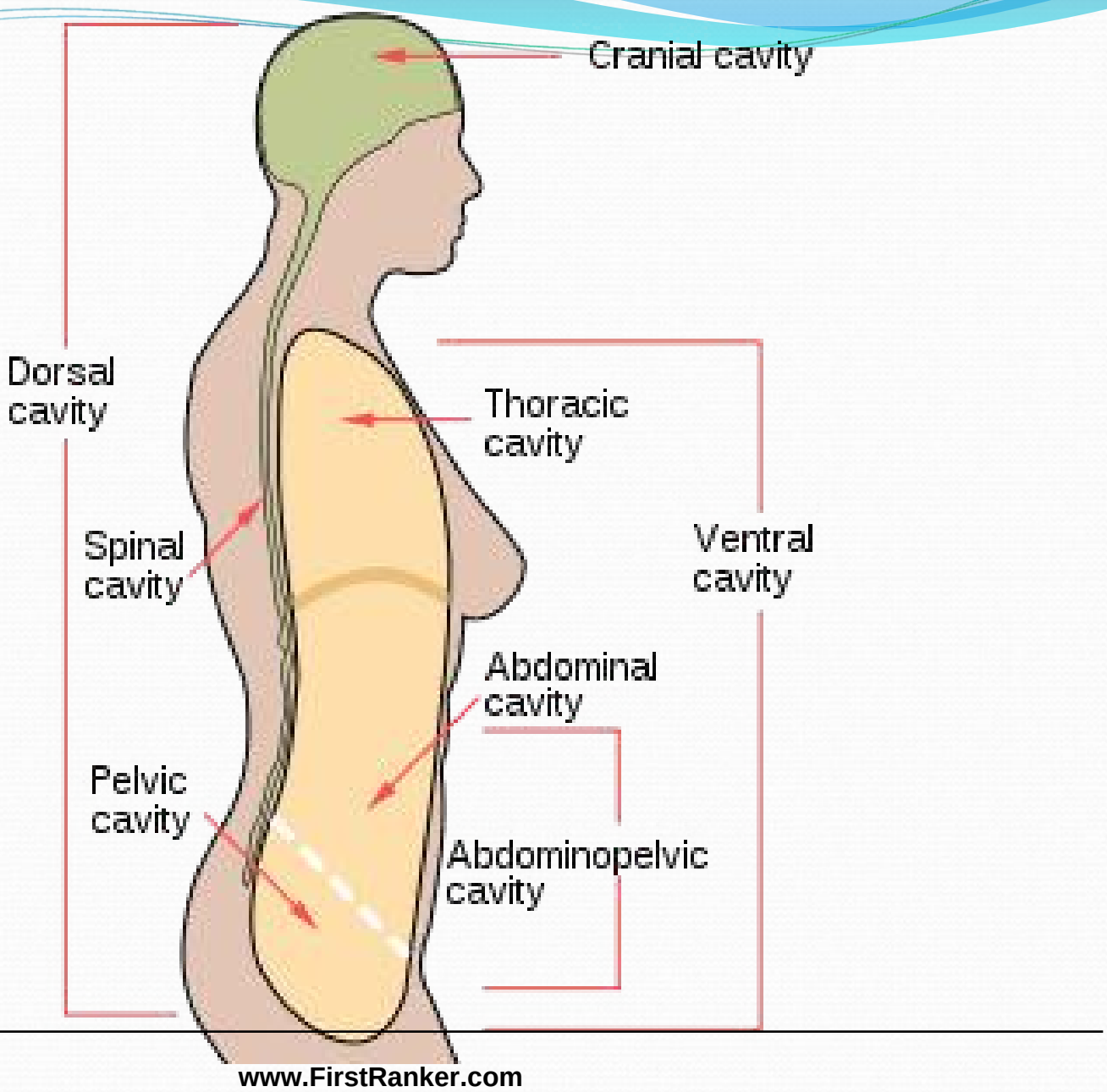




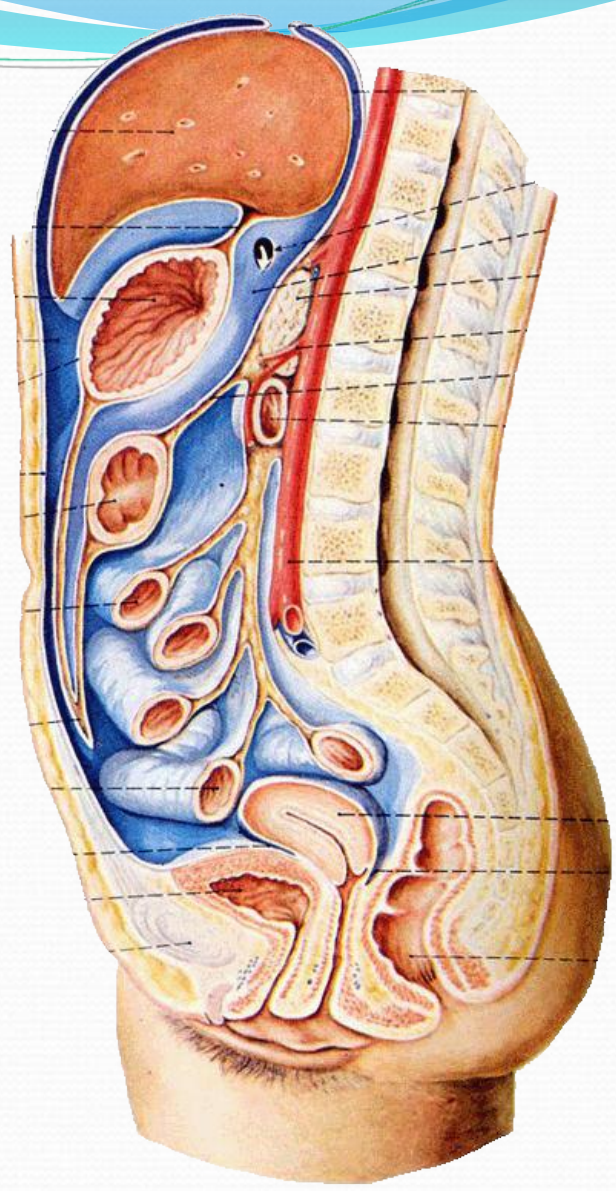
Peritoneum

- Tough layer of elastic areolar tissue
- Lined with simple squamous epithelium
- Largest of the serous sacs of the body
- Has 2 layers- the parietal and visceral
- Layers separated from each other by a thin film of fluid

General features

- The peritoneum is a thin serous membrane that line the walls of the abdominal & pelvic cavities & cover the organs within these cavities

- **Parietal peritoneum** —lines the walls of the abdominal & pelvic cavities

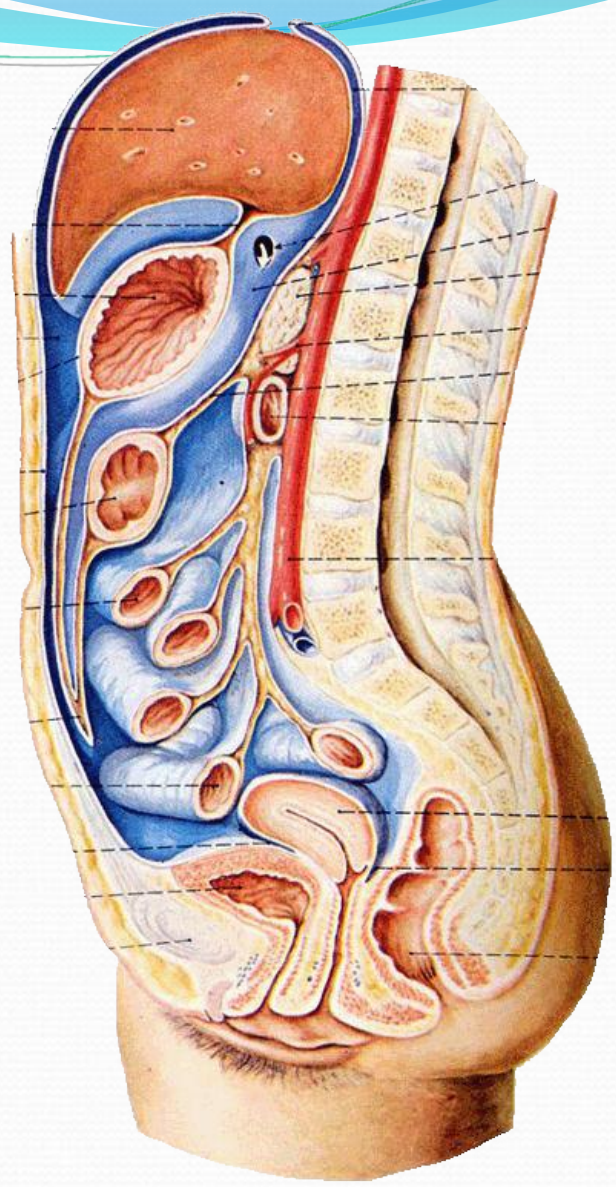


General features

- **Visceral peritoneum**

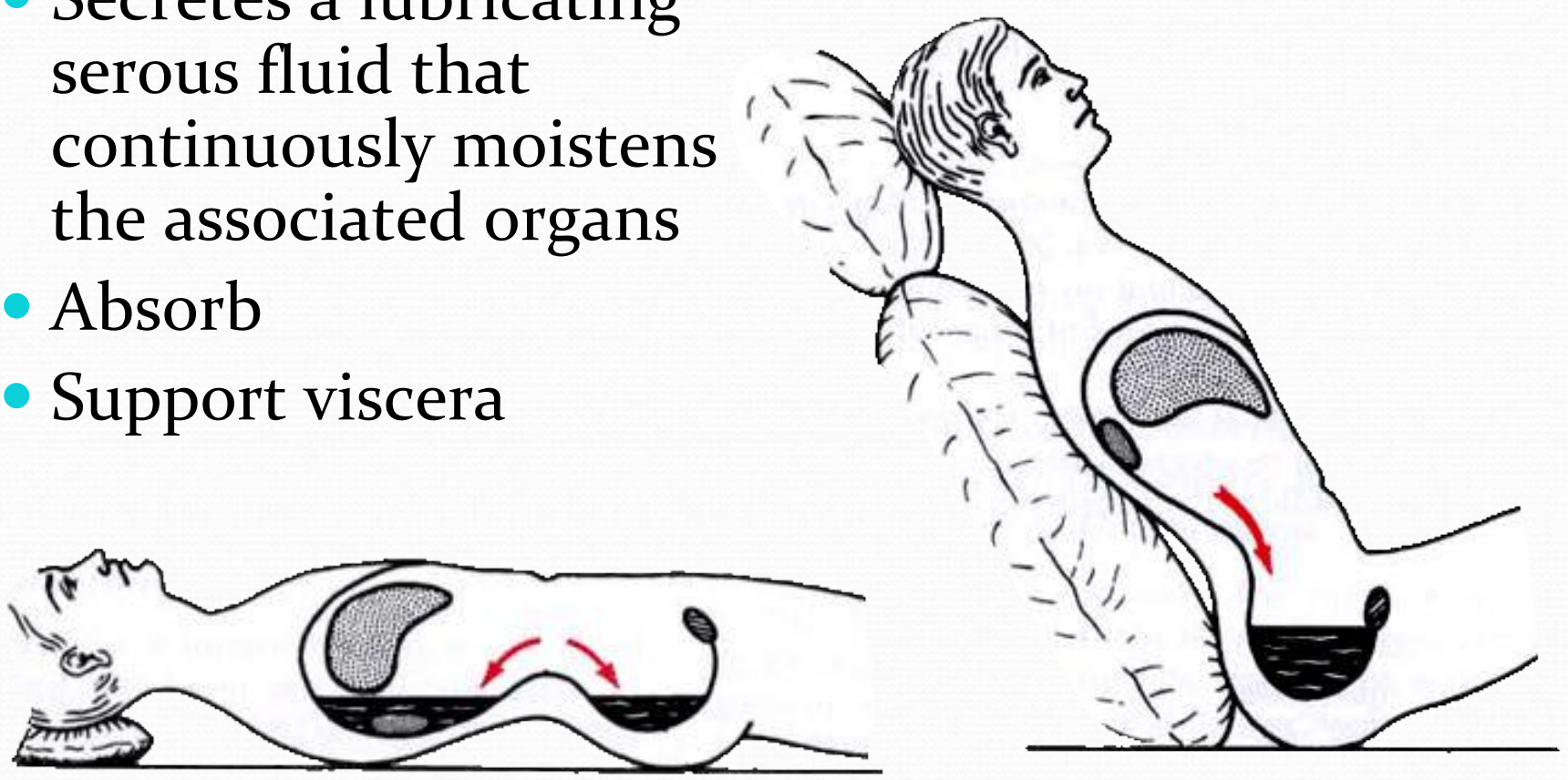
—covers the organs

- **Peritoneal cavity** —the potential space between the parietal and visceral layer of peritoneum, ♂, is a closed sac, but in ♀, there is a communication with the exterior through the uterine tubes, the uterus, and the vagina



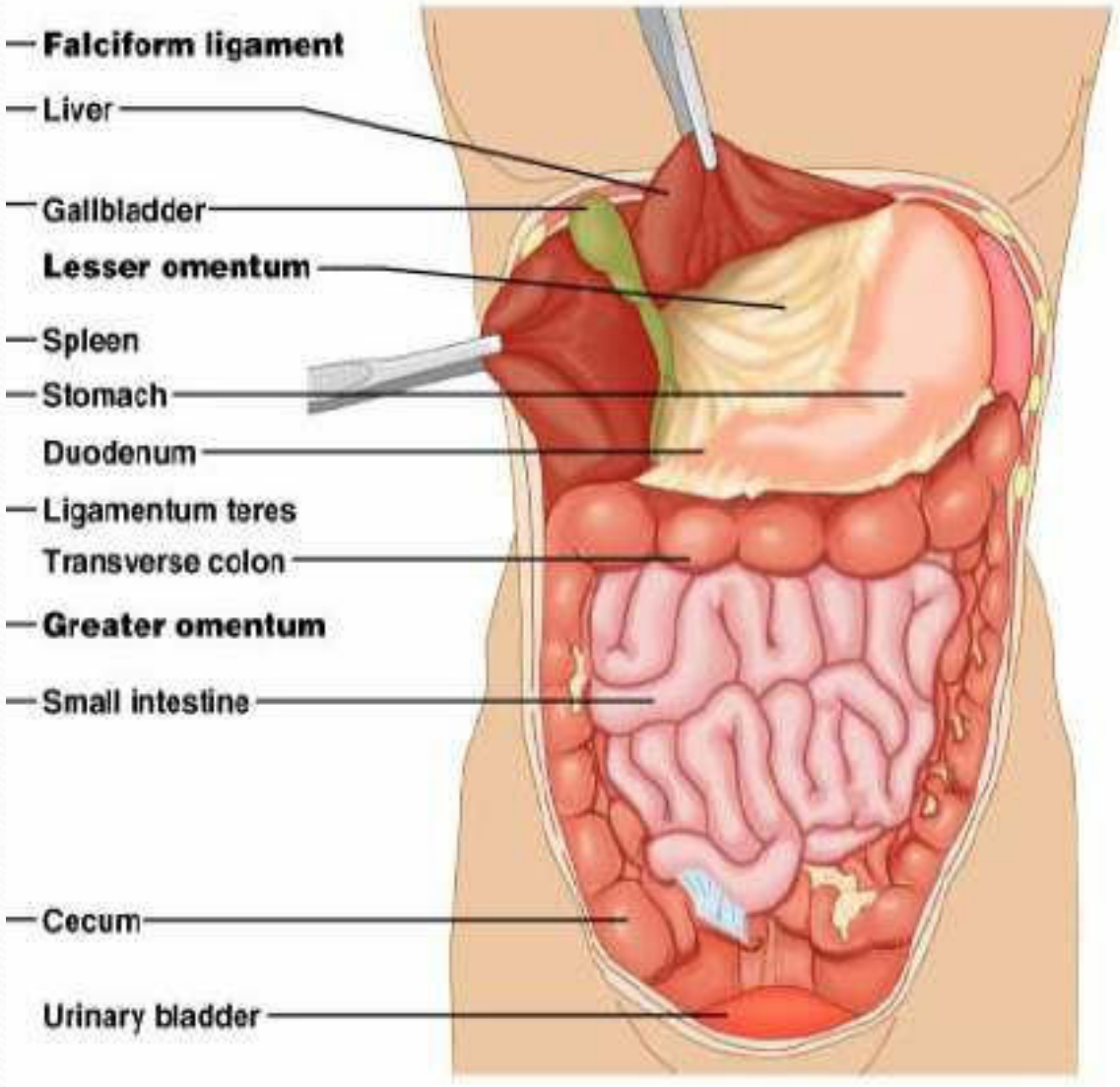
Function

- Secretes a lubricating serous fluid that continuously moistens the associated organs
- Absorb
- Support viscera



Hepatorenal Pouch &
Rectouterine Pouch

- Superficial view of
- the abdominal
- organs



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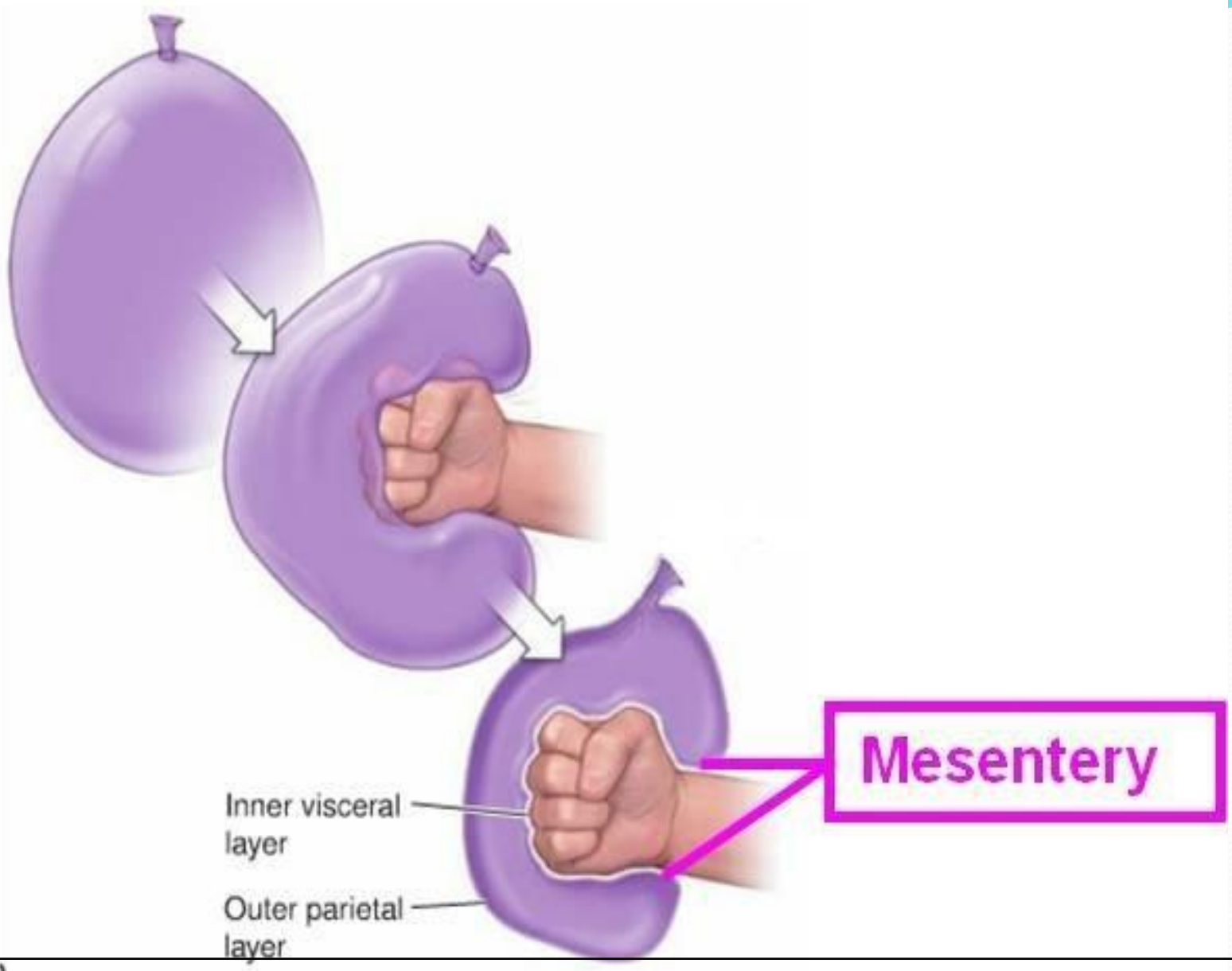

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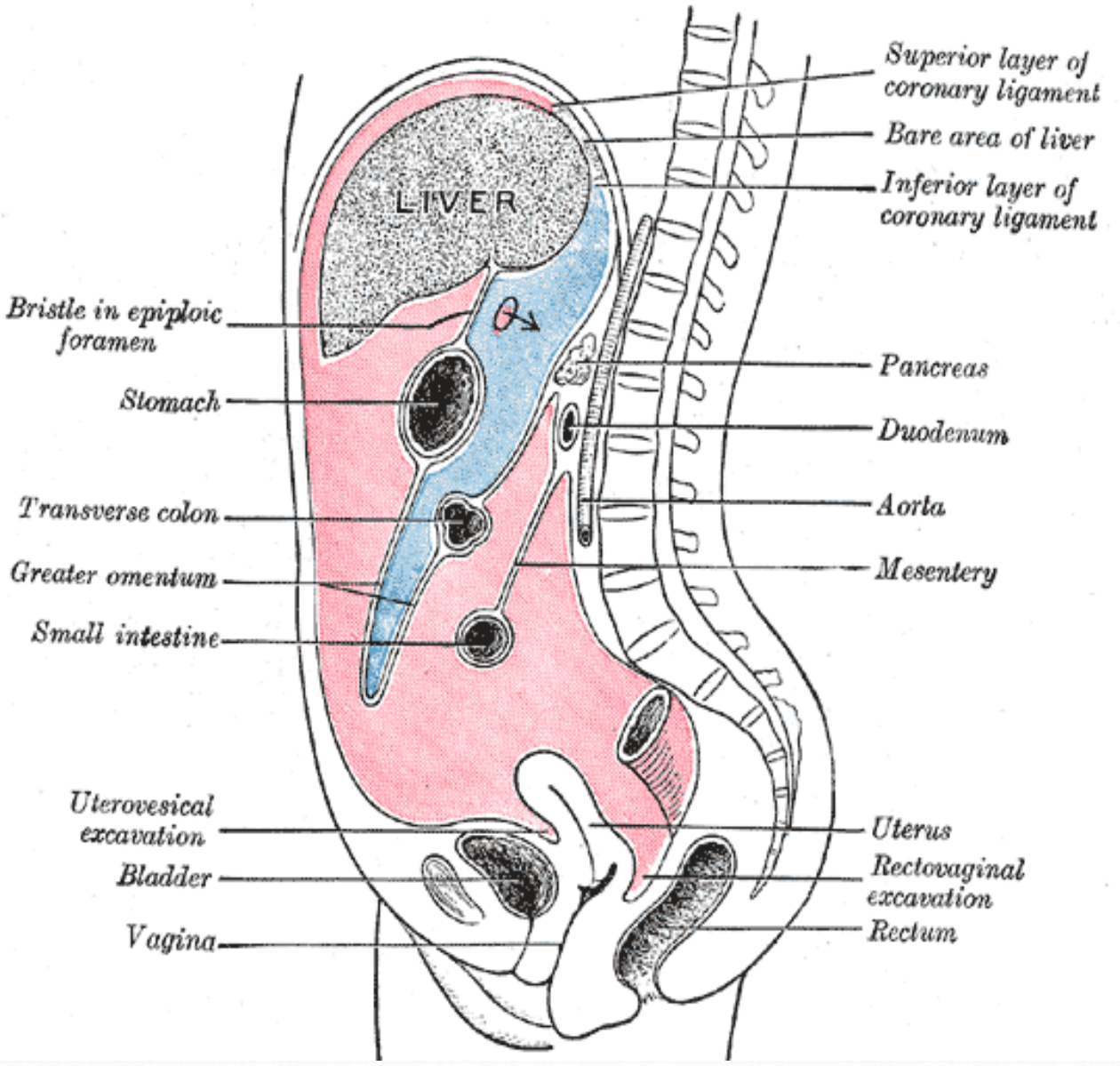
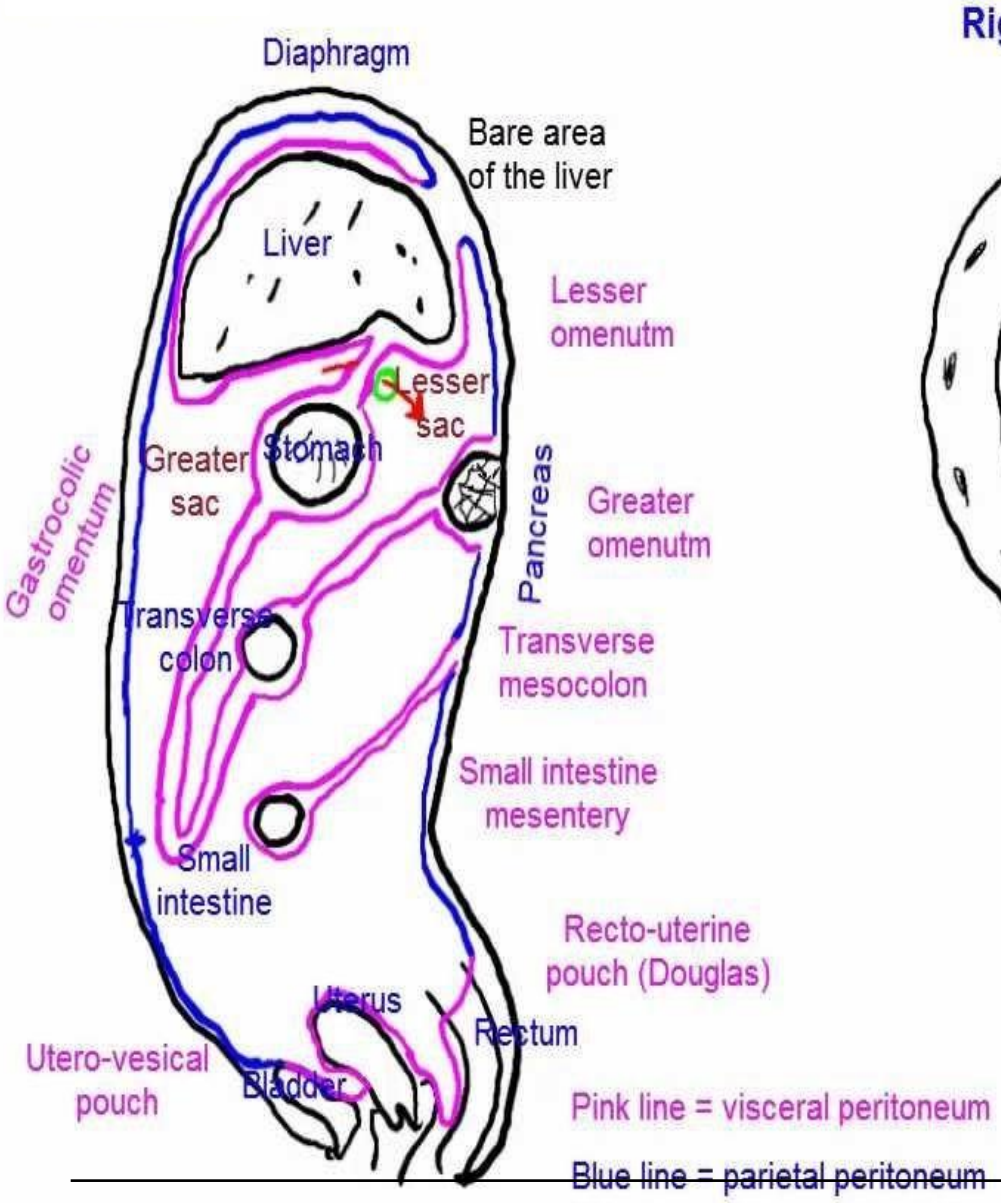
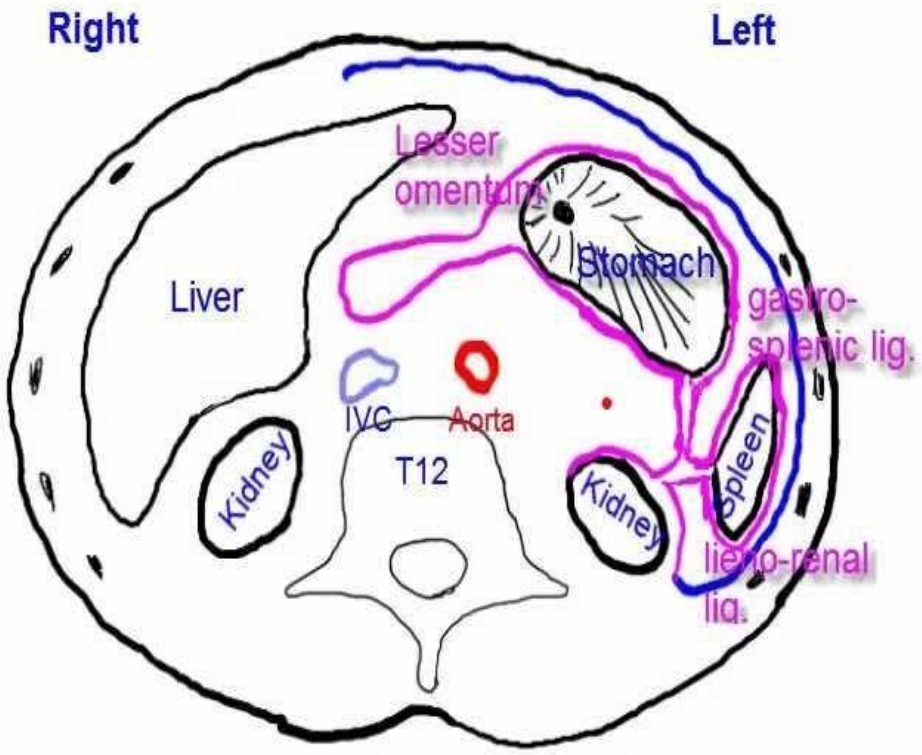
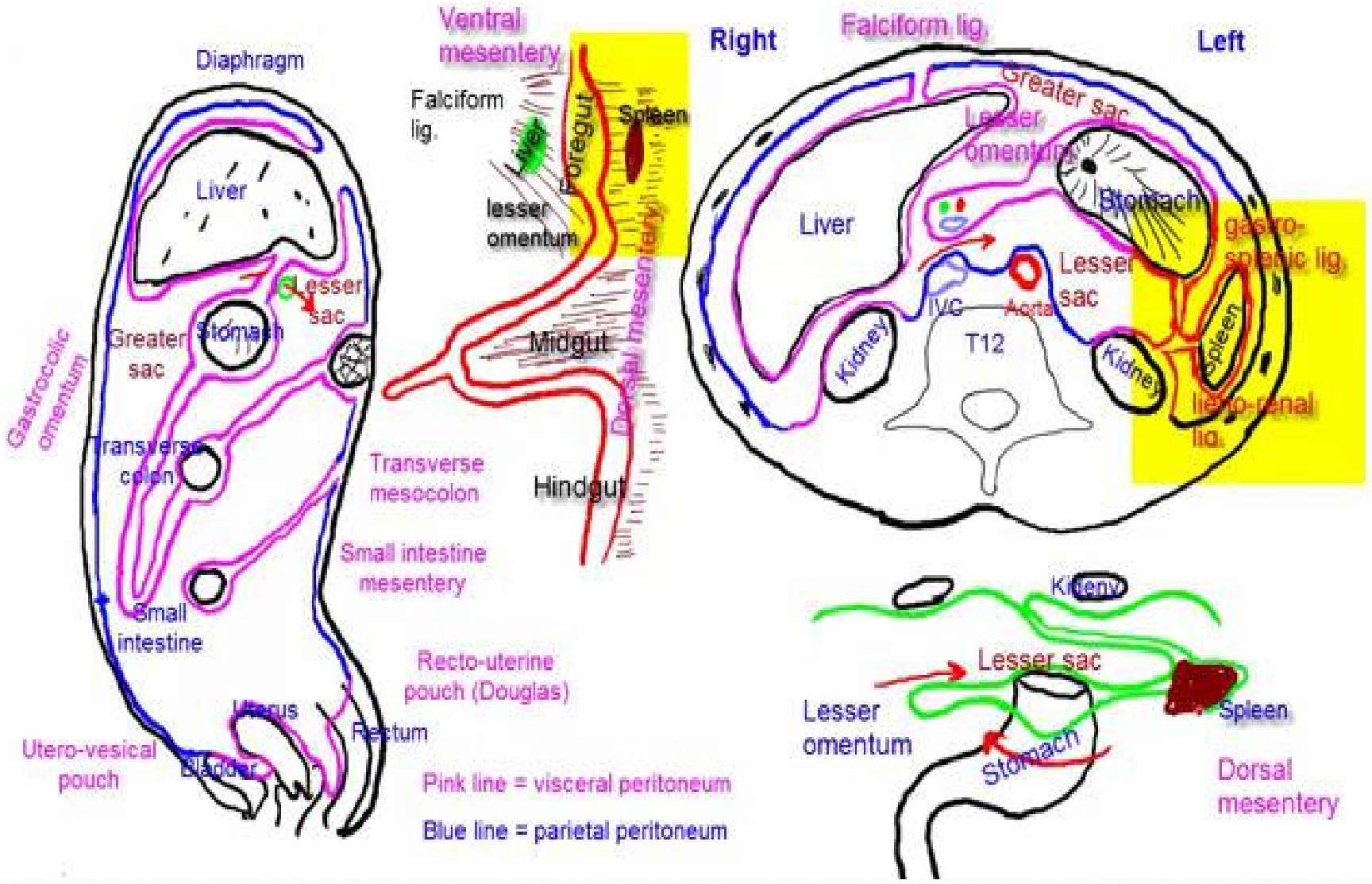
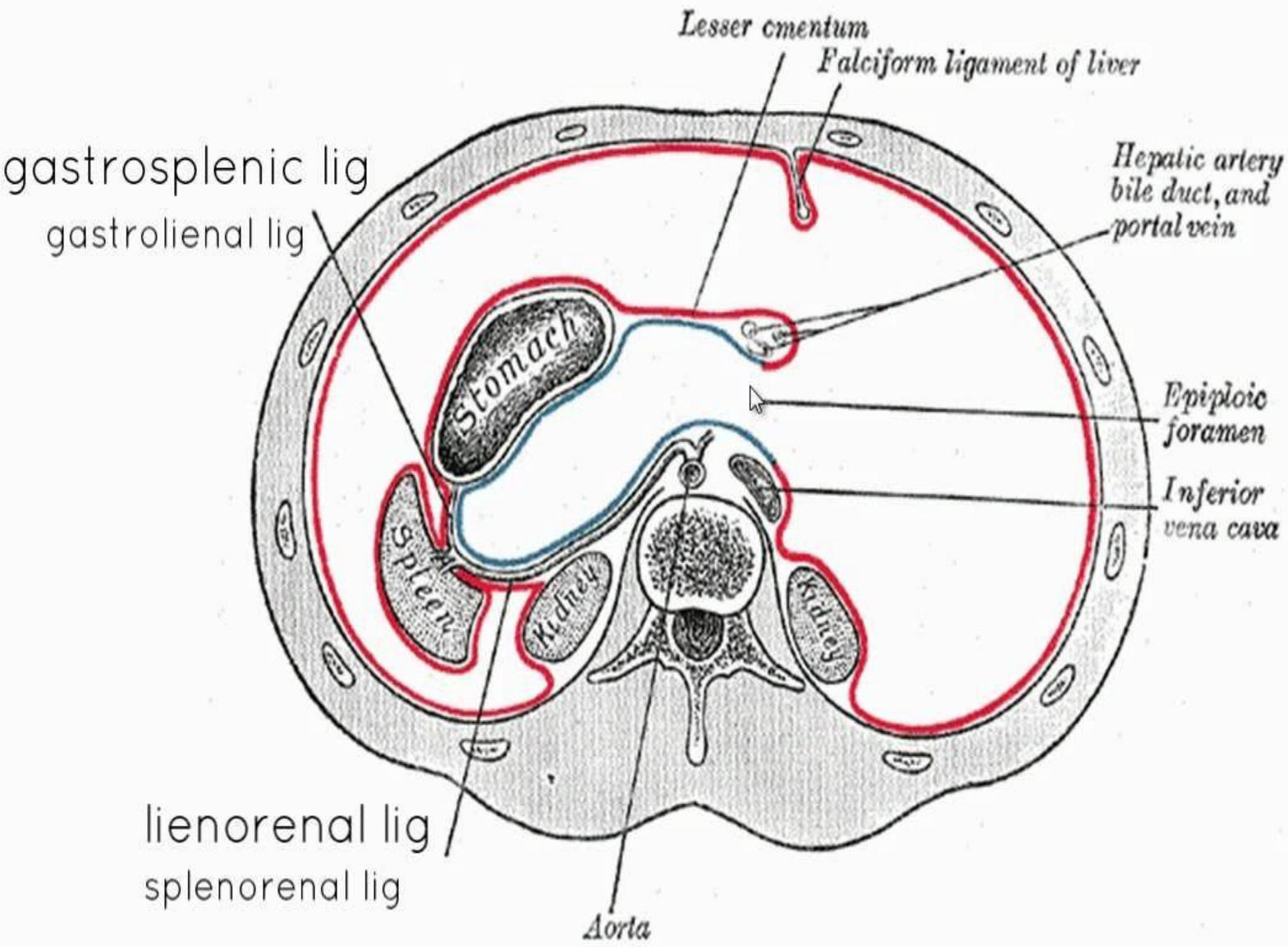
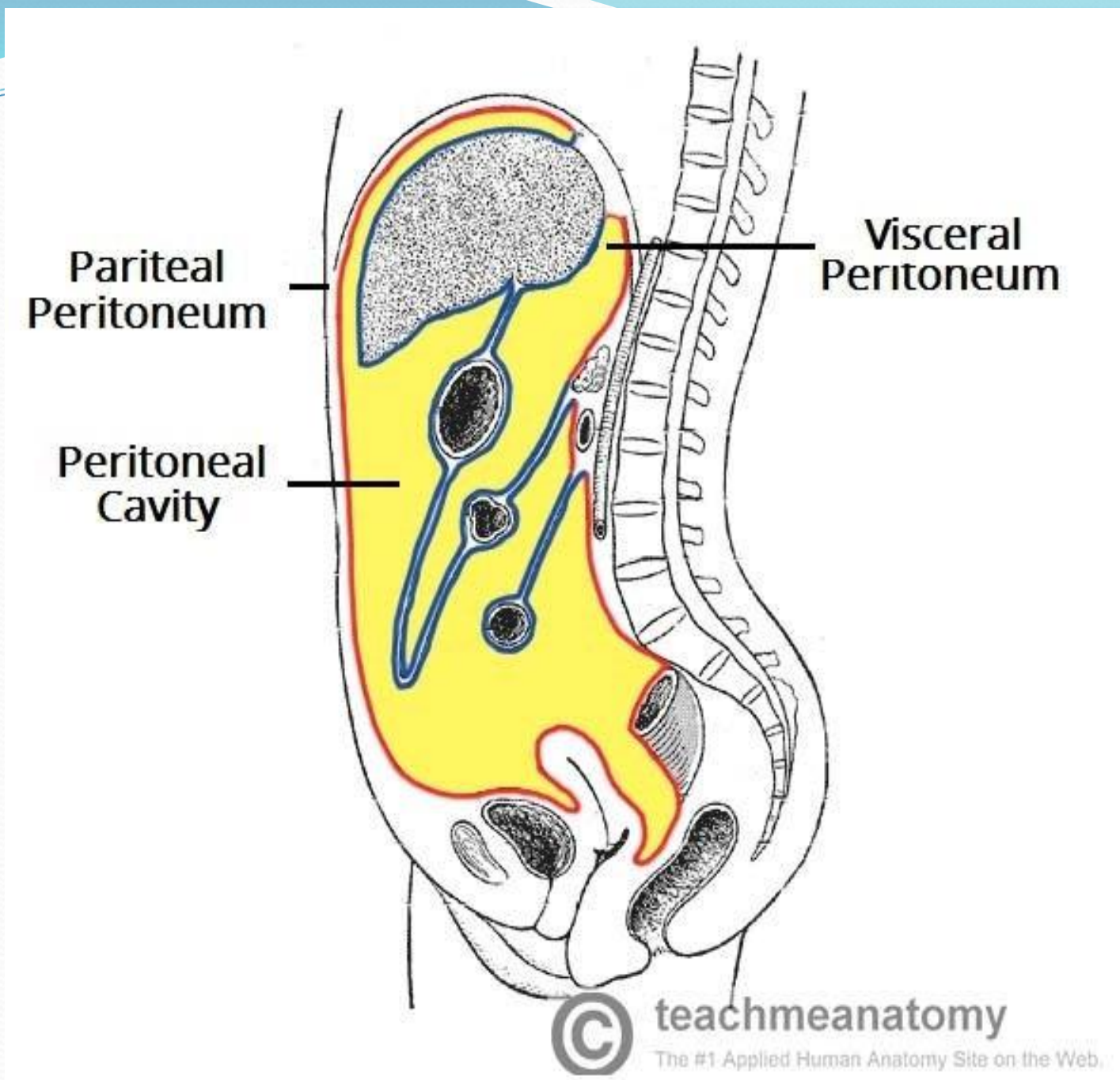


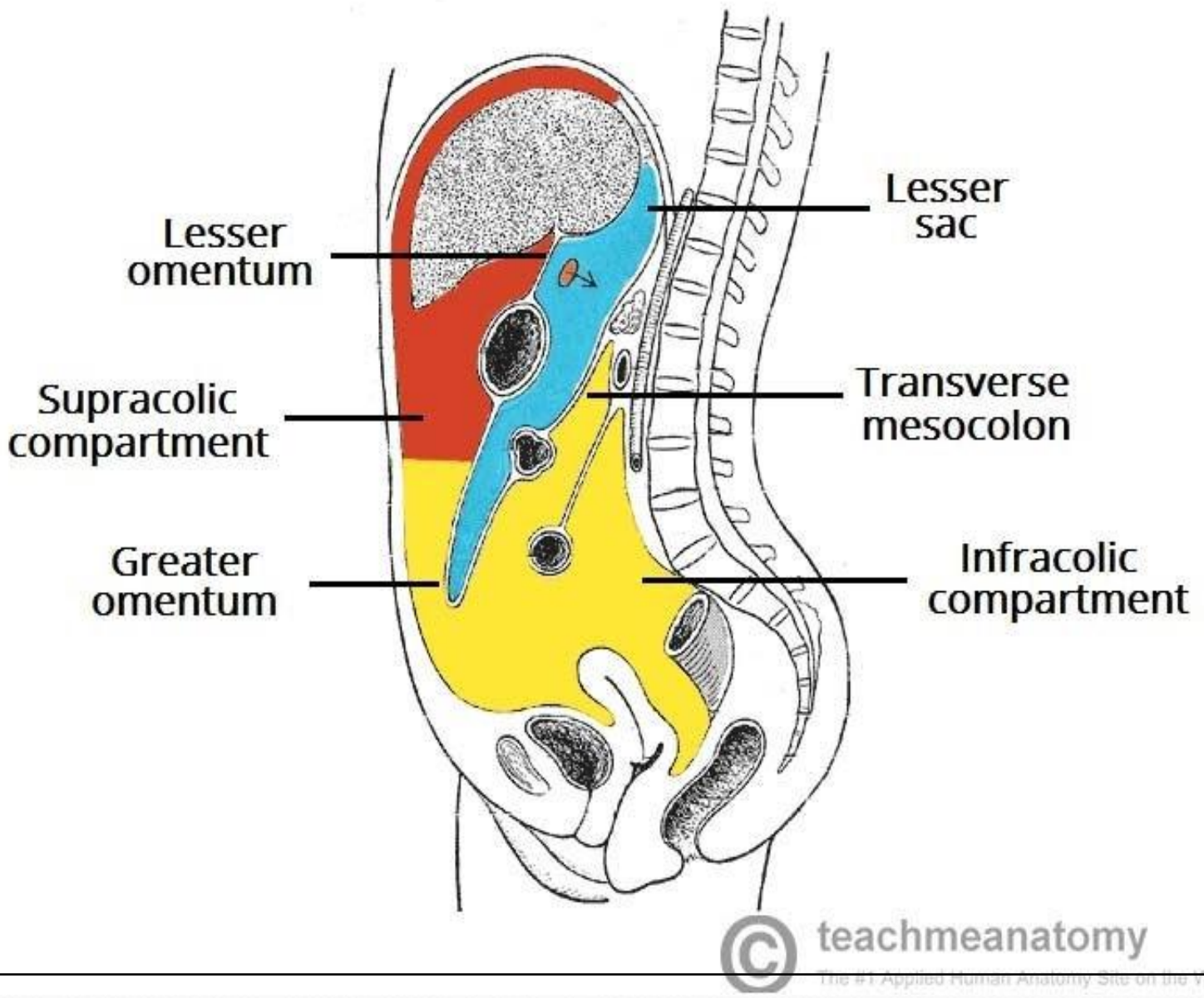


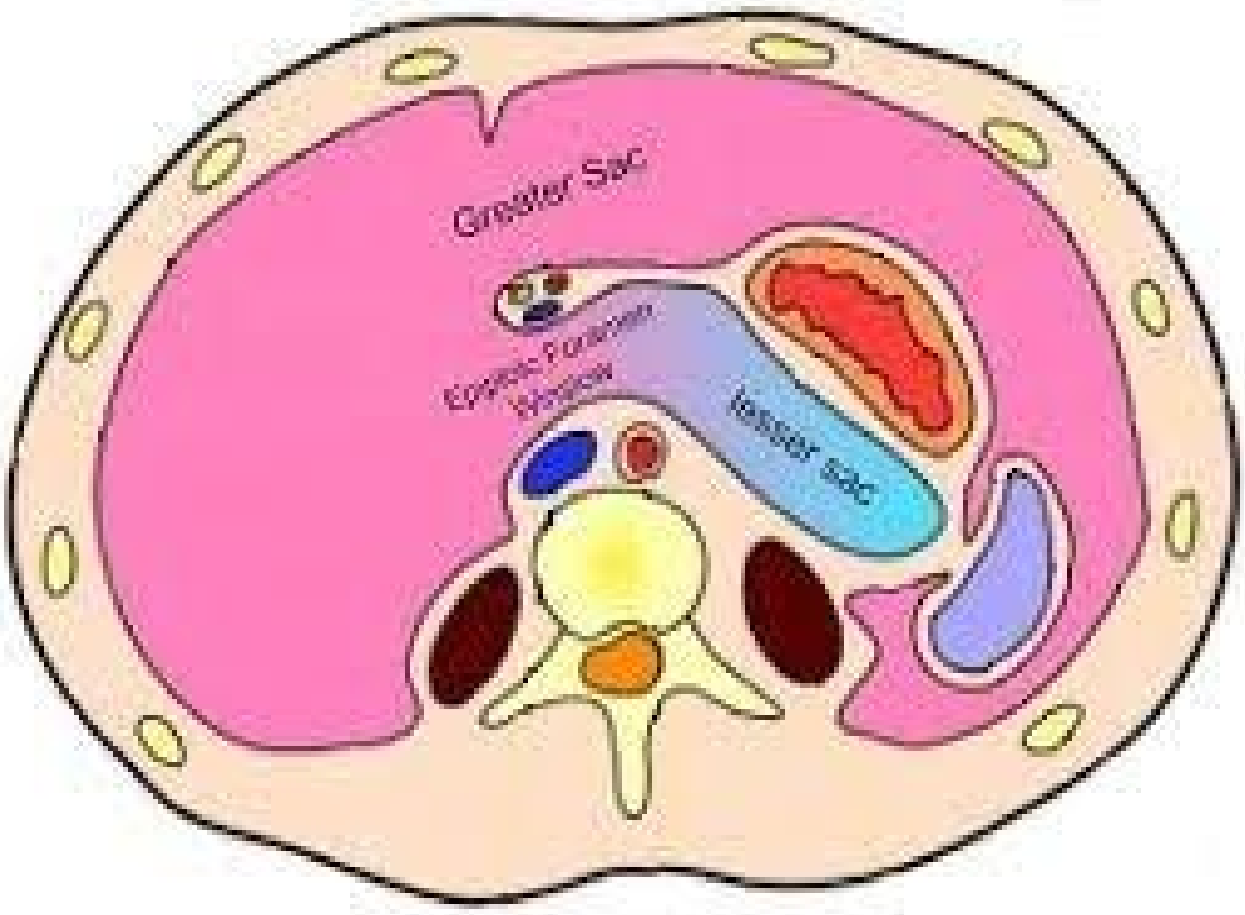






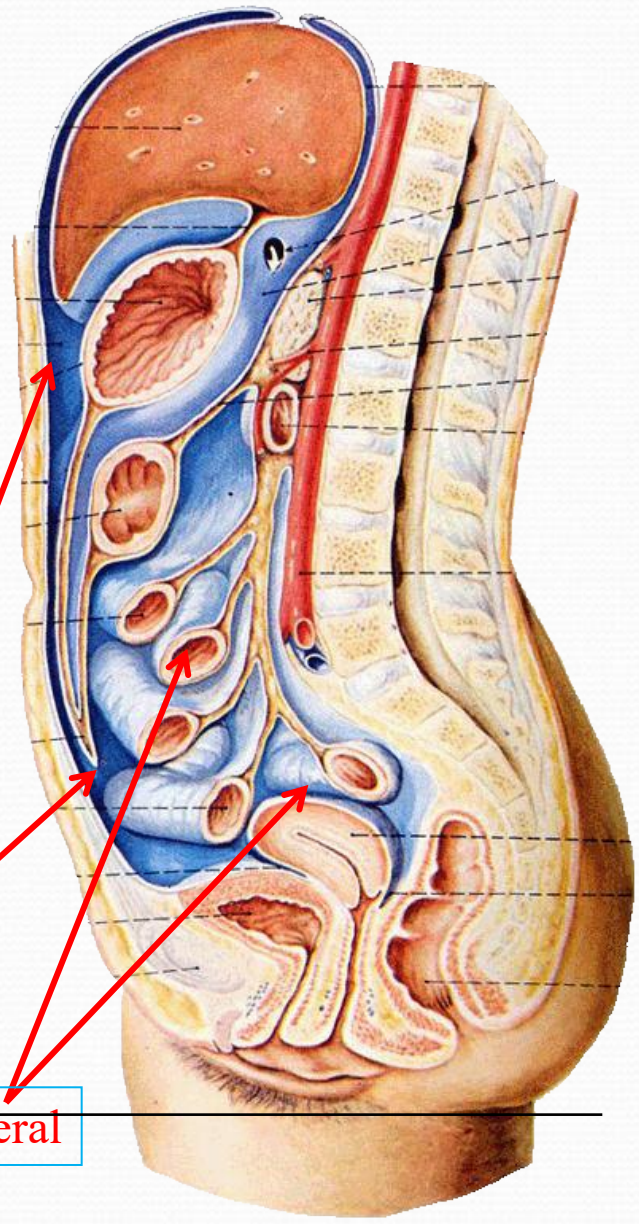




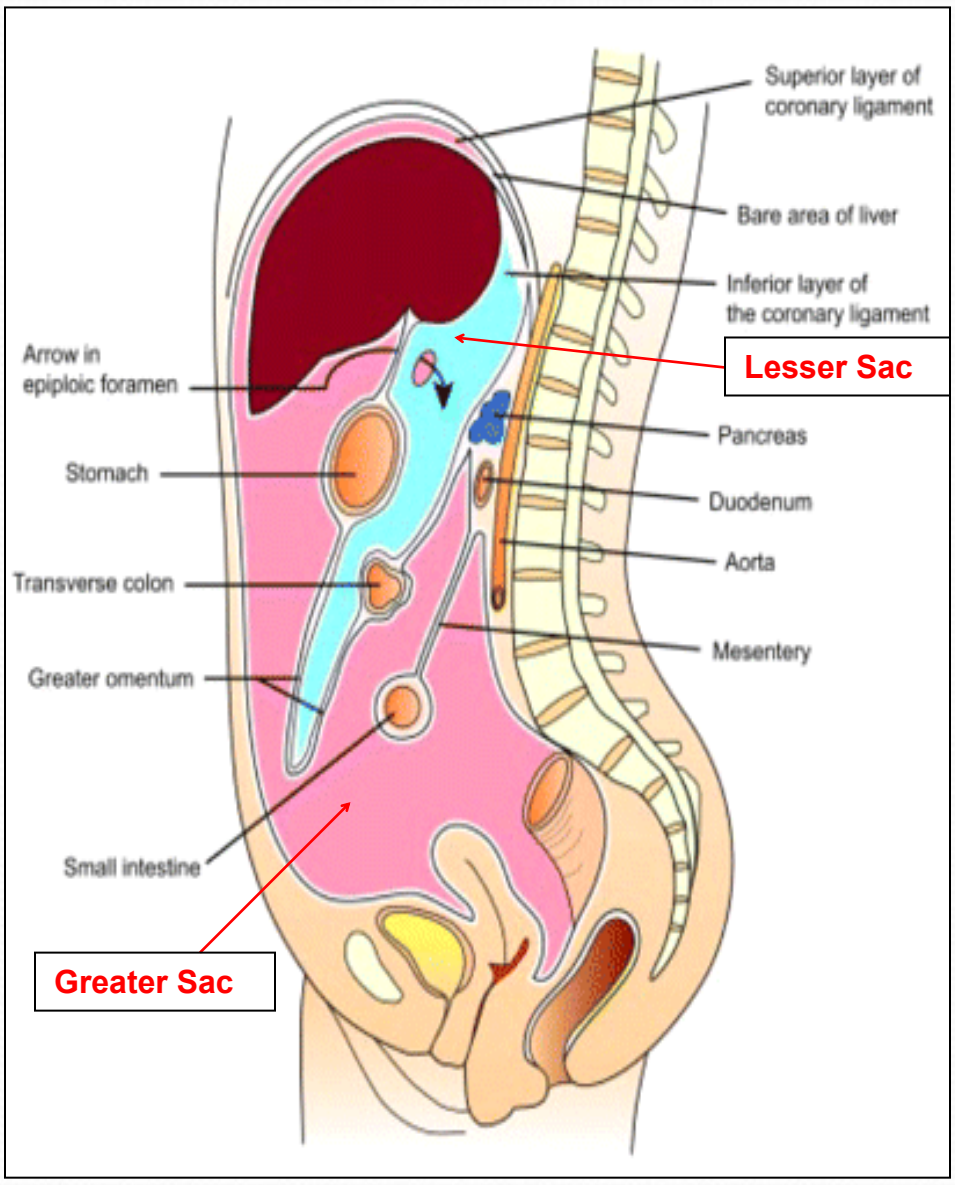


The peritoneum

- Is a **thin serous membrane**,
- Lining the wall of the abdominal and pelvic cavities, (the **parietal peritoneum**).
- Covering the existing organs, (the **visceral peritoneum**).
- The potential <u>space</u> between the two layers is the **peritoneal cavity**.



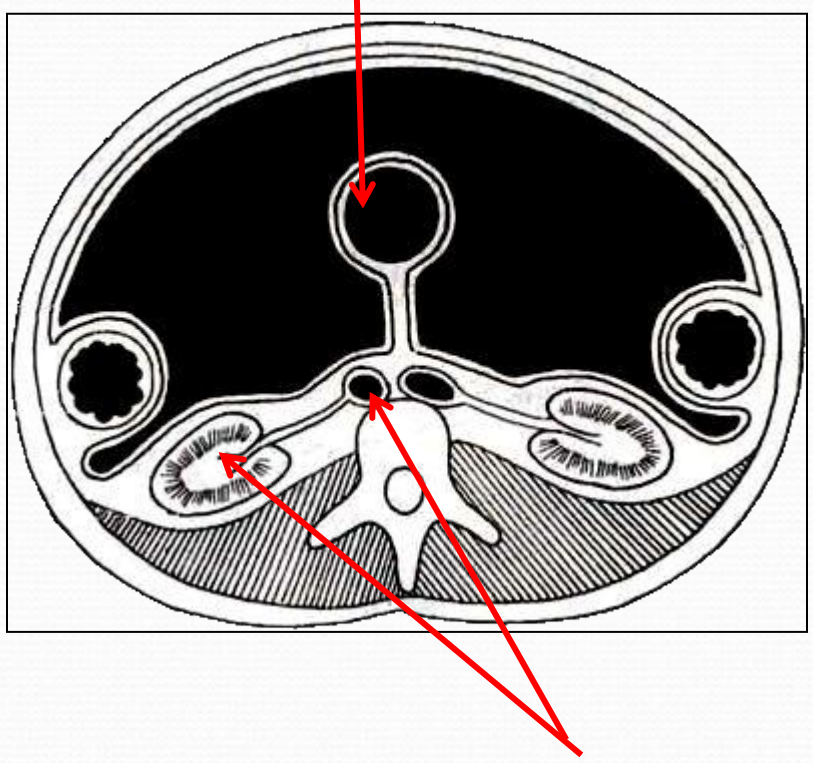
The peritoneum



- The peritoneal cavity is the largest one in the body.
- **Divisions of the peritoneal cavity :**
  - **Greater sac;** extends from diaphragm down to the pelvis.
  - **Lesser sac**; lies behind the stomach.
  - Both cavities are interconnected through the **epiploic foramen**.
  - In male : the peritoneum is a closed sac .
  - In female : the sac is not completely closed because it communicates with the exterior through the uterine tubes, uterus and vagina.

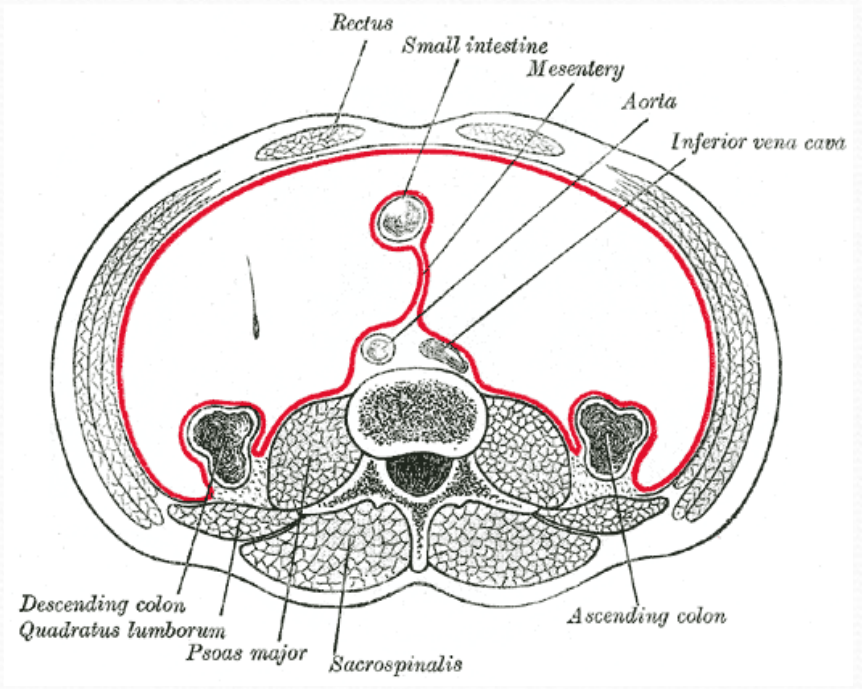
The peritoneum

- **Intraperitonial and retroperitonial; describe the relationship between various organs and their peritoneal covering;**
  - **Intraperitonial structure; which is nearly totally covered by visceral peritoneum.**
  - **Retroperitonial structure; lies behind the peritoneum, and partially covered by visceral peritoneum.**



Intraperitoneal organ :

Is surrounded by the peritoneum and has a supporting mesentery : **stomach & 1st part of duodenum, liver, gall bladder, spleen, jejunum, ileum, transverse colon, sigmoid colon, uterus, and ovaries.**



Extraperitoneal or retroperitoneal organ :

Structure that lies behind the peritoneum or

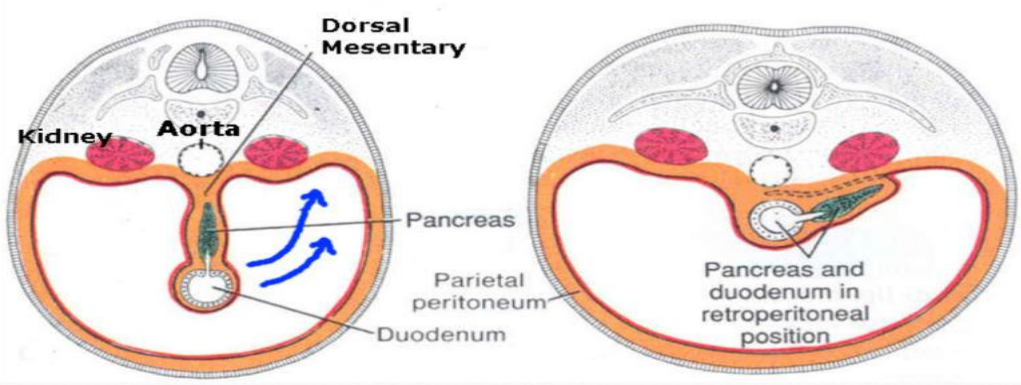
An organ, which is only partially covered by the peritoneum and has no supporting mesentery.

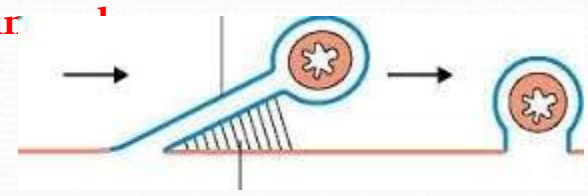
Primarily retroperitoneal organs

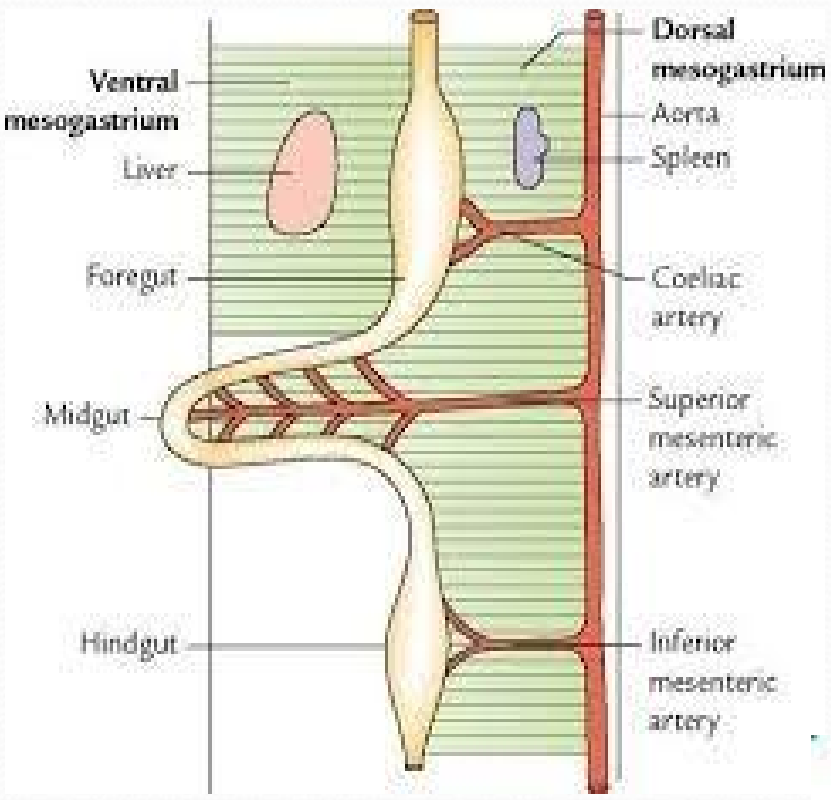
develop and remain outside the peritoneal cavity: **kidneys, suprarenal glands, aorta, inferior vena cava, urinary bladder, prostate, vagina, and rectum.**

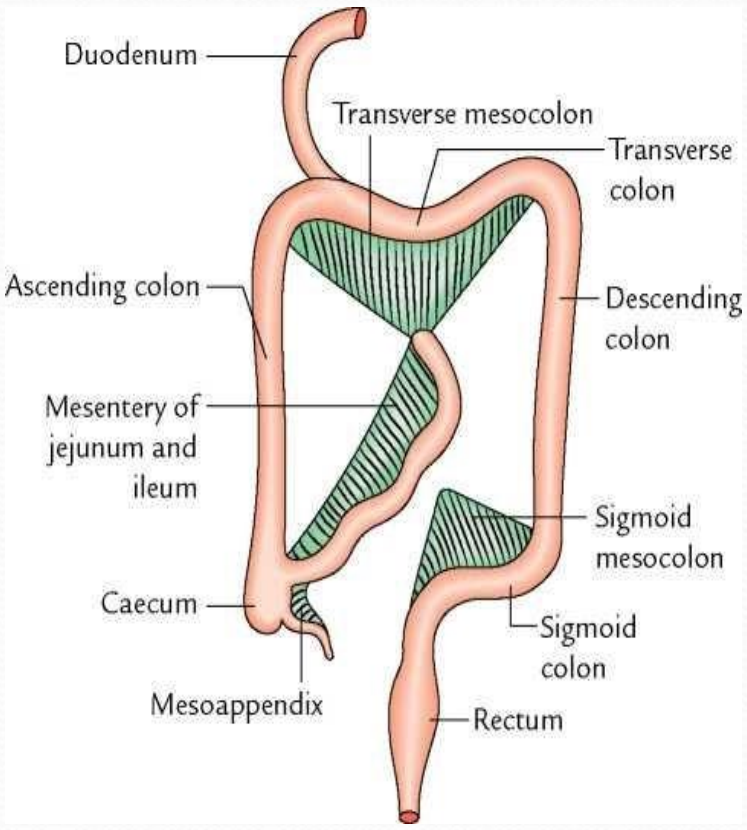
Secondarily retroperitoneal organs

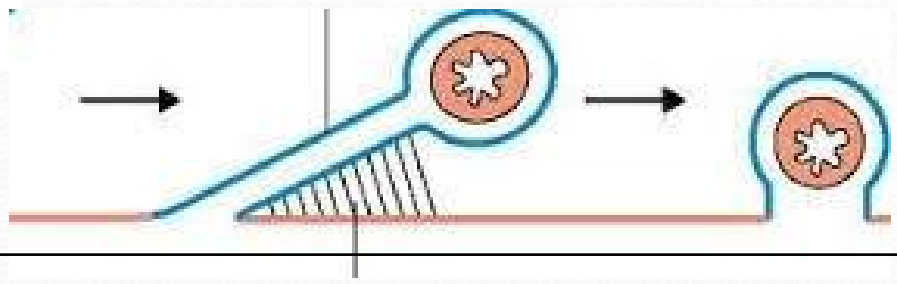
develop in mesenteries, but get pushed against the body wall (parietal peritoneum) during growth so that only half of their surface or less is covered by peritoneum : **pancreas, duodenum, ascending and descendi**





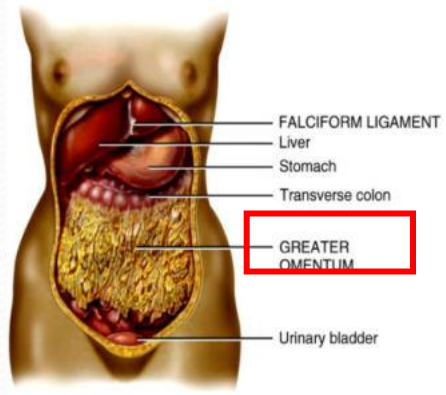




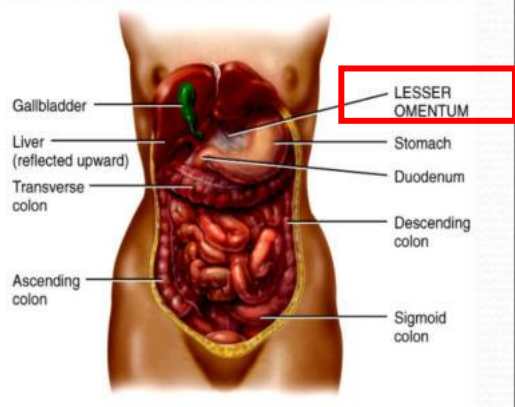


Folds of the peritoneum

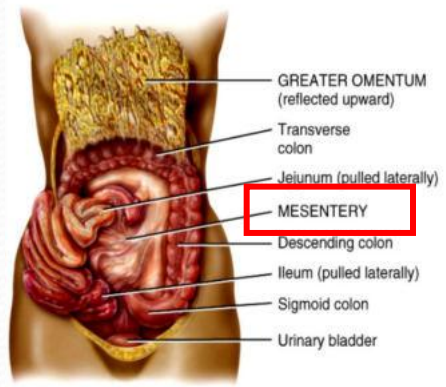
- Types of peritoneal folds :
  - Omenta.
  - Mesenteries.
  - Ligaments.



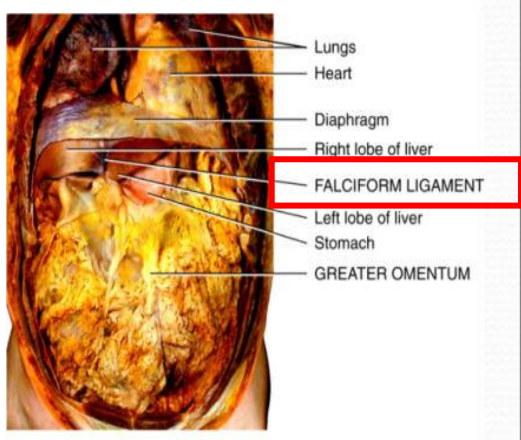
(b) Anterior view



(c) Lesser omentum, anterior view (liver and gallbladder lifted)



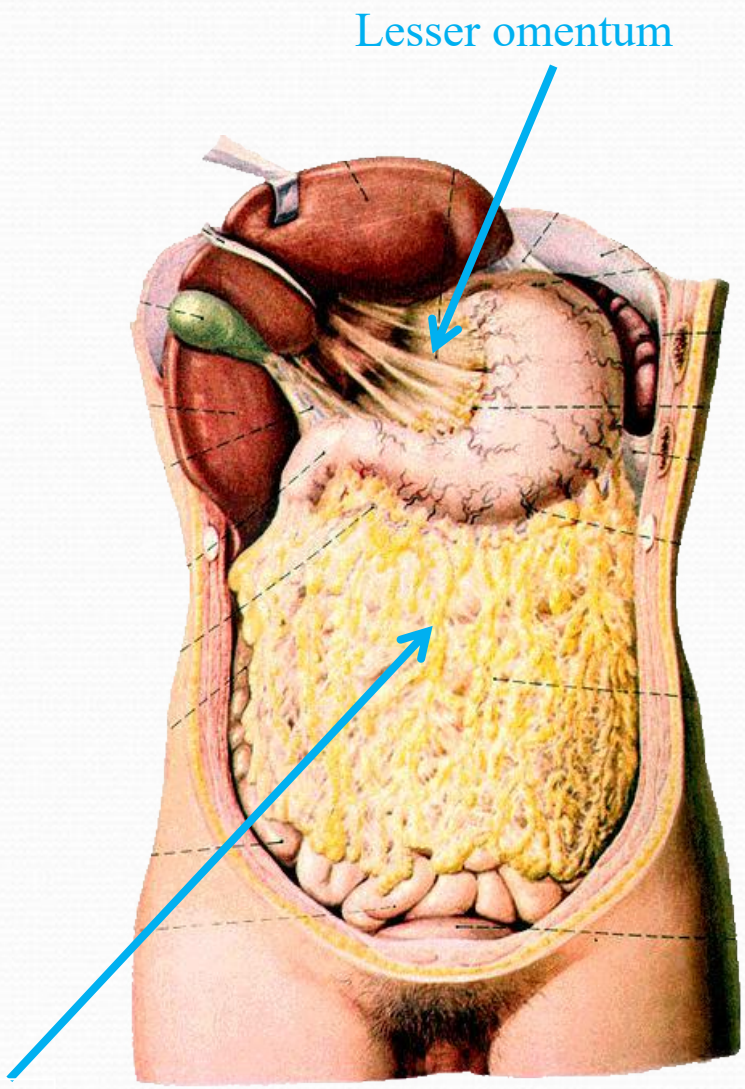
(d) Anterior view (greater omentum lifted and small intestine reflected to right side)



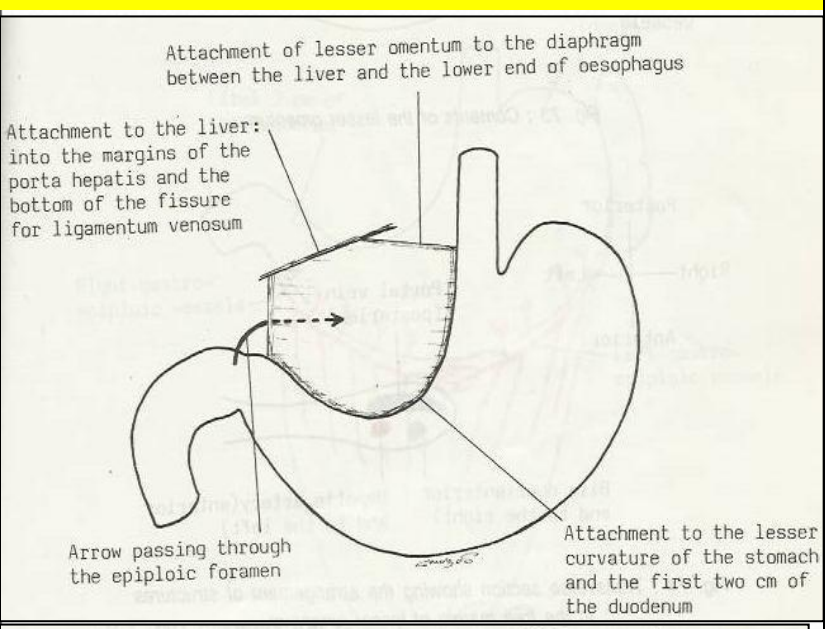
(e) Anterior view

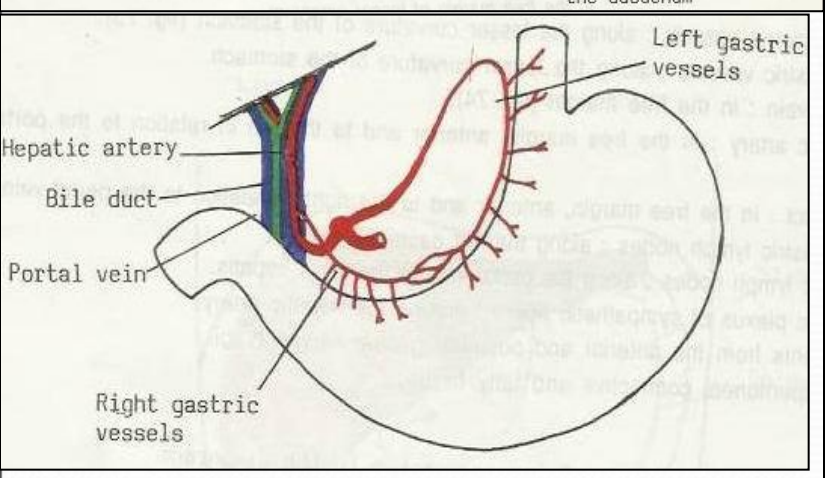
Omenta

- Two layered fold of peritoneum connecting the stomach to another viscus.
- The **lesser omentum** attaches the lesser curvature of the stomach to the liver.
- The **greater omentum** connects the greater curvature of the stomach to the transverse colon.



Lesser omentum



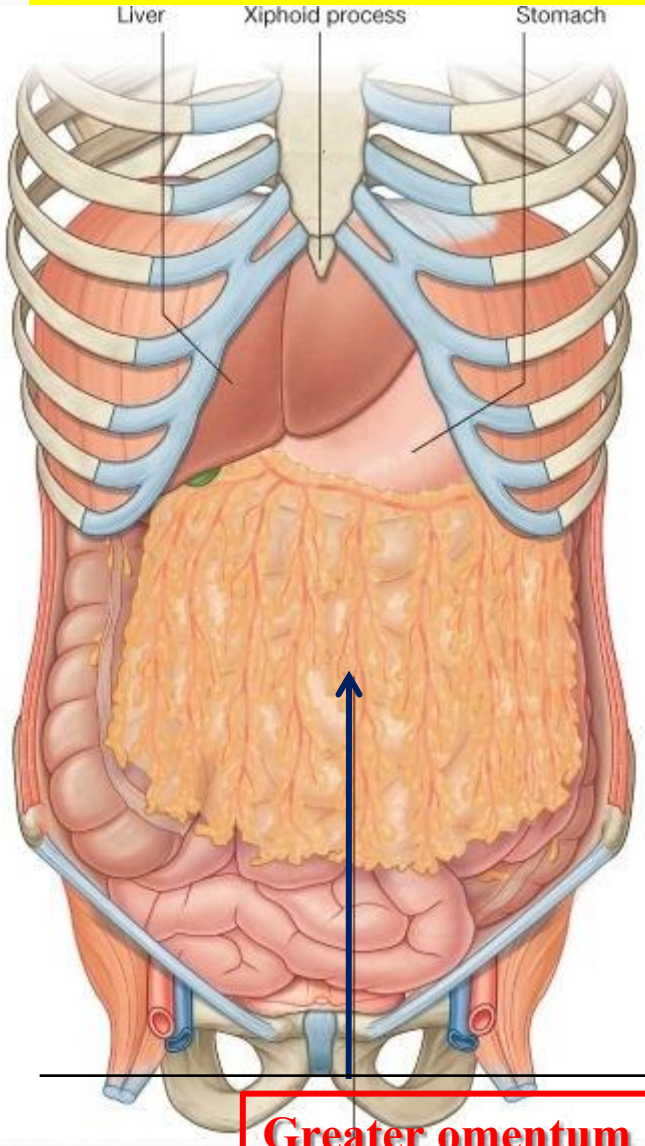


- Extends between the liver and the lesser curvature of the stomach.
- It is continuous with the two layers of peritoneum which cover the anterior & posterior surfaces of stomach and 1st part of the duodenum.
- Ascend as a double fold to the porta hepatis of liver, and fissure for ligamentum venosum.
- To the left of porta hepatis it is carried to the diaphragm.
- Its right border is a free margin; constitutes the anterior boundary of the epiploic foramen.

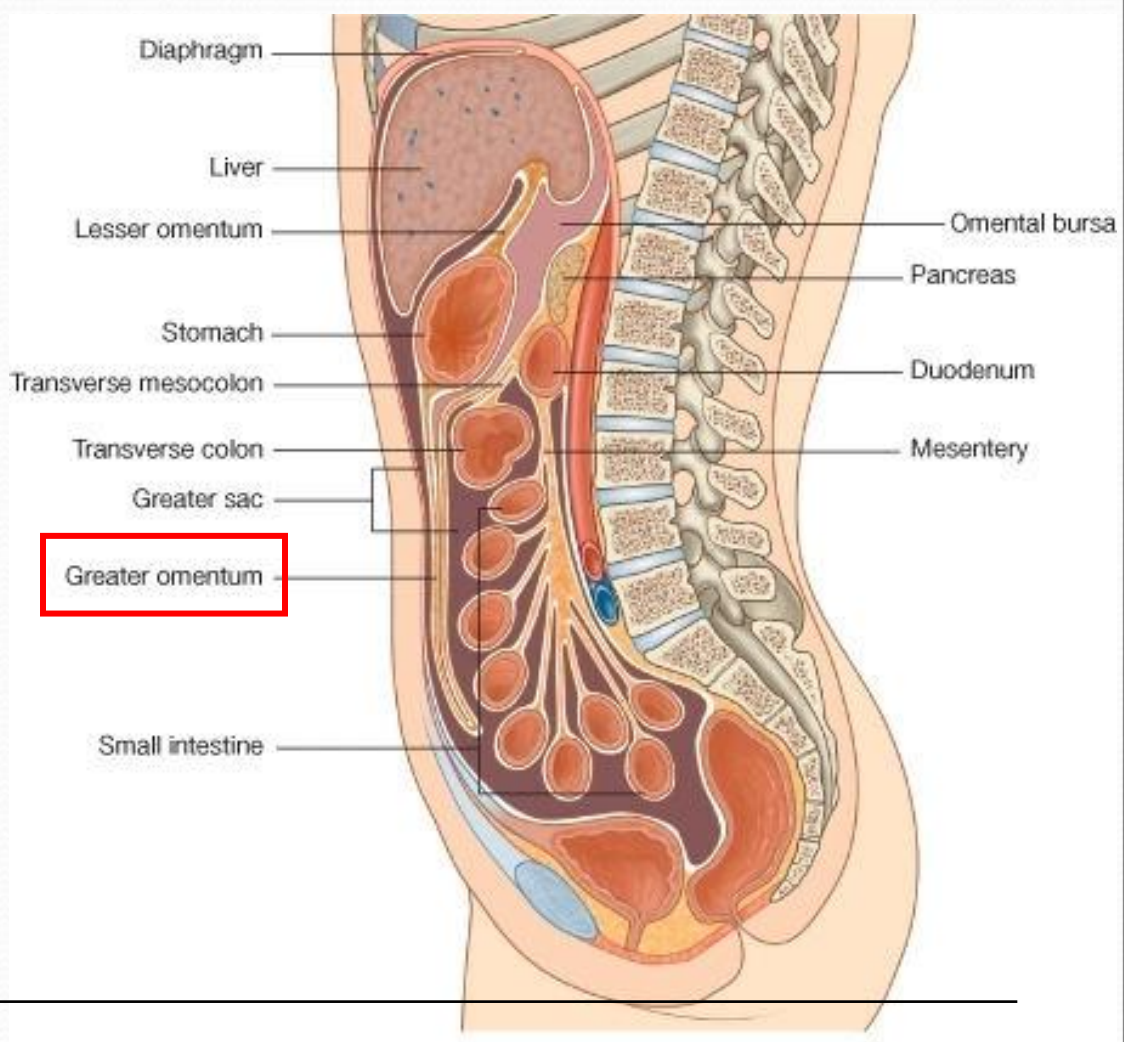
Contents between the two layers of the lesser omentum :

- Close to the right free margin, are the hepatic artery, the common bile duct, the portal vein, lymphatics, and the hepatic plexus of nerves.
- At the attachement to the stomach, run the right and left gastric vessels.

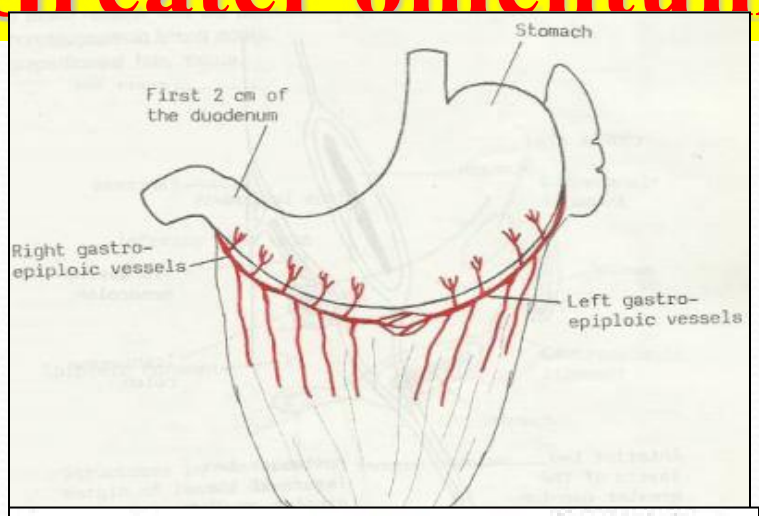
Greater omentum

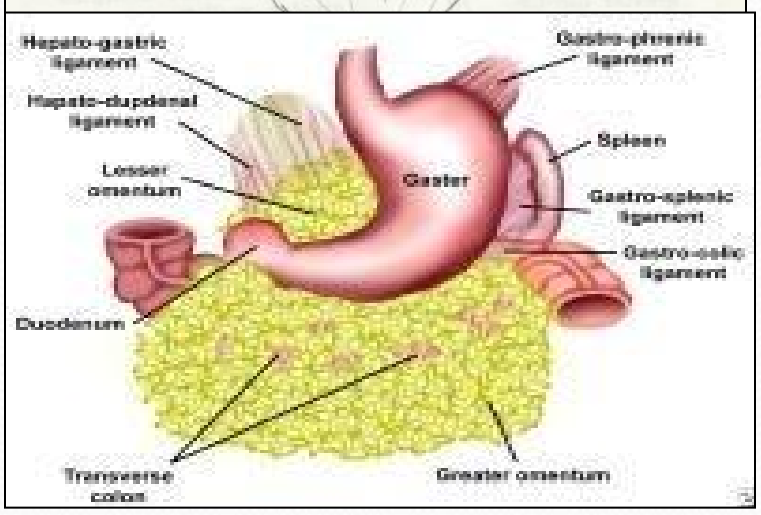


Greater omentum



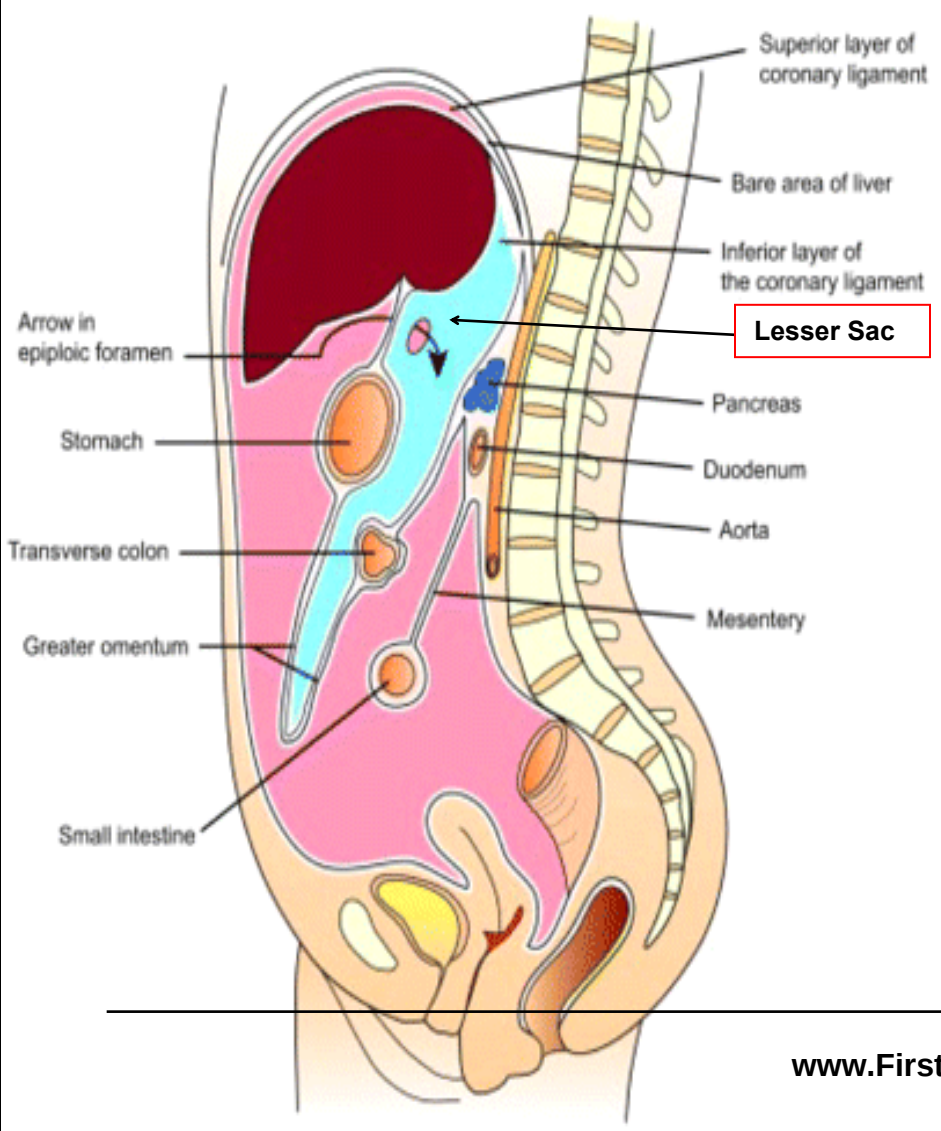
Greater omentum





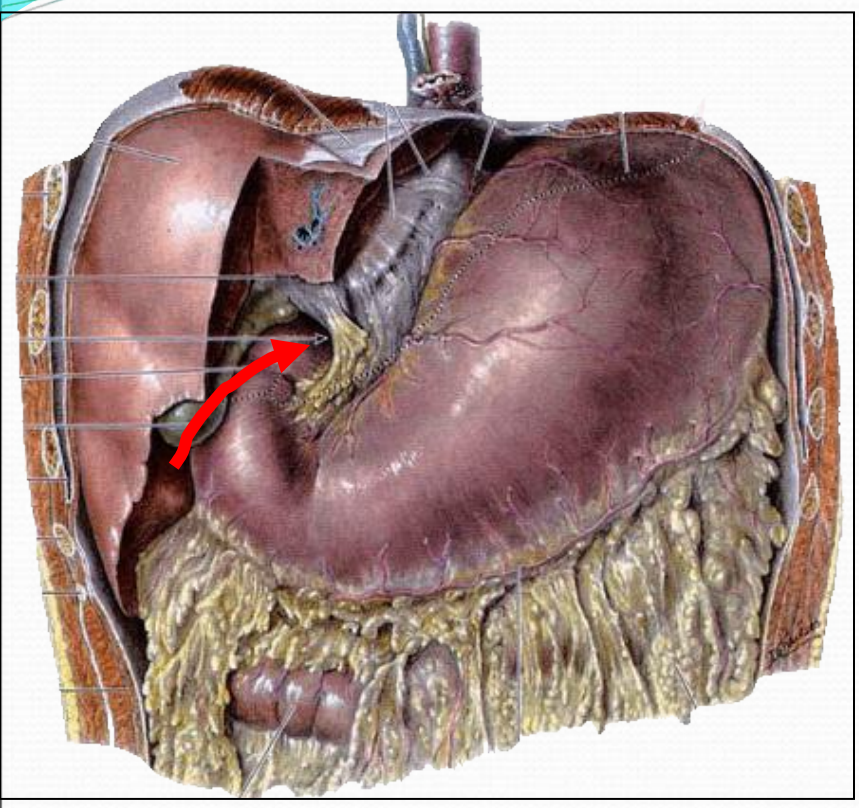
- The largest peritoneal fold, with cribriform appearance, contains some adipose tissue.
- It consists of a <u>double sheet</u> of peritoneum, <u>folded on itself</u> so that it is made up of <u>four layers</u> (anterior 2 layers + posterior 2 layers).
- The two layers which descend from the greater curve of the **stomach** and commencement of the duodenum, pass downward in front of the small intestines, then turn upon themselves, and ascend to the **transverse colon,** where they separate and enclose it.
- The **left** border of the greater omentum is continuous with the **gastrosplenic ligament.**
- Its **right** border extends as far as the commencement of the duodenum.
- **Contents** : the anastomosis between the **right and left gastroepiploic vessels.**

Omental bursa, (Lesser Sac)



- **It is a part of the peritonial cavity <u>behind the stomach.</u>**
- **Boundaries of the *omental bursa* ;**
  - **<u>Anterior wall,</u> from above downward, by the caudate lobe of the liver, the lesser omentum, back of the stomach, and the anterior two layers of the greater omentum.**
  - **<u>Posterior wall,</u> from below upward, by the posterior two layers of the greater omentum, the transverse colon, and the ascending layer of the transverse mesocolon, the upper surface of the pancreas, the left suprarenal gland, and the upper end of the left kidney.**

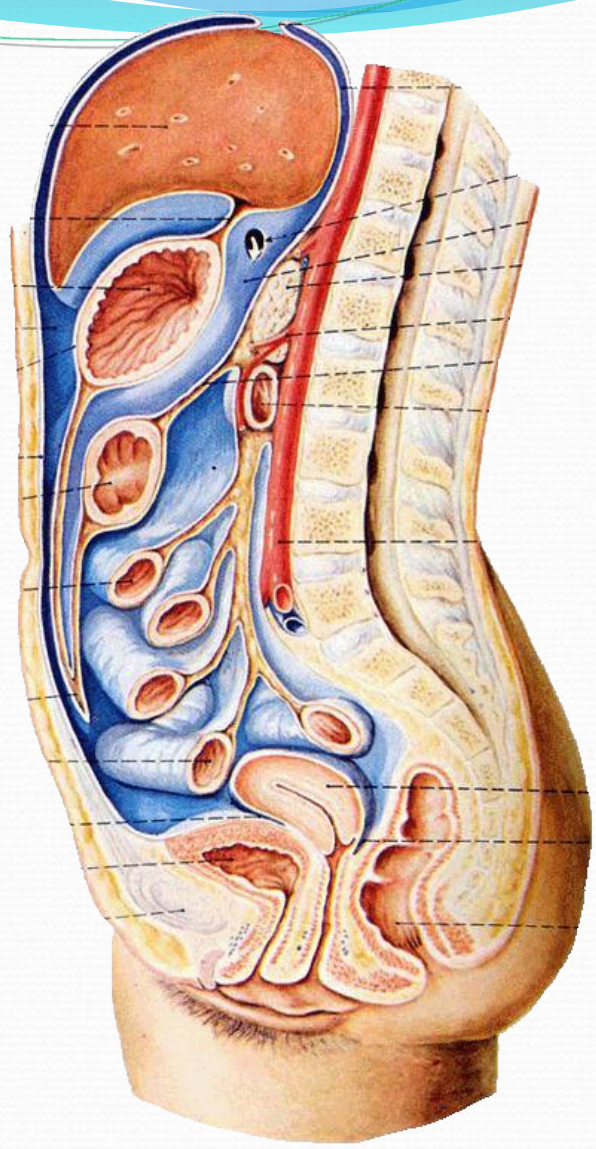
Epiploic foramen



- It is the communication between the greater and lesser sacs .
- It is *bounded by*;
- In front by the free border of the lesser omentum, with its contents : hepatic artery, common bile duct, and portal vein between its two layers.
- Behind by the peritoneum covering the inferior vena cava.
- Above (roof) by the peritoneum on the caudate process of the liver.
- Below (floor) by the peritoneum covering the commencement of the duodenum and the hepatic artery, before ascending between the two layers of the lesser omentum.

Mesenteries or **mesocolons**

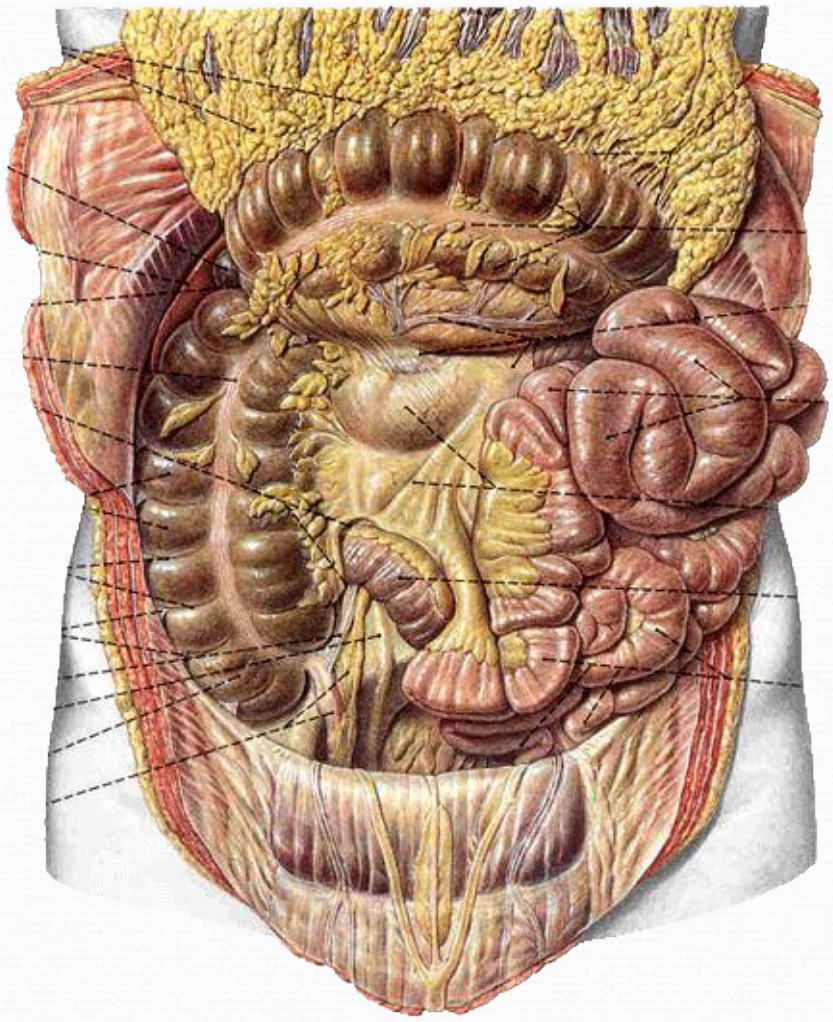
—two-layered fold of peritoneum that attach part of the intestines to the posterior abdominal wall

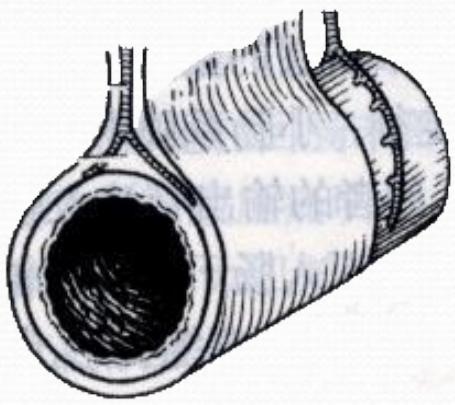


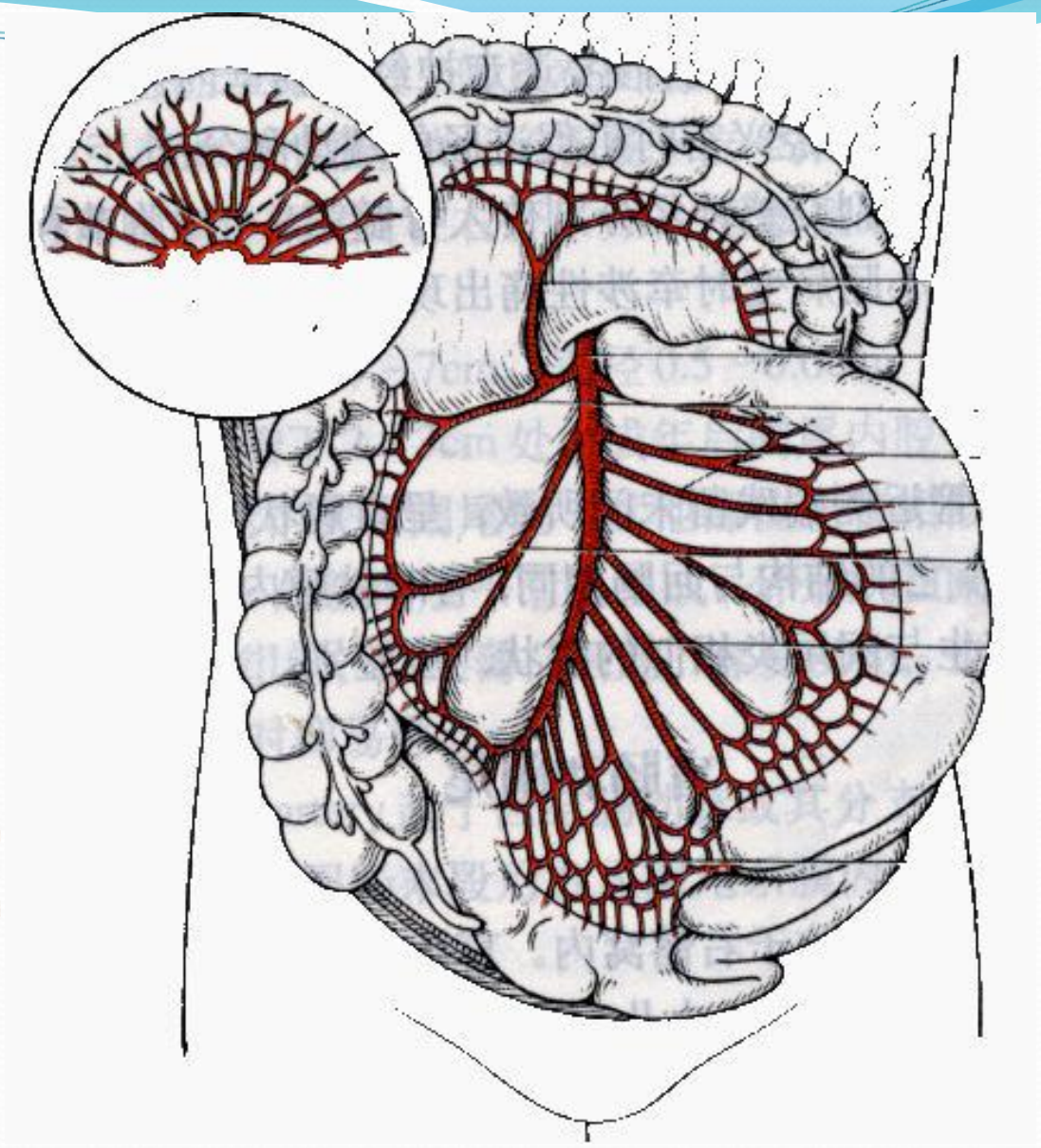
Mesentery

—suspends the small intestine from the posterior abdominal wall

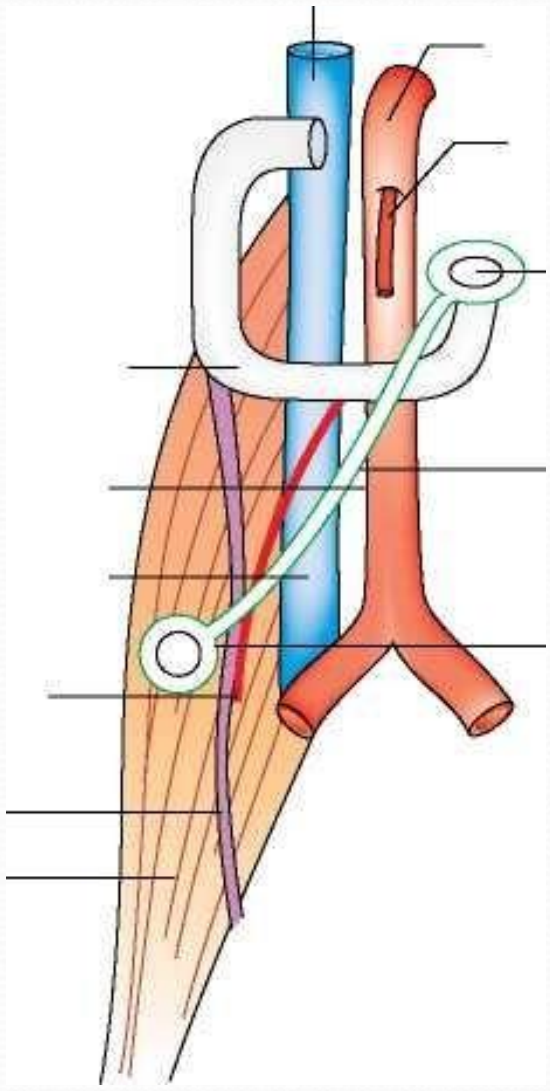
- Broad and a fan-shaped
- Consists of two peritoneal layers
- Intestinal border—folded, 7 m long
- Radix of mesentery
  - 15 cm long
  - Directed obliquely from left side of L2 to in front of right sacroiliac joint

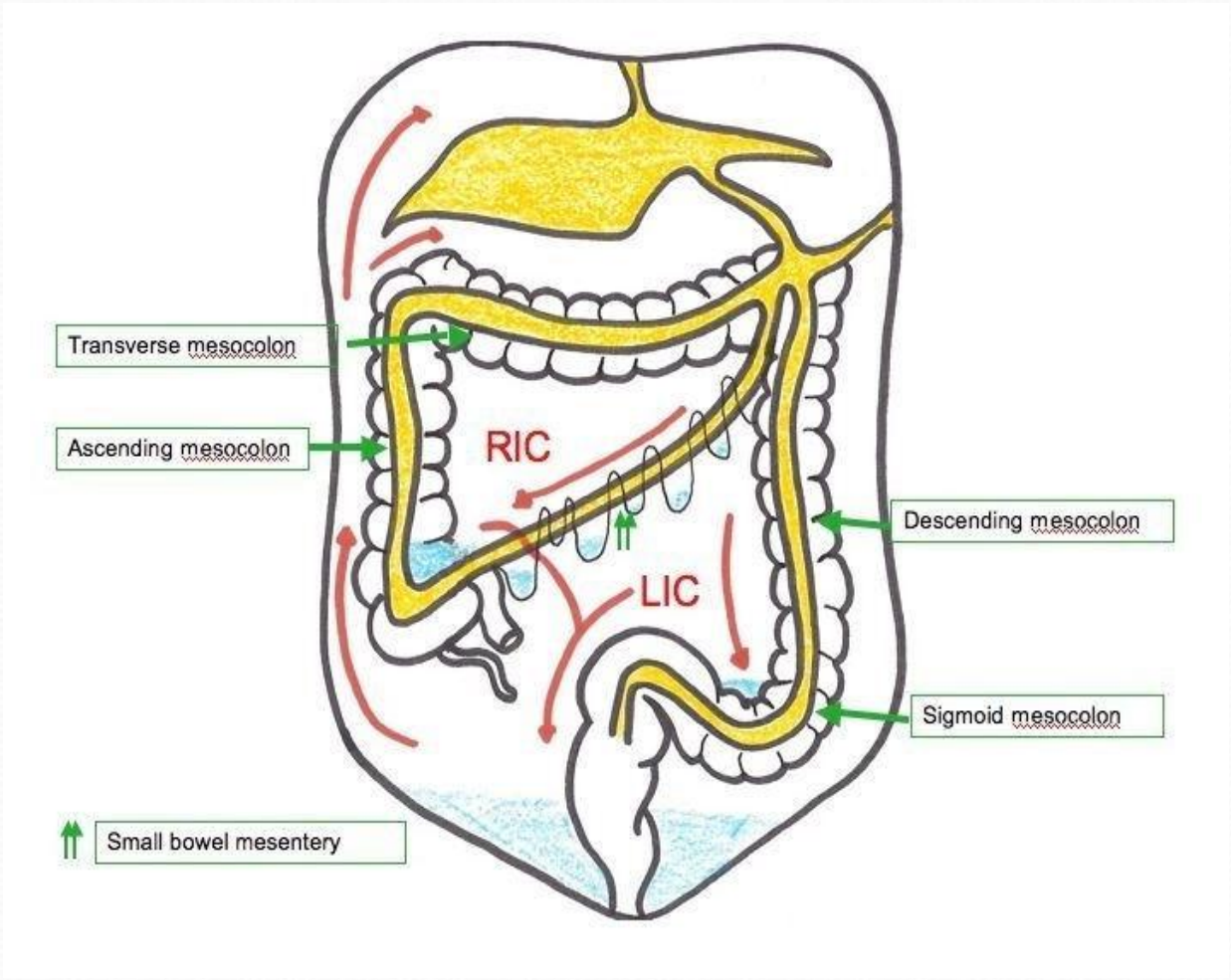






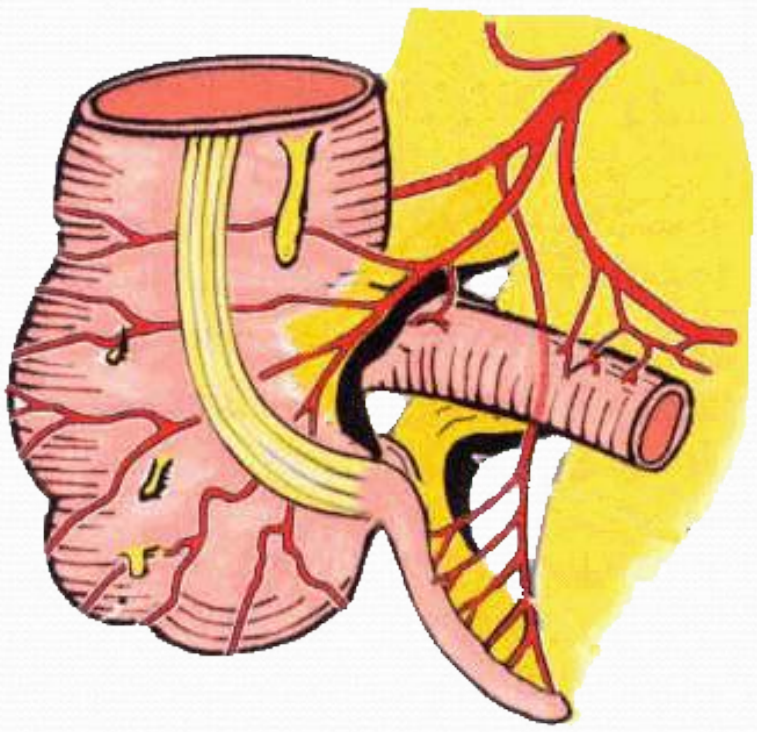
Structure crossed by the root of mesentry





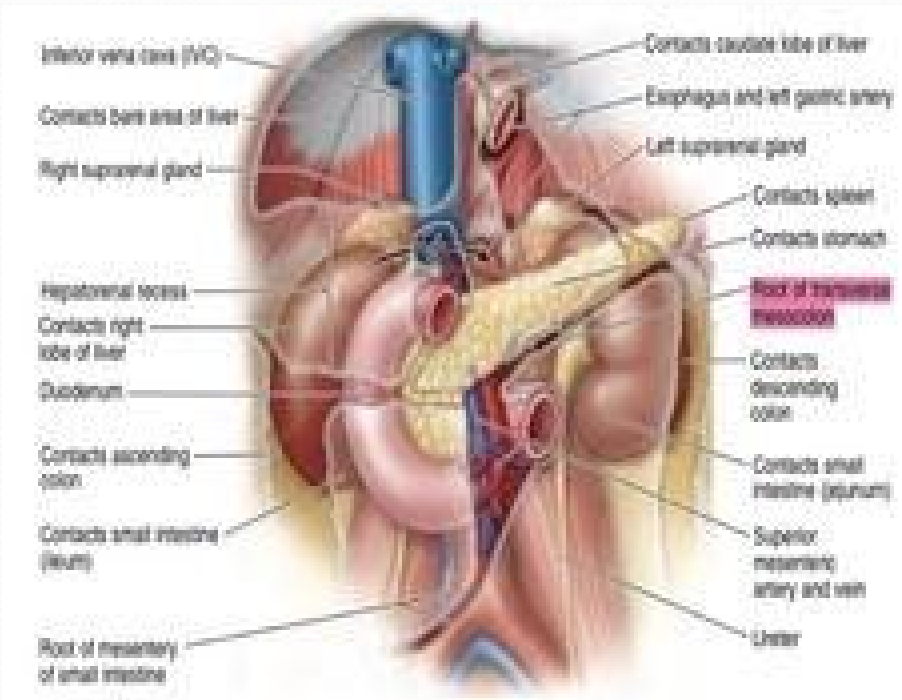
Mesoappendix

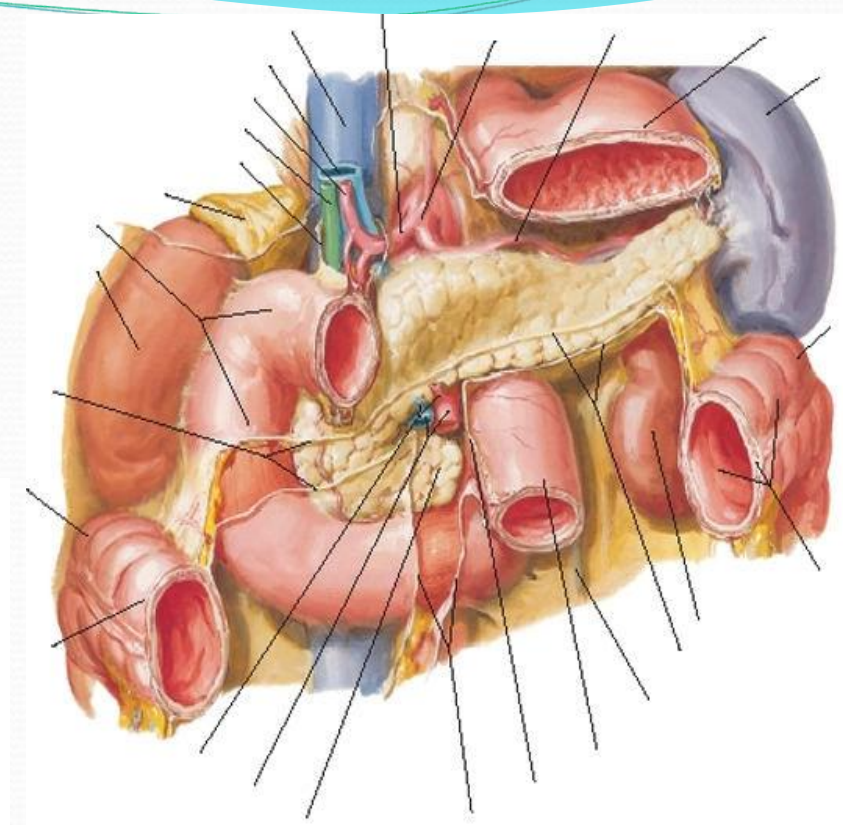
- Triangular mesentery—extends from terminal part of ileum to appendix
- Appendicular artery runs in free margin of the mesoappendix

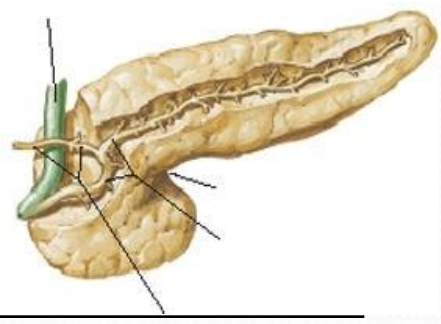


Transverse mesocolon

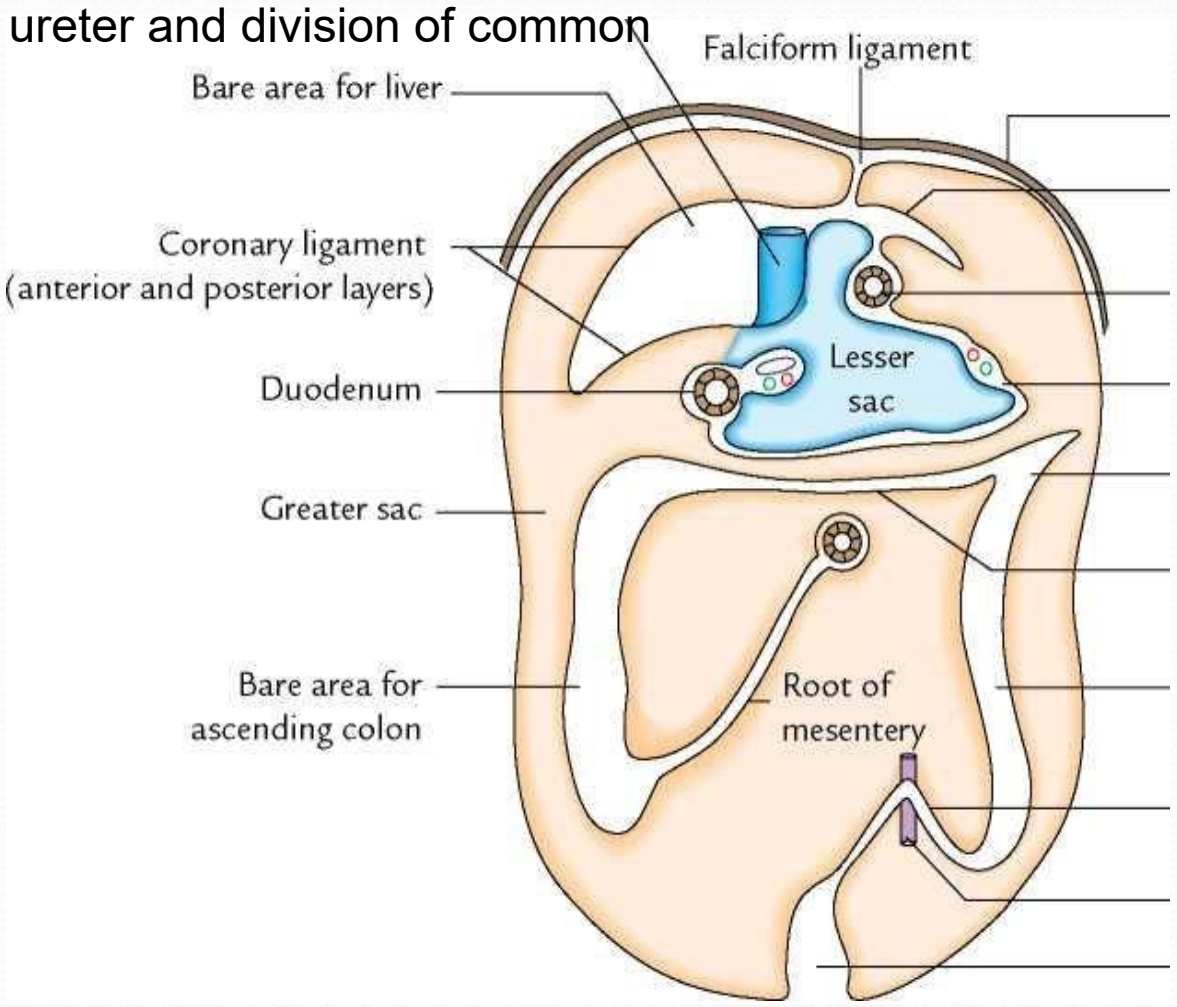
—a double fold of peritoneum which connects the transverse colon to the posterior abdominal wall







Sigmoid mesocolon — a trianguar fold of peritoneum.
inverted V-shaped, with apex located in front of left ureter and division of common iliac artery

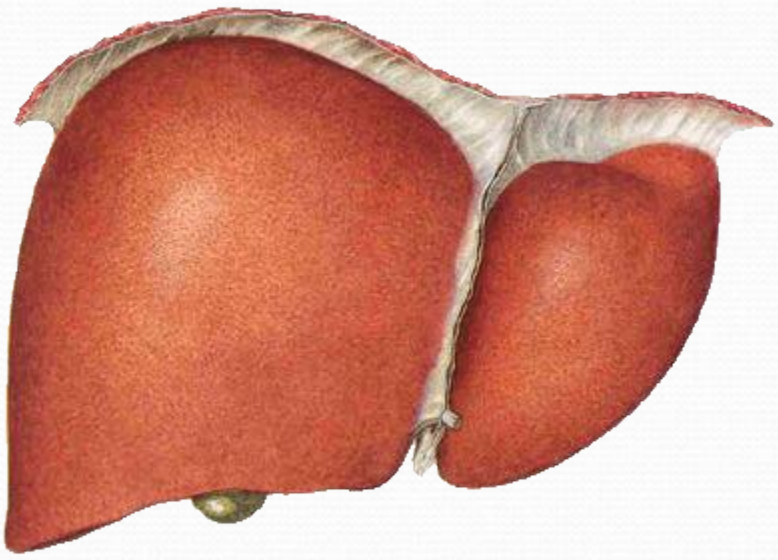


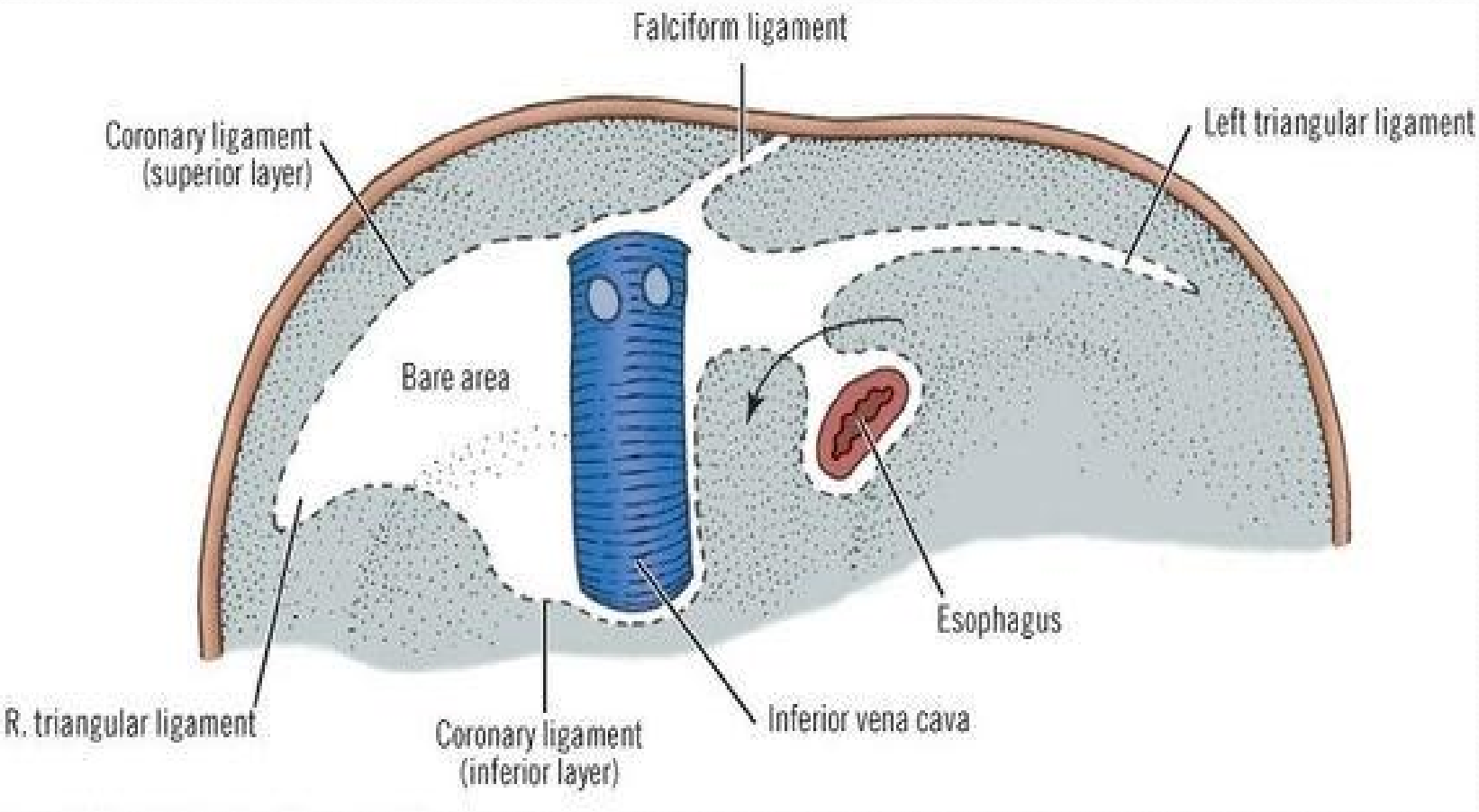
Ligaments

—two-layered folds of peritoneum that attached the lesser mobile solid visera to the abdominal wall

Ligaments of liver

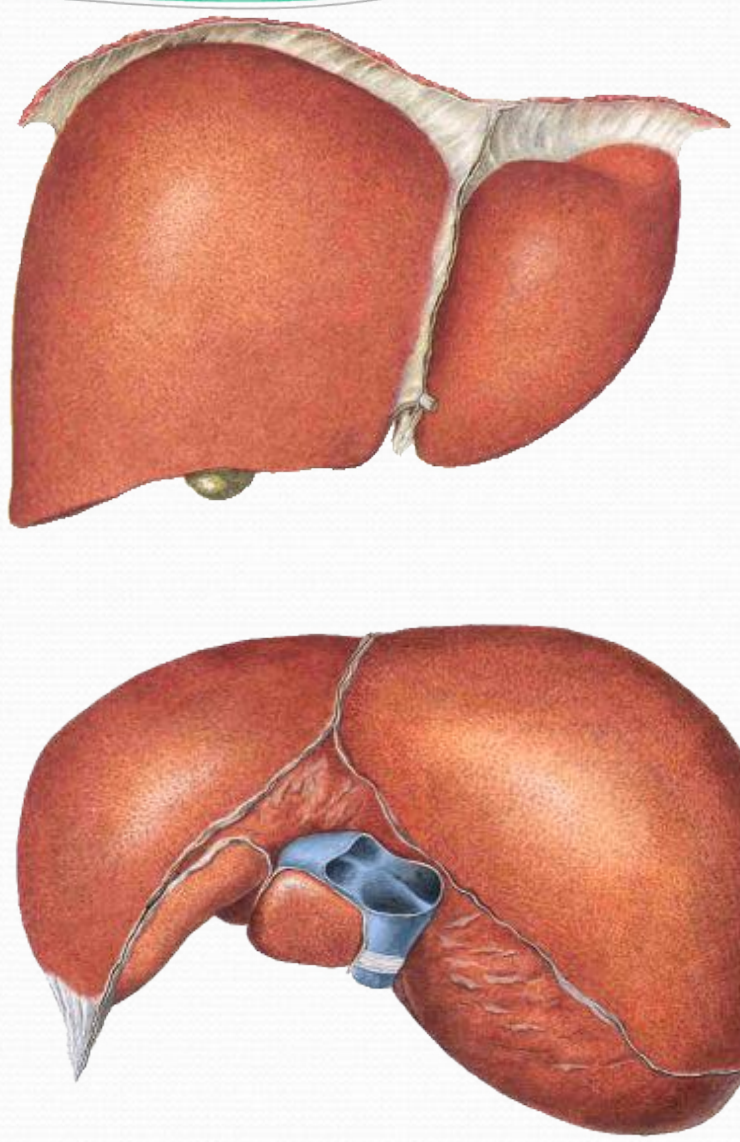
- **Falciform ligament of liver**
  - Consists of double peritoneal layer
  - Extends from anterior abdominal wall (umbilicus) to liver
  - Free border of ligament site of ligamentum teres



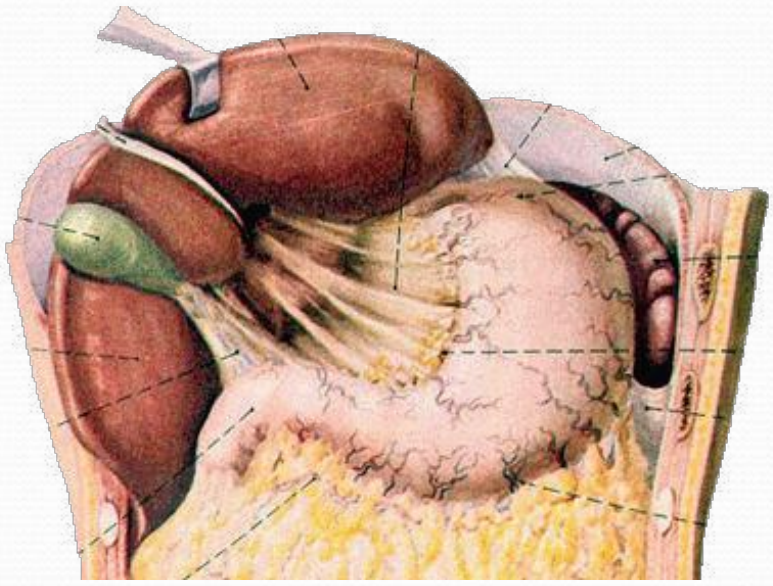


- **Coronary ligament**
  —the area between upper & lower parts of the coronary ligament is the bare area of liver, this area is devoid of peritoneum and lies in contact with the diaphragm
- **Left and right triangular ligament**

—formed by right extremity of coronary ligament and left leaf of falciform ligament, respectively

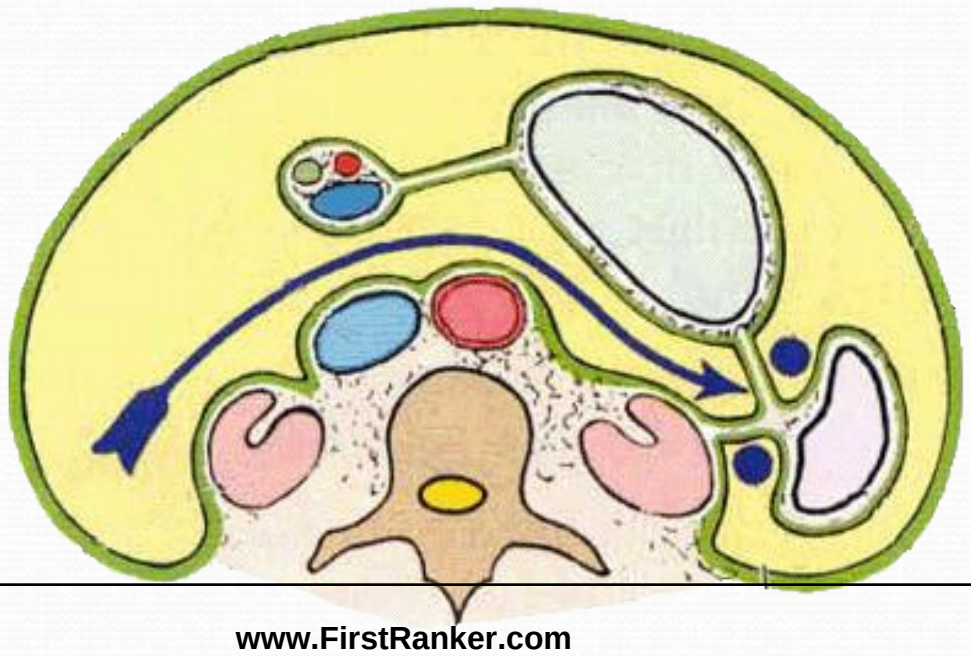


- Hepatogastric ligament
- Hepatoduodenal ligament
- Ligamentum teres hepatis



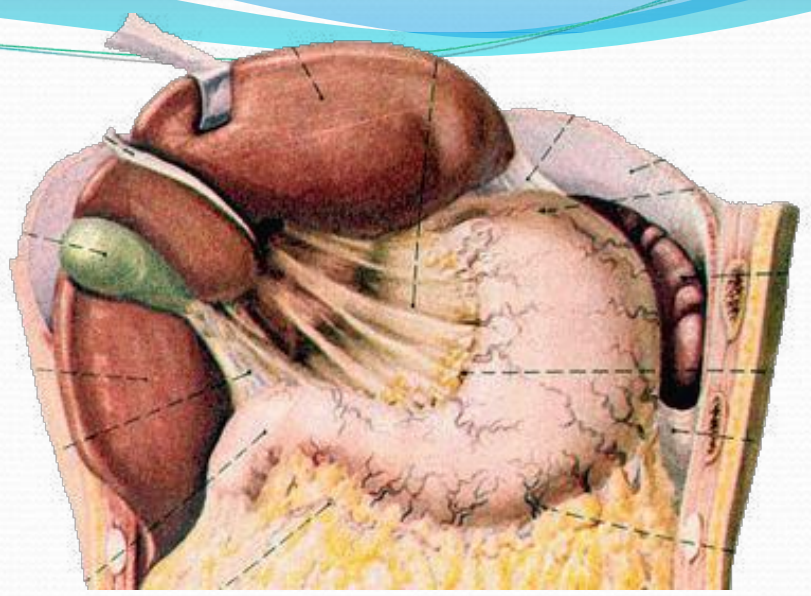
Ligaments of spleen

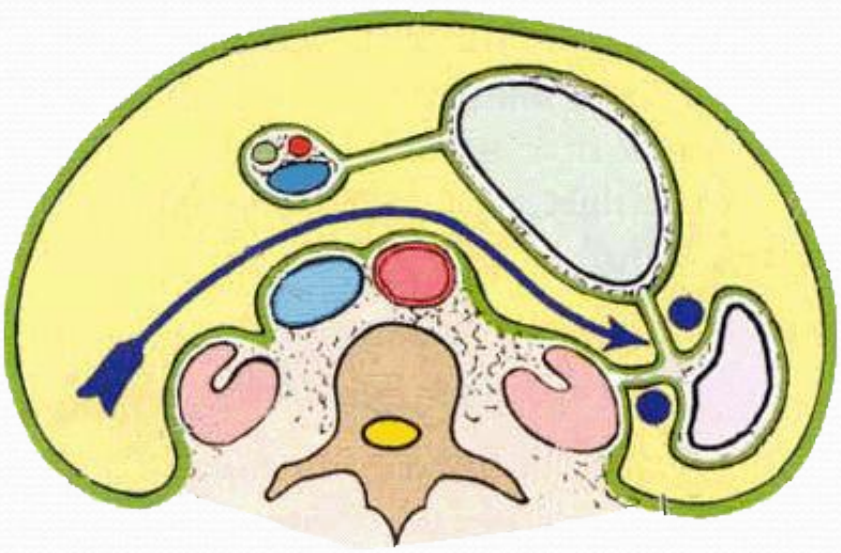
- **Gastrosplenic ligament** —a double layer of peritoneum that connects the fundus of stomach to hilum of spleen. In this double layer of peritoneum are the short gastric and left gastroepiploic vessels
- **Splenorenal ligament** —extends between the hilum of spleen and anterior aspect of left kidney. The splenic vessels lies within this ligament, as well as the tail of pancreas
- **Phrenicosplenic ligament**
- **Splenocolic ligament**

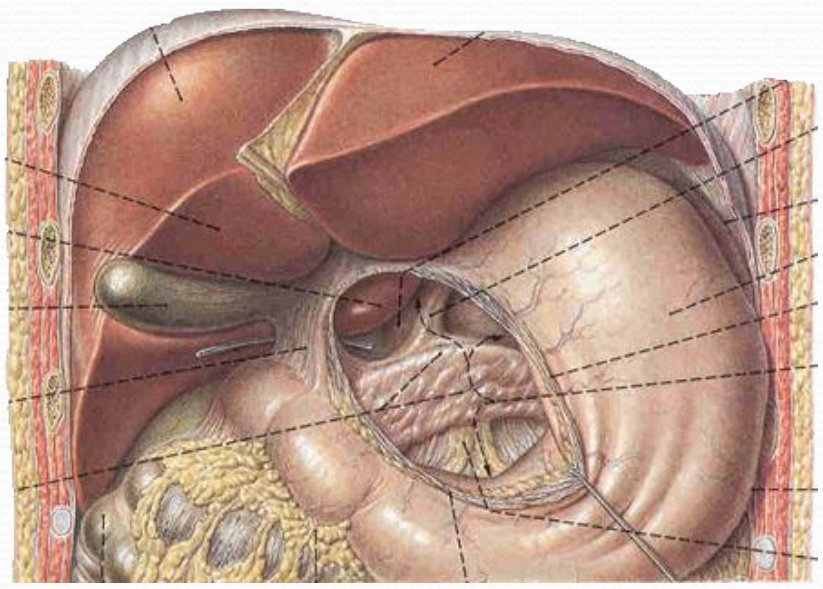


Ligaments of stomach

- Hepatogastric ligament
- Gastrosplenic ligament
- Gastrophrenic ligament
- Gastrocolic ligament

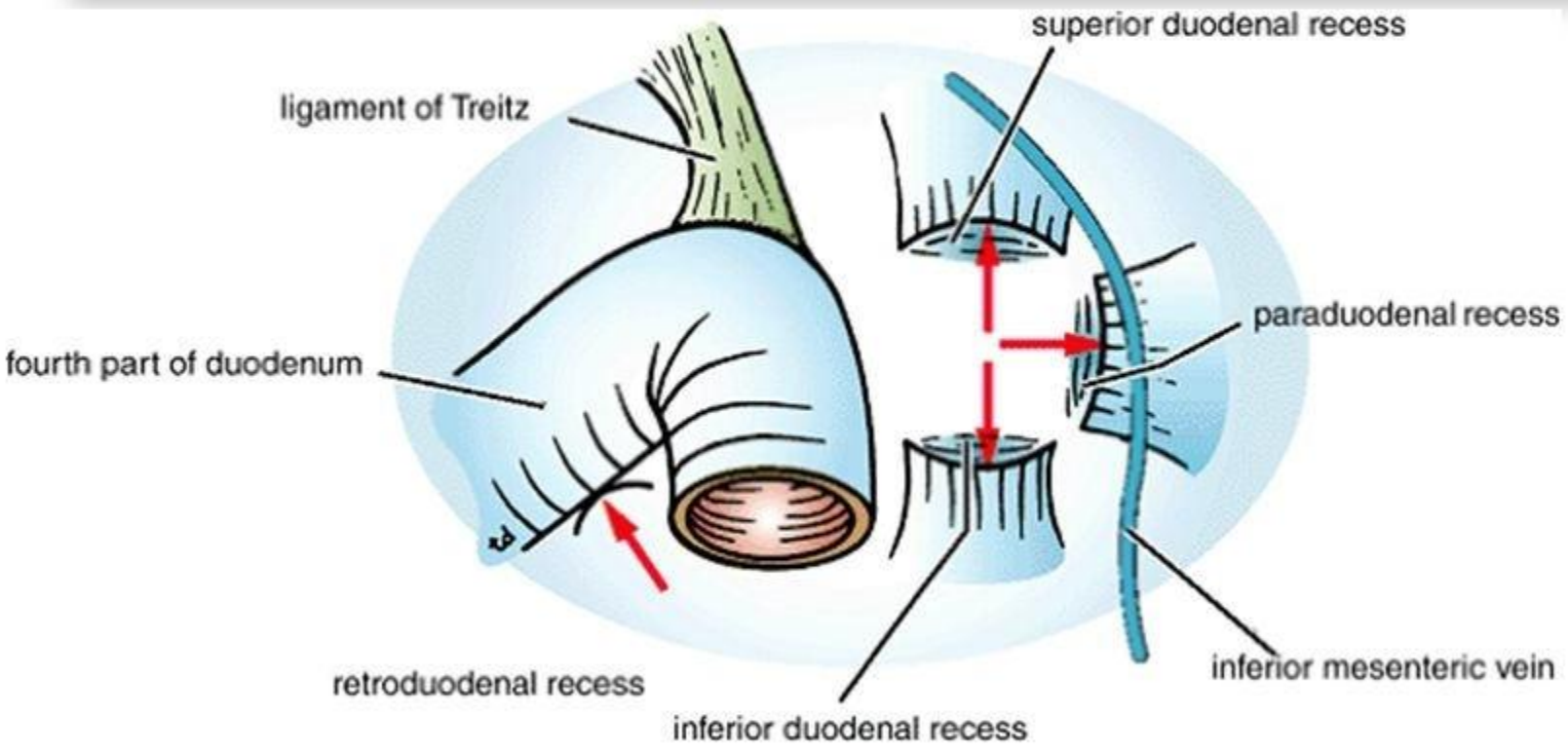






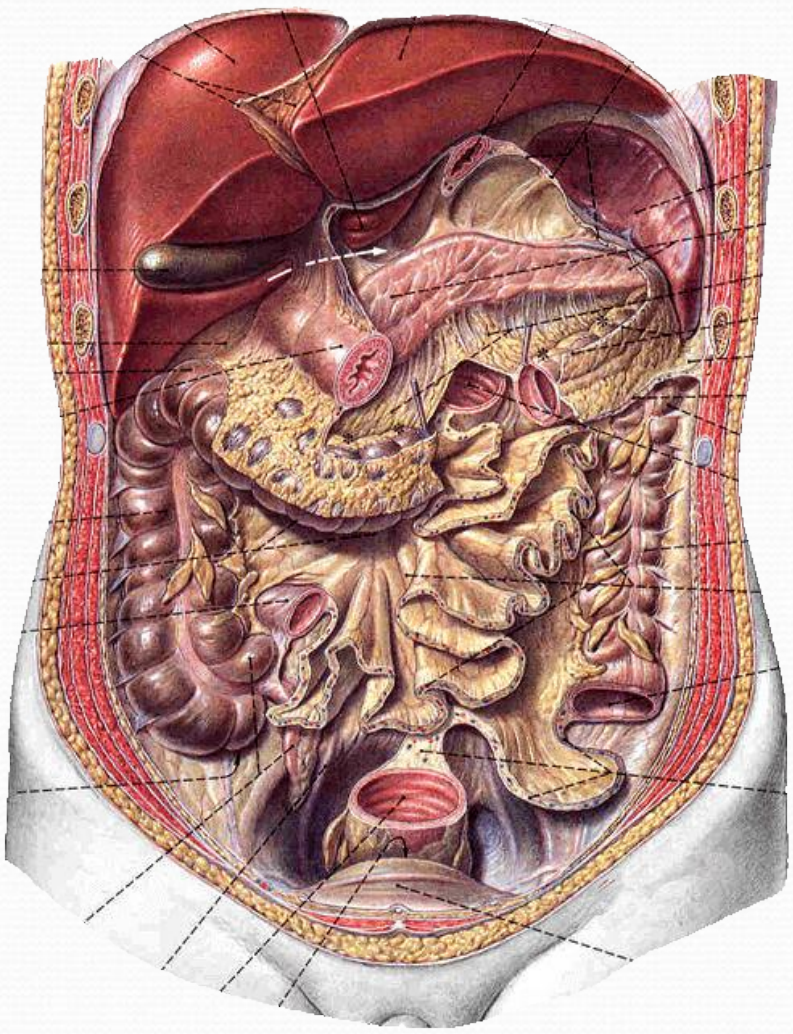
Duodenal Recesses

Close to the duodenojejunal junction, there may be four small pocketlike pouches of peritoneum called the **superior duodenal, inferior duodenal, paraduodenal**, & **retroduodenal recesses**.



Peritoneal recesses, which may be present in the region of the duodenojejunal junction. Note the presence of the inferior mesenteric vein in the peritoneal fold, forming the paraduodenal recess.

- **Retrocecal recess**
  —in which the appendix frequenty lies
- **Hepatorenal recess**
  —lies between the right lobe of liver, right kidney, and right colic flexure, and is the lowest parts of the peritoneal cavity when the subject is supine



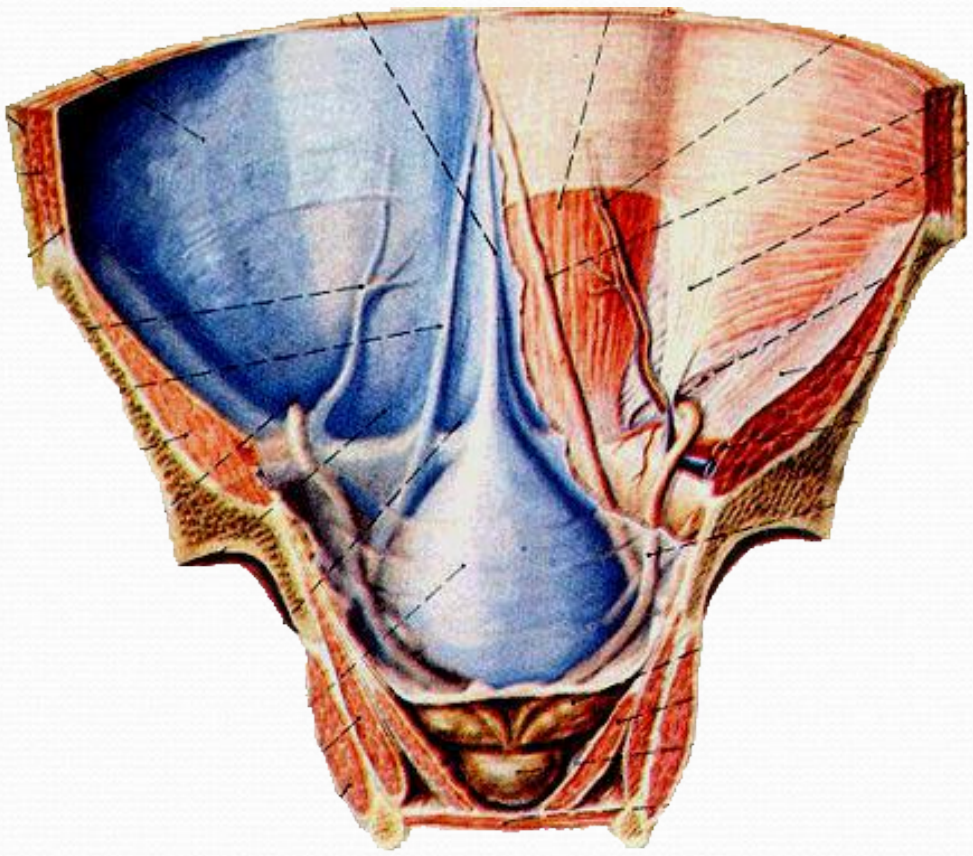
Folds and fossas of anterior abdominal wall

- **Median umbilical fold**
- —contain the remnant of urachus (median umbilical ligaments)
- **Medial umbilical fold**

—contains remnants of the umbilical arteries (medial umbilical ligaments)

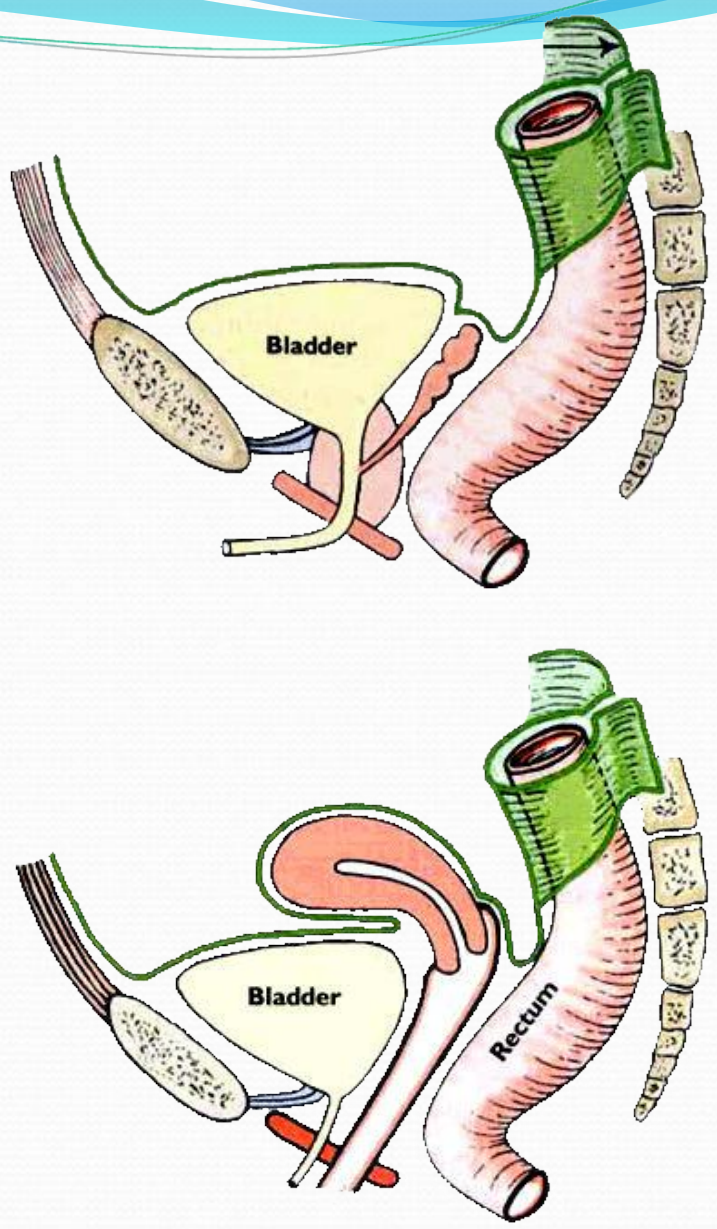
- **Lateral umbilical fold**

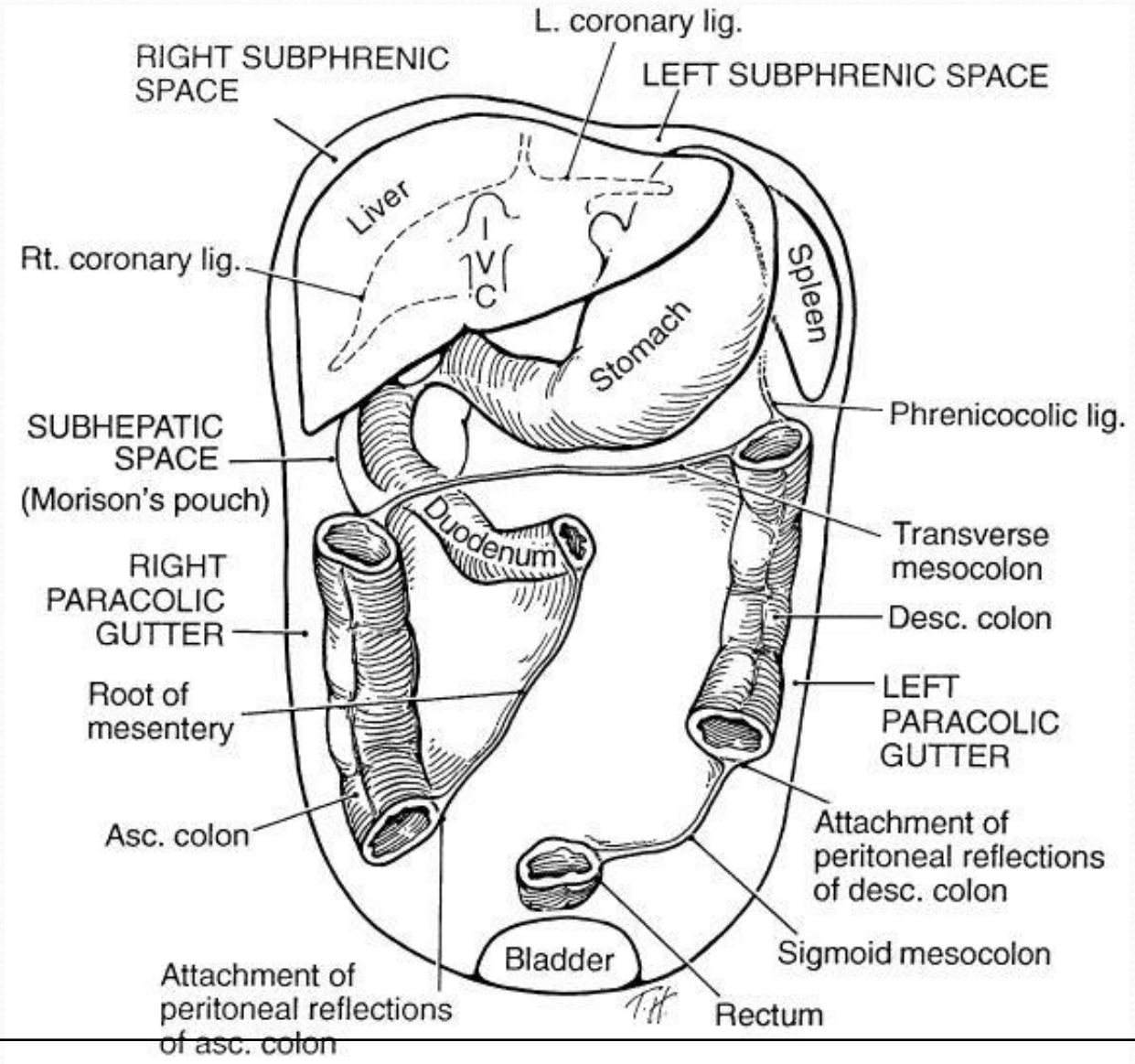
—contains the inferior epigastric vessels



Pouches

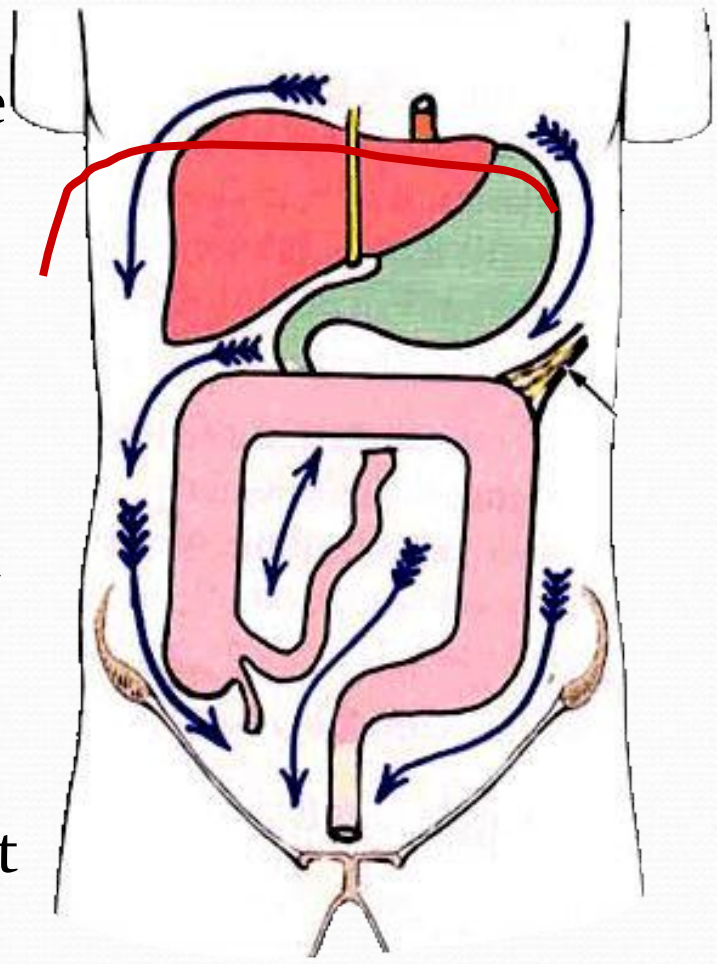
- In male—**rectovesical pouch**
- In female
  - **Rectouterine pouch**—between rectum and uterus
  - **Vesicouterine pouch**—between bladder and uterus





Peritoneal subdivisions

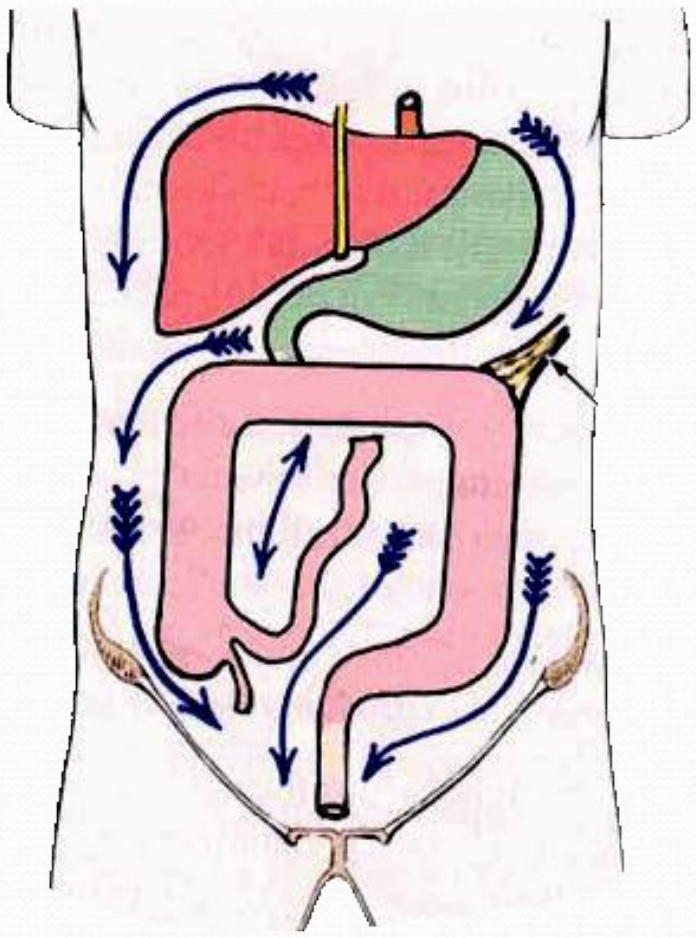
The transverse colon and transverse mesocolon divides the greater sac into supracolic and infracolic compartments.



Supracolic compartments (subphrenic space)—lies between diaphragm and transverse colon and transverse mesocolon

Suprahepatic recess lies between the diaphragm and liver —the falciform ligament divides it into right and left suprahepatic recesses

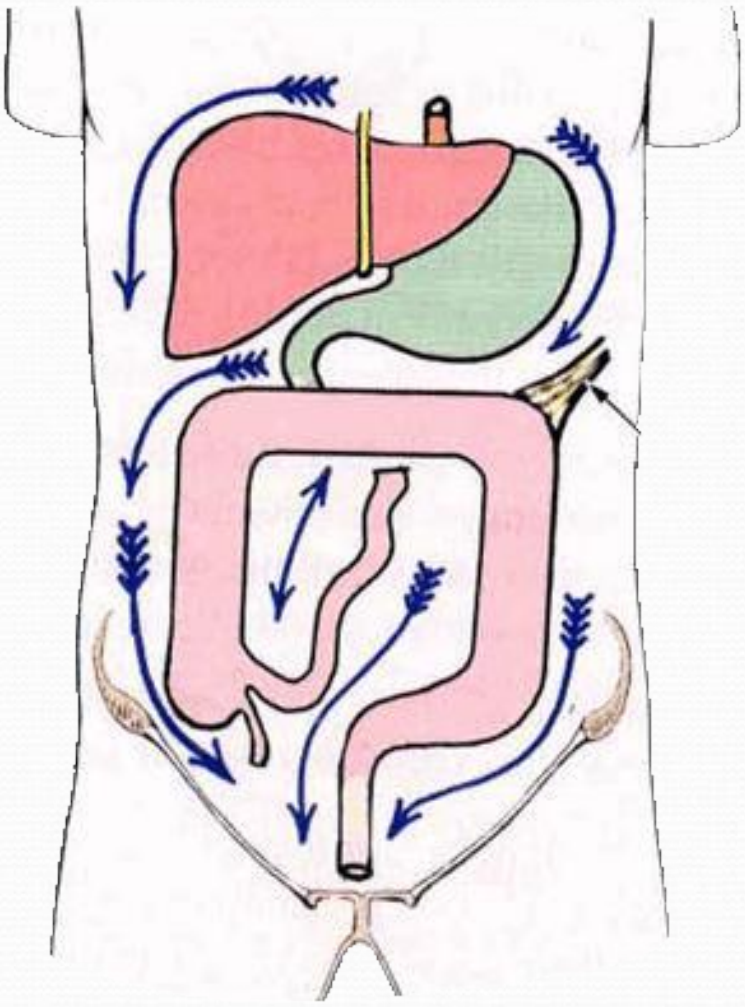
- **Left suprahepatic recesses**
  - left anterior suprahepatic spaces
  - left posterior suprahepatic spaces
- **Right suprahepatic recesses**
  - right anterior suprahepatic spaces
  - right posterior suprahepatic spaces
  - bare area of live (extraperitoneal space)



Infrahepatic recess

lies between the liver and transverse colon & transverse mesocolon—the ligamentum teres hepatic divides it into right and left infrahepatic recesses

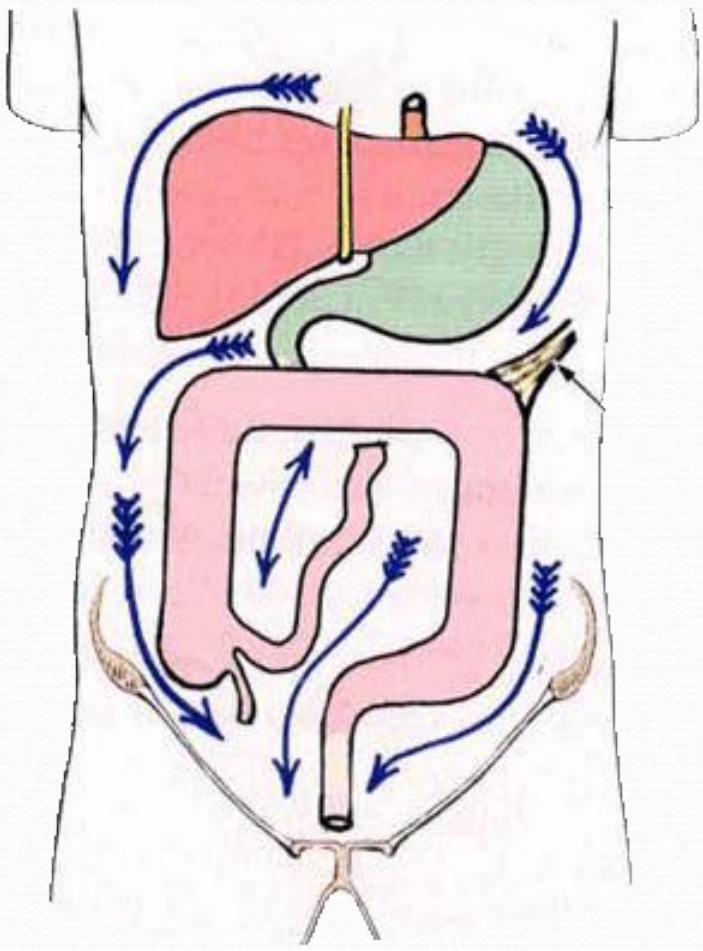
- **Right infrahepatic recesses**
- (**hepatorenal recess**)
- **Left infrahepatic recesses**
  - left anterior infrahepatic space
  - left posterior infrahepatic space



Infracolic compartments

—lies below the transverse colon and transverse mesocolon

- **Right paracolic sulcus** (gutter) —lies lateral to the ascending colon. It communicates with the hepatorenal recess and the pelvic cavity. It provides a route for the spread of infection between the pelvic & the upper abdominal region.

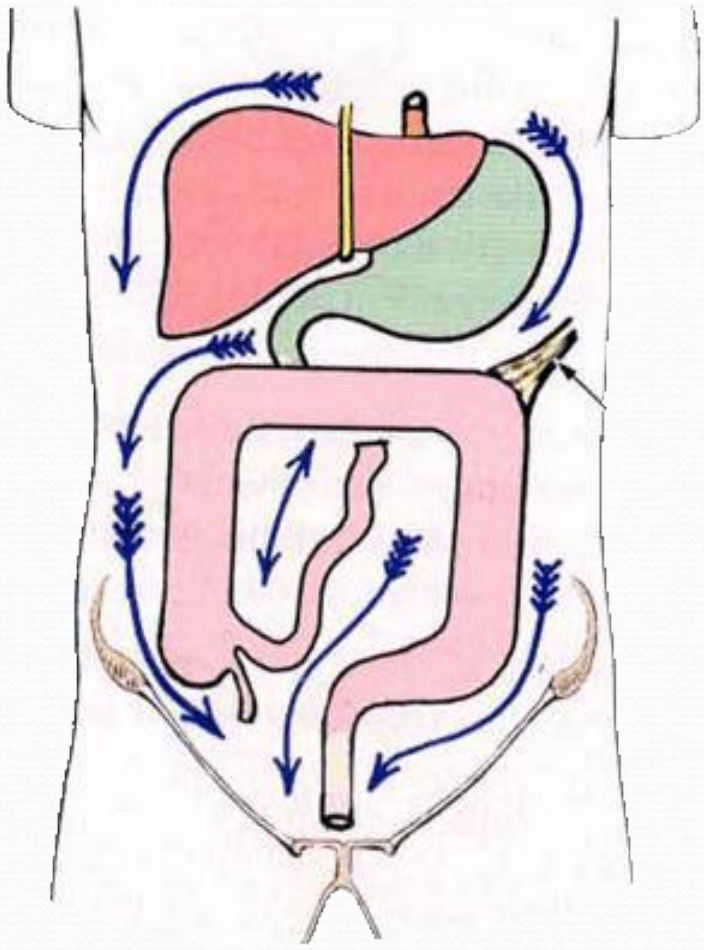


Infracolic compartments

- **Left paracolic sulcus**

(gutter)

—lies lateral to the descending colon. It is separated from the area around the spleen by the phrenicocolic ligament, a fold of peritoneum that passes from the colic flexure to the diaphragm.

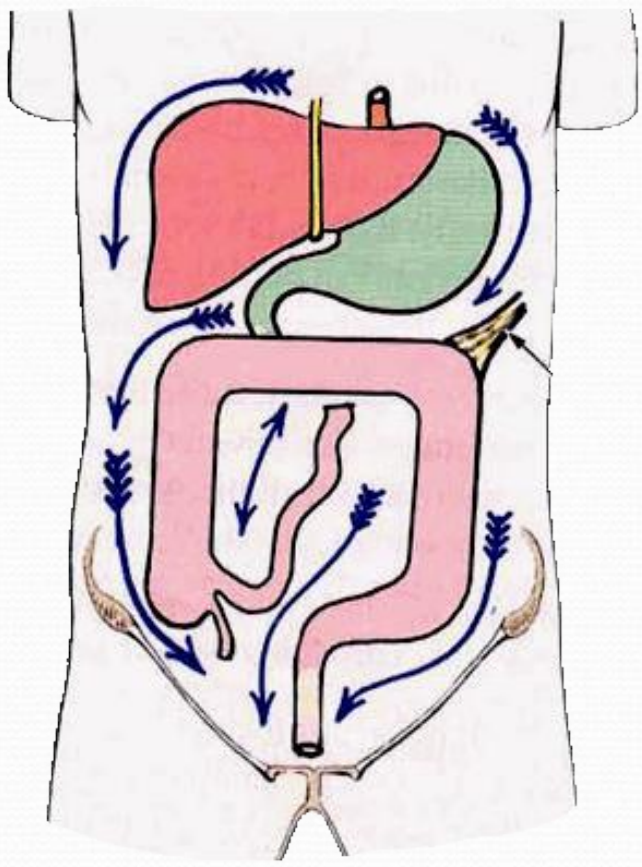


- **Right mesenteric sinus**

—triangular space, lies between root of mesentery, ascending colon, right 2/3 of transverse colon and transverse mesocolon

- **Left mesenteric sinus**

—lies between root of mesentery, descending colon, right 1/3 of transverse colon and transverse mesocolon, its widens below where it is continuous with the cavity of the pelvis



Applied Anatomy

- Peritoneum & surgical procedures
- Peritonitis & Ascites
- Abdominal paracentesis
- Intraperitoneal injection peritoneal dialysis