بسم الله الرحمن الرحيم

FINAL | Lecture 3

Peritoneum

﴿ وَإِن تَتَوَلَّوْا يَسْتَبْدِلْ قَوْمًا غَيْرَكُمْ ثُمَّ لَا يَكُونُوا أَمْثَالَكُم ﴾

اللهم استعملنا ولا تستبدلنا

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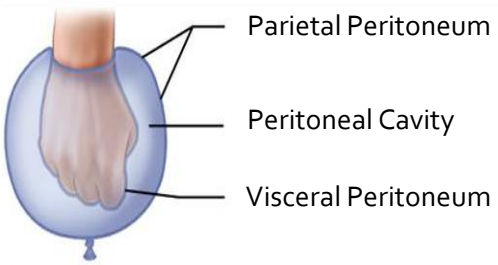
ANATOMY

Annotation:

This file was prepared based on the lecture content and includes all the information presented by the doctor. Some topics have been reorganized to enhance the scientific flow and improve clarity, without omitting any material covered in the lecture.

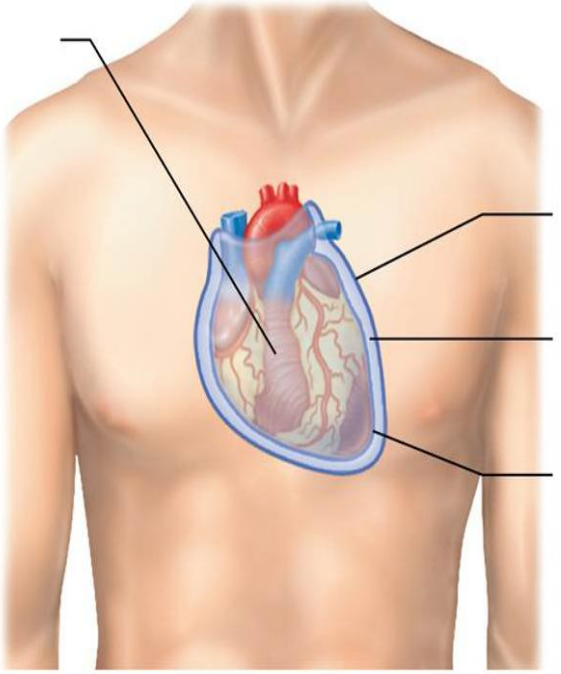
What is the Peritoneum ?

•The peritoneum is a **continuous serous membrane** that lines the **abdominal cavity** and covers the **abdominal organs.**



- A perfect way to visualize it: **Balloon + Fist Analogy**

Balloon = Peritoneum (a continuous membrane)
Your fist = an abdominal organ (e.g., small intestine)
You punch your fist into the balloon — but don't break through it



Now the balloon is divided into **two surfaces** :

1. The surface of the balloon touching your hand (fist):
This is the **visceral peritoneum**
It **covers the abdominal organs (your fist)**
2. The surface of the balloon still on the outside (not touched by the fist):
This is the **parietal peritoneum**
It **lines the abdominal wall**

And eventually the space between the two surfaces resembles the **peritoneal cavity**

1- General features of the Peritoneum

1- Parietal peritoneum (The outer surface of the ballon)

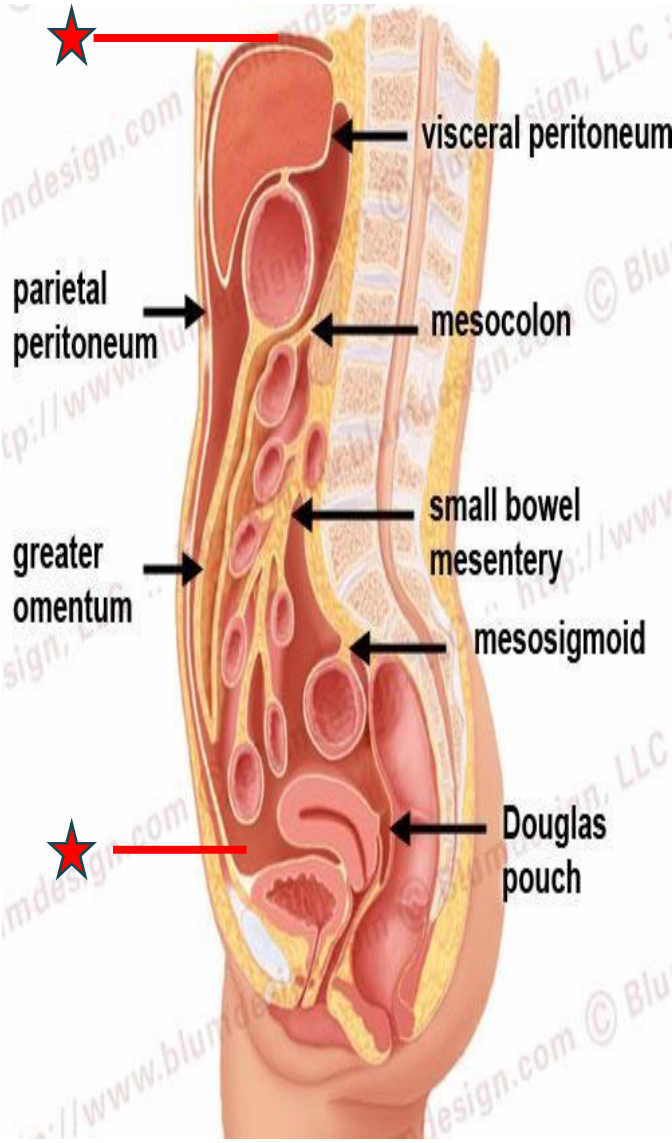
- ✓ Lines the **internal surface of the abdominal wall**
- ✓ Extends from **under the diaphragm**, covers the **anterior and posterior abdominal walls**, and **descends into the pelvic cavity.**

2- Visceral peritoneum (The inner surface of the ballon)

- ✓ Covers the **outer surface of abdominal organs** (viscera)
- ✓ Examples: stomach, jejunum, ileum, liver, spleen

3- Peritoneal cavity (The space between the two ballon surfaces)

- ✓ A potential space between the parietal and visceral peritoneum
- ✓ **Organs are not inside this cavity**, but rather **invaginate into it**
- ✓ Contains **lubricating serous fluid**



Functions of the Peritoneum

✓ **Support & Suspension:**

Helps **support abdominal viscera** and **maintain organ position,** and that's actually the main purpose of the peritoneum (suspending the abdominal organs into a ballon and using the pressure of that ballon to maintain these organs in position)

✓ **Lubrication:**

Secretes a serous fluid that **lubricates** and **moistens abdominal organs**, allowing **smooth movement** and **reducing friction**

✓ **Fat Storage:**

Especially in the **greater omentum**, which stores fat and provides insulation and energy reserve

✓ **Defense Role:**

Contains lymphatic vessels and immune cells, playing a role in immunity, inflammation, and limiting the spread of infections

2- The Peritoneal cavity

- But wait, there is a catch, imagine you push your fist into a balloon, just like before. But this time, before you punch your whole hand in, you **tuck your thumb behind your fist — between your knuckles and your wrist** — and then push the whole thing in, **in this case**:

✓ **The balloon still wraps your entire fist** (including the little hidden pocket behind your thumb and knuckles) → that's **the Visceral Peritoneum.**

✓ **The main space inside the ballon that surrounds your entire fist** is **the Greater Sac.**

✓ **The little hidden pocket behind your thumb and knuckles** is **the Lesser Sac (omental bursa)**

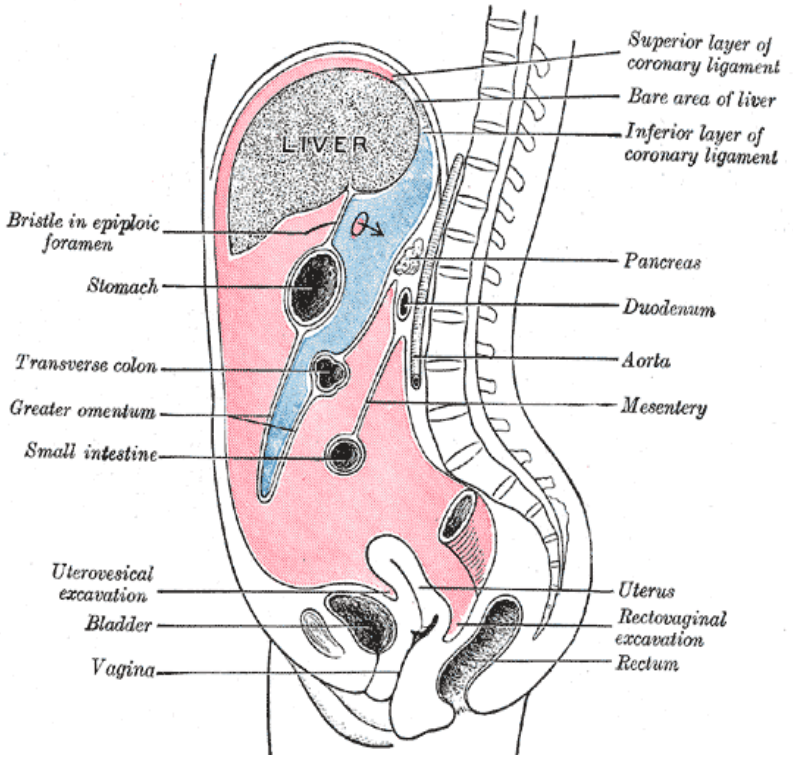
✓ **The circular gap made by your pinky finger and the left surface of your palm** resembles the **Epiploic Foramen** (**A communicating gap between the Greater and Lesser Sacs**)

✓ So the peritoneal cavity eventually is divided into two compartments: **The Lesser Sac** and **The Greater Sac** with a gate allowing communication between the two sacs (**The Epiploic Foramen**)

The Lesser Sac (Omental Bursa)

General Borders of the Lesser Sac :

- ✓ It lies behind the **stomach** and **lesser omentum**
- ✓ It sits in front of the **pancreas**
- ✓ It is located under the **liver** and **diaphragm**
- ✓ It communicates with the greater sac through a narrow circular foramen called: **The Epiploic foramen**



Lesser Sac colored in blue

Walls of the Lesser Sac:

1- Superior Wall:

- ✓ Formed by the **peritoneum covering the caudate lobe of the liver**

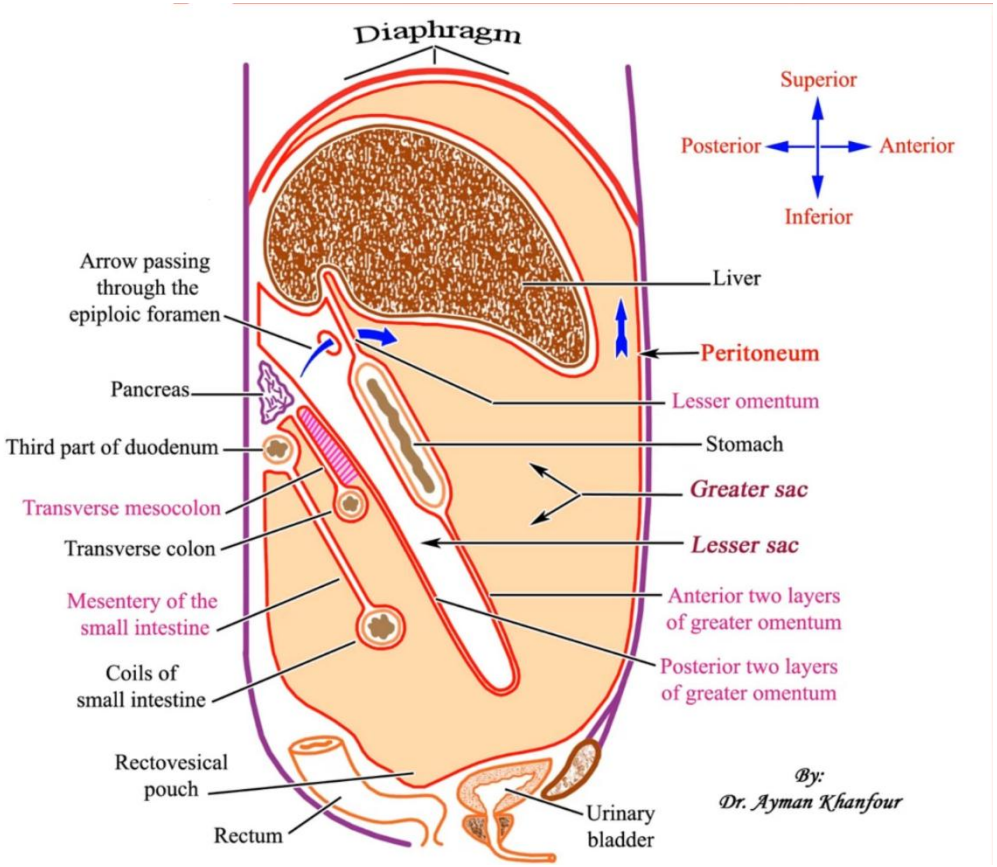
- ✓ Also includes the **inferior surface of the diaphragm**

2- Anterior Wall:

- ✓ Formed by the **Lesser omentum**

- ✓ **Peritoneum on the posterior surface of the stomach**

- ✓ **Anterior two layers of the greater omentum**



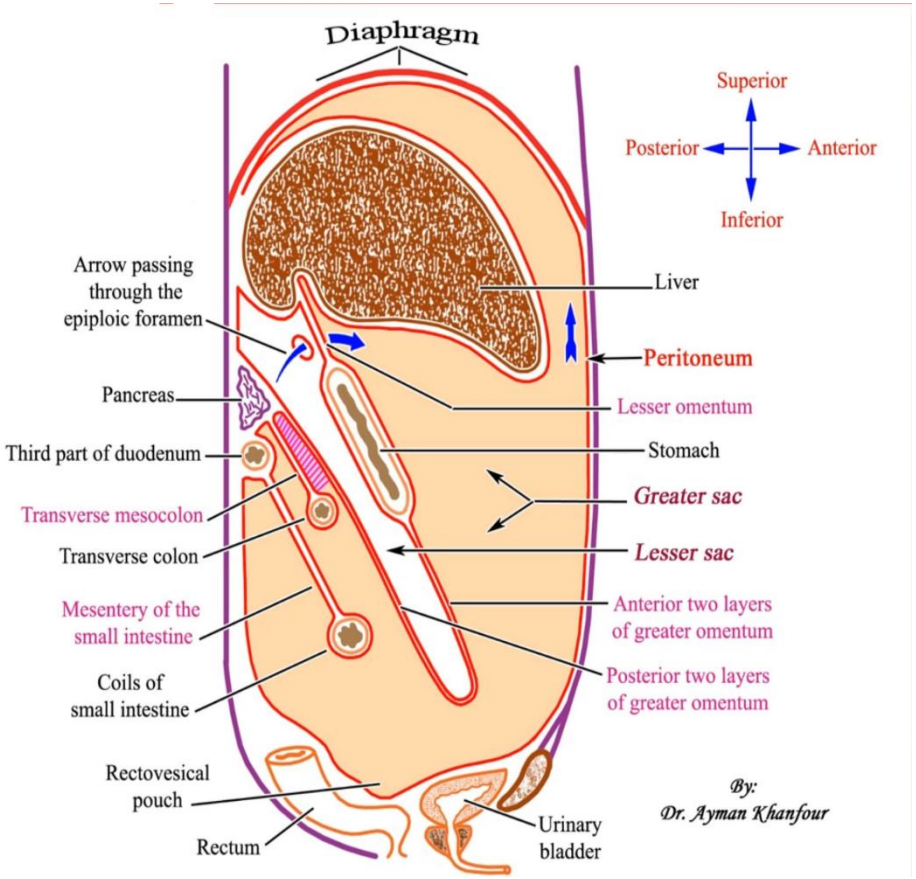
Walls of the Lesser Sac :

3- Inferior Wall:

- ✓ Formed by the point where **the anterior and posterior layers of the greater omentum meet together.**

4- Posterior Wall:

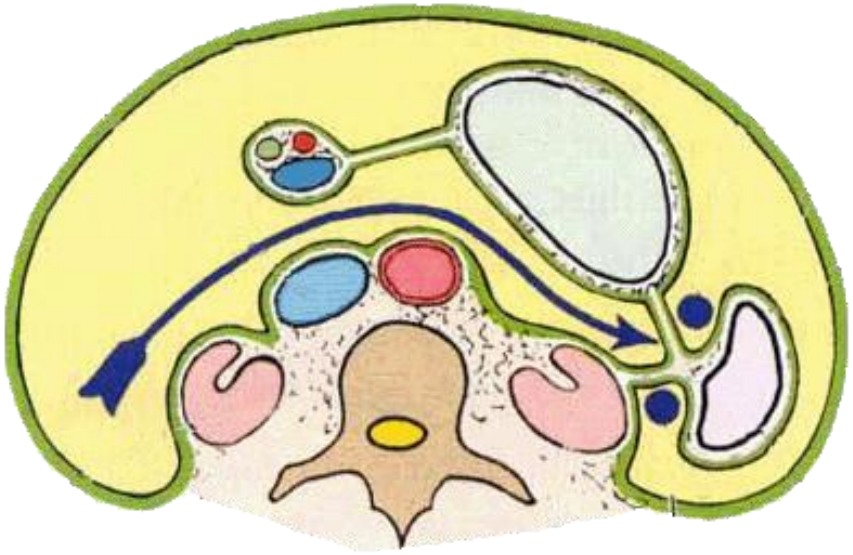
- ✓ **Posterior two layers of the greater omentum**
- ✓ **Peritoneum covering the Transverse colon**
- ✓ **Transverse mesocolon (The peritoneal fold of the transverse colon)**
- ✓ **Peritoneum over the posterior abdominal wall**



Walls of the Lesser Sac :

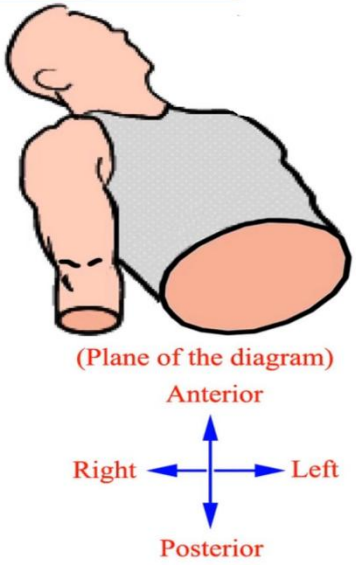
5- Left Border:

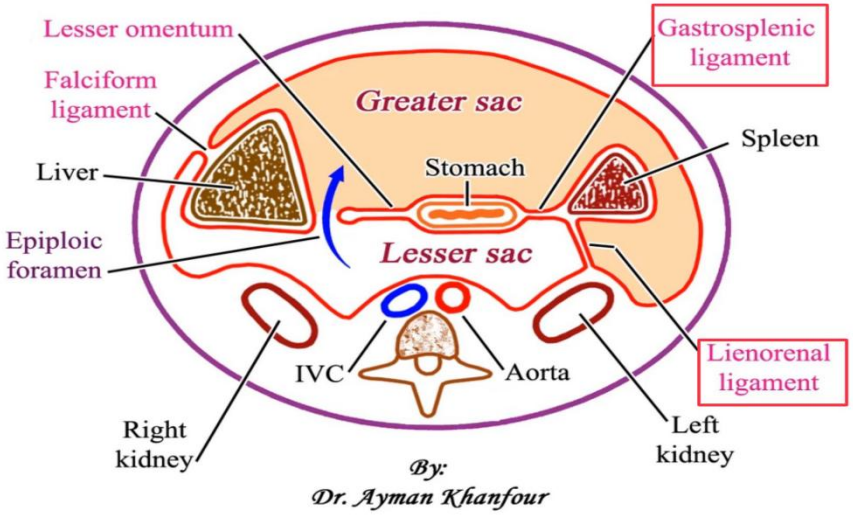
- ✓ Spleen
- ✓ Gastrosplenic ligament
- ✓ Splenorenal ligament



6- Right Border:

- ✓ Epiploic (omental) foramen





Coronal section of the abdominal cavity

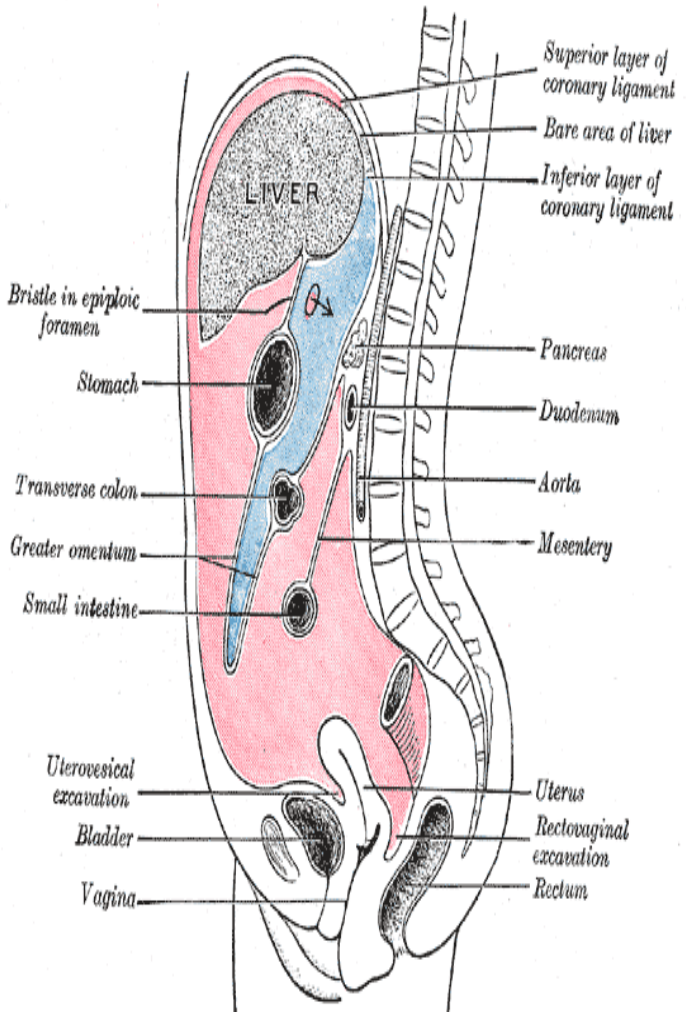
Greater Sac

- General Location:

- ✓ Deep to the anterior abdominal wall
- ✓ Below the diaphragm
- ✓ Above the pelvic viscera

- It extends around several organs:

- ✓ Liver – covered **completely** by peritoneum except **The Bare Area** (found in the posterior surface of the liver)
- ✓ Stomach – completely covered by peritoneum = **Intraperitoneal**
- ✓ Transverse colon – suspended by transverse mesocolon = **Intraperitoneal**
- ✓ Greater omentum – hangs from the greater curvature of stomach
- ✓ Duodenum : **First and Last inches are Intraperitoneal** while the rest are **Retroperitoneal**
- ✓ Small intestine – entirely covered, held by **mesentery** = **Intraperitoneal**

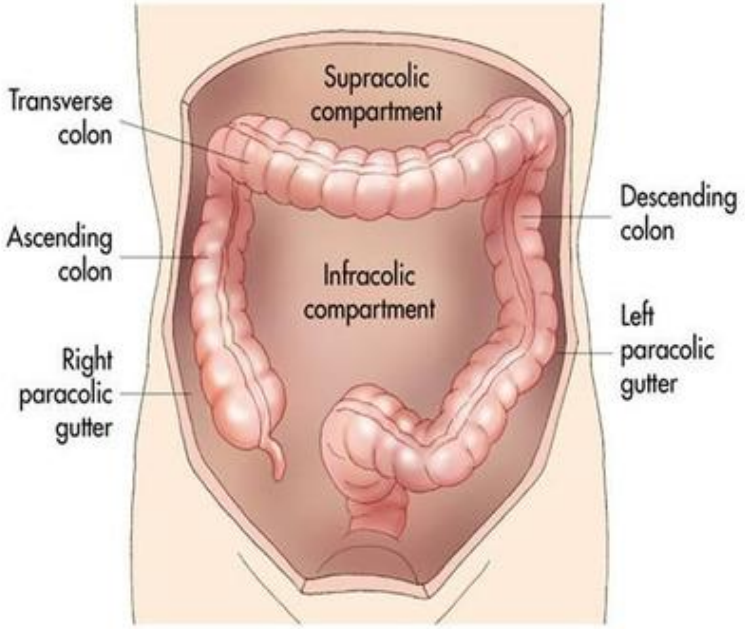


Subdivisions of Greater Sac

- The greater sac is divided into two major parts by the **Transverse Colon** and **Mesocolon:**

✓ **Anterosuperior (Supracolic) compartment**

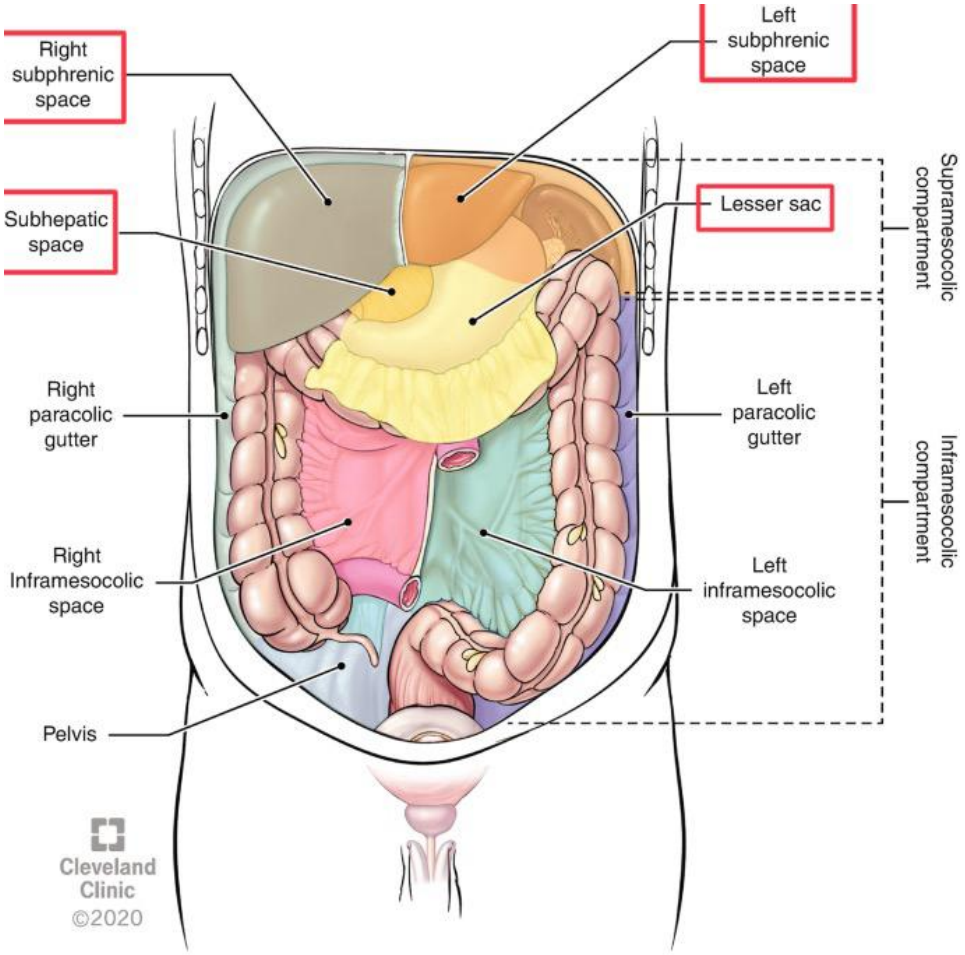
✓ **Posteroinferior (Infracolic) compartment**



*Note: Compartmentalization of the greater sac is not just anatomical—it's a vital **protective mechanism** that controls the spread of disease within the abdomen and improves clinical decision-making. More to be discussed later in upcoming slides*

Subdivisions of the Supracolic Compartment :

- ✓ **Subphrenic Part**
  (Bellow the Diaphragm)
- ✓ **Subhepatic Part**
  (Bellow the Liver and above the Transverse Colon)



*Note: The affixes "**Phrenic**" and "**Phrenico**" mean : Related to the **Diaphragm***

Subdivisions of the Subphrenic Region:

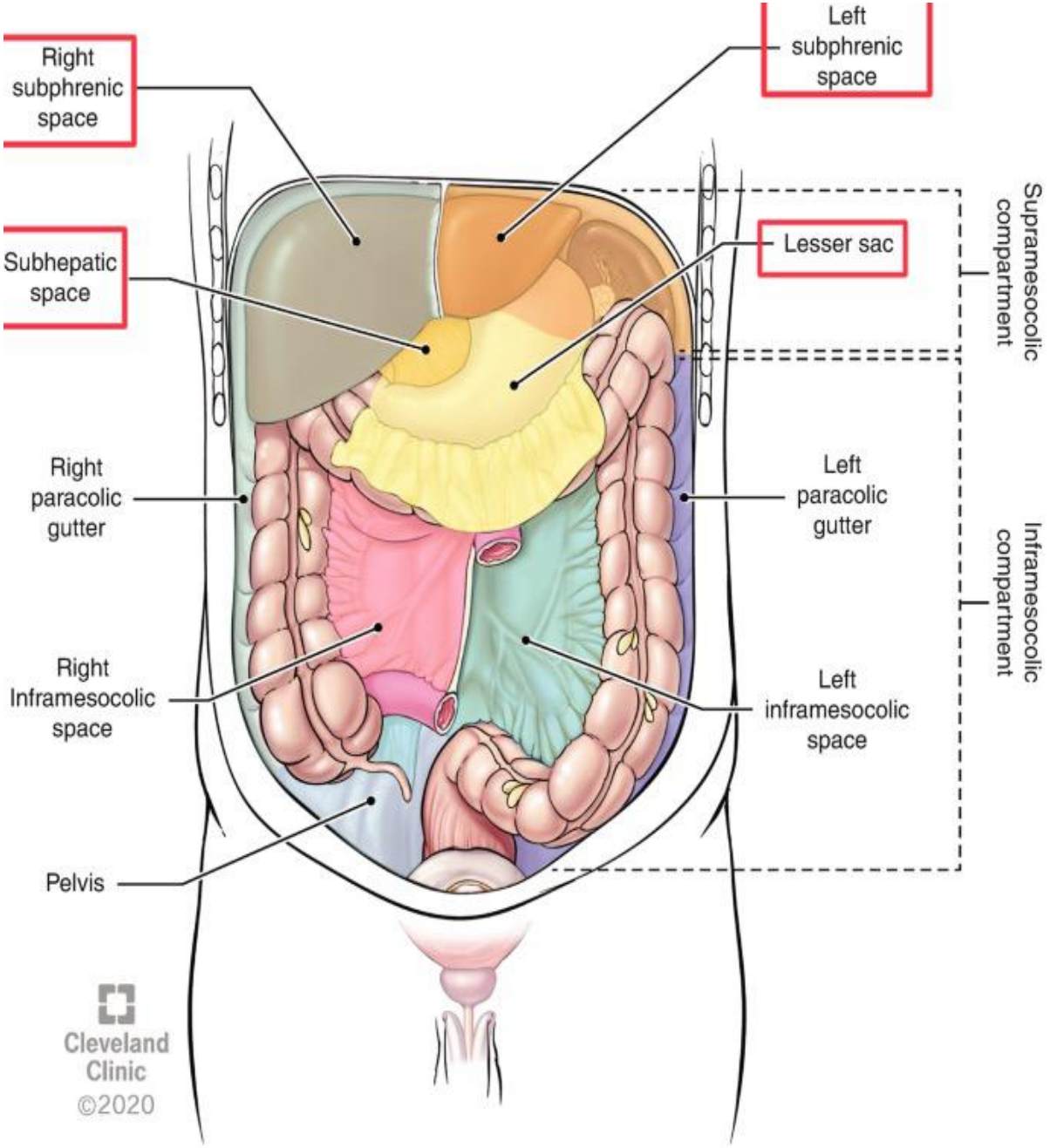
(Divided by the **Falciform Ligament** of the Liver)

- ✓ **Right Subphrenic Region**
- ✓ **Left Subphrenic Region**

Subdivisions of the Subhepatic Region:

Divided Topologically into two regions :

- ✓ **Hepatorenal Pouch (Morrison's pouch)**
  -to be discussed soon-
- ✓ **Lesser Sac (Omental Bursa)**


Right subphrenic space
Left subphrenic space
Subhepatic space
Lesser sac
Supramesocolic compartment
Right paracolic gutter
Left paracolic gutter
Inframesocolic compartment
Right Inframesocolic space
Left inframesocolic space
Pelvis
Cleveland Clinic
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Subdivisions of the Infraracolic Compartment :

- Divided by the **Root of Mesentery** **into:**

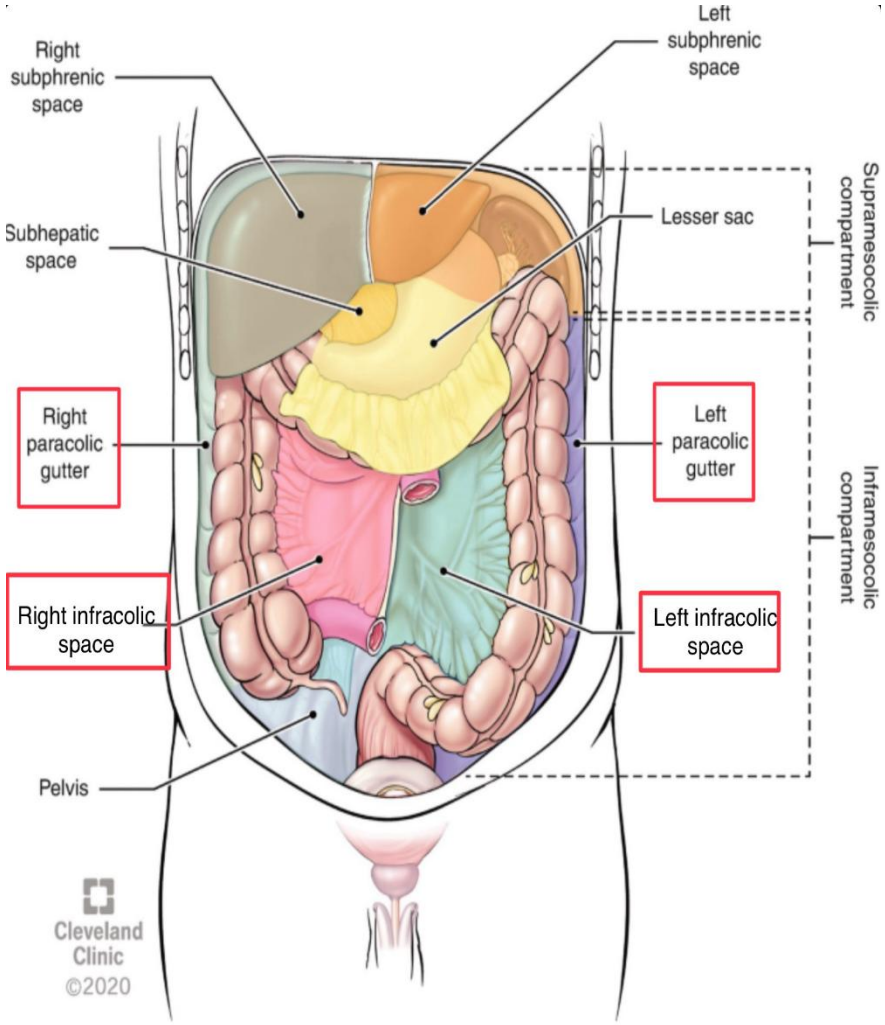
✓ **Right Infracolic space**

✓ **Left Infracolic space**

- On the **Lateral sides** of the **Ascending** and **Descending Colons** :

✓ **Right Paracolic Gutter**

✓ **Left Paracolic Gutter**



Epiploic Foramen

✓ Also called **foramen of Winslow.**

- Position:

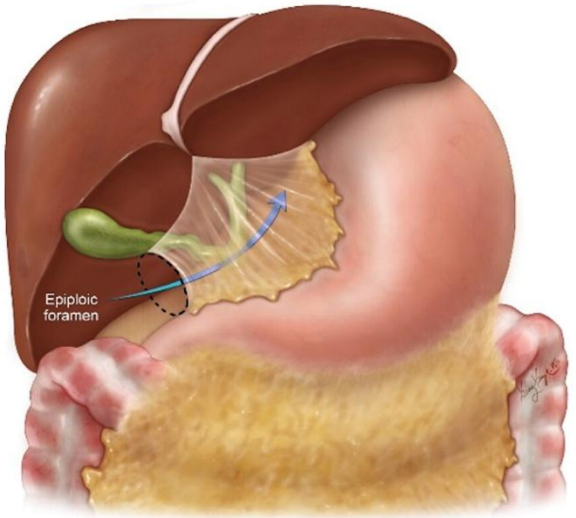
✓ A **short**, **vertical**, **flattened passage** (about 3 cm long)

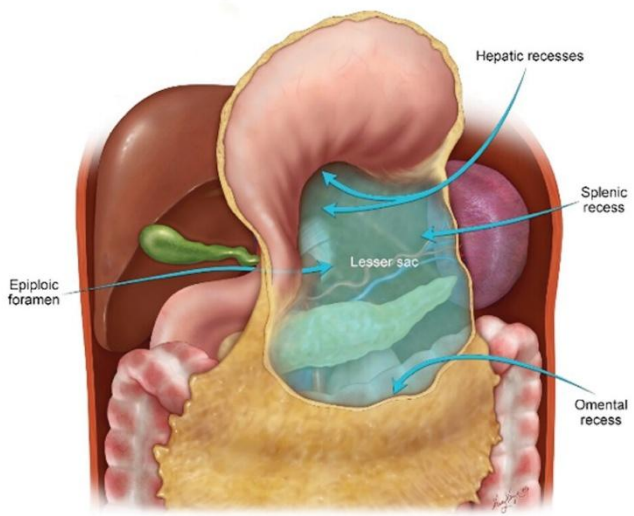
✓ Located **posterior to the lesser omentum**

✓ Lies between the **liver (superiorly)** and the **first part of the duodenum (inferiorly)**

✓ Situated **in front of** the **inferior vena cava**

✓ Opens into the **lesser sac** (omental bursa) from the **greater sac** (Acts as **a gate that allows the communication between the Greater and Lesser Sacs**)



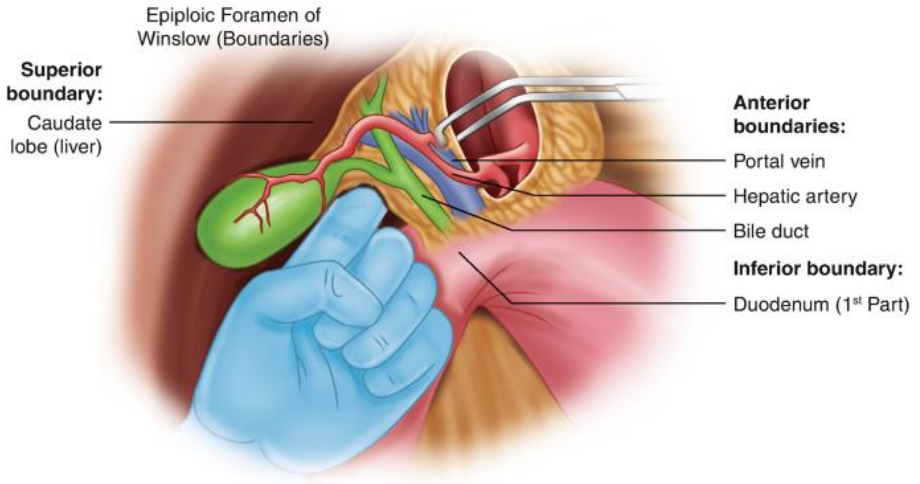


Epiploic Foramen: *Boundaries*

Anteriorly:

✓**Free edge of the lesser omentum** (hepatoduodenal ligament), that contains:

1) **Bile duct** (right and anterior)
2) **Hepatic artery** (left and anterior)
3) **Portal vein** (posterior)



Posteriorly:

✓**Inferior vena cava**

Superiorly:

✓**Caudate process of the caudate lobe of the liver**

Inferiorly:

✓**First part of the duodenum**

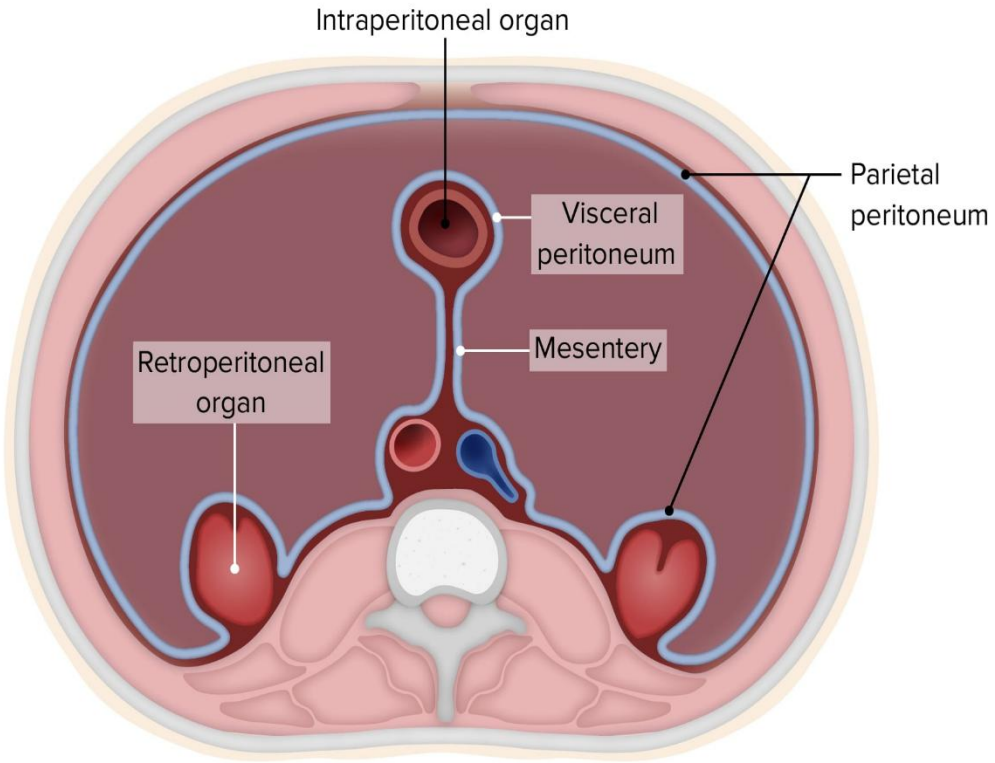
Relationship Between the Viscera and the Peritoneum

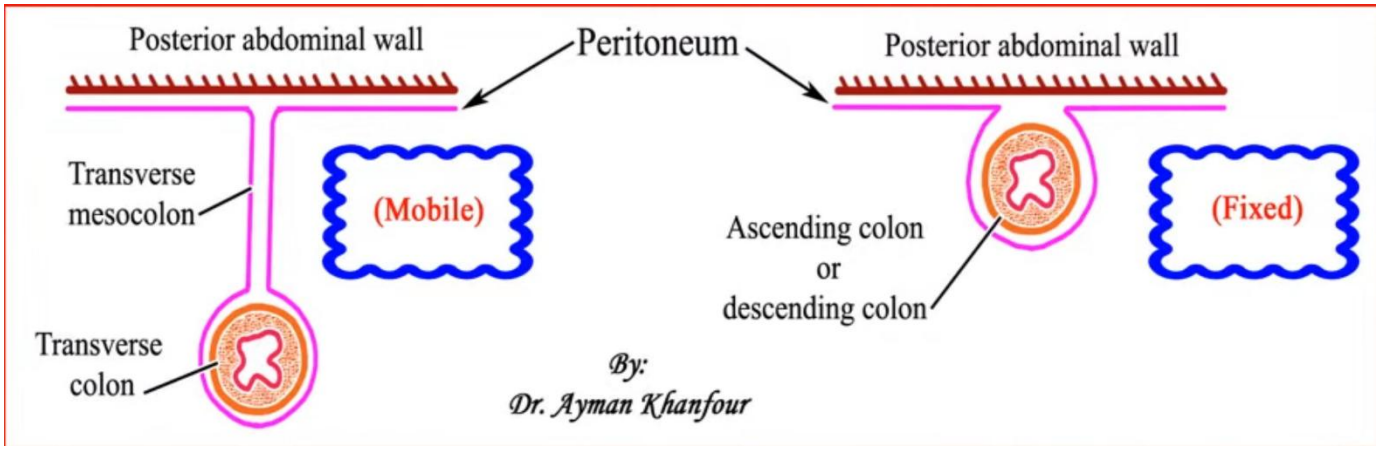
The abdominal viscera can be classified based on their relation to the peritoneum:

- ✓ Some organs are **completely emersed into the peritoneum** (completely enclosed by visceral peritoneum) and suspended freely within the abdominal cavity = **Intraperitoneal Organs**

- ✓ Others **partially invaginate into the peritoneum**, with **the uncovered part in direct contact with the posterior abdominal wall** = **Retroperitoneal Organs**

- ✓ A third group is considered **Partially Intraperitoneal**, with **most of the organ being covered by the peritoneum** and a **certain surface of it being uncovered**, (usually **the area uncovered** by peritoneum **is being spared to allow the attachment of surrounding structures to that organ) = Interperitoneal Organs**


Intraperitoneal organ
Parietal peritoneum
Visceral peritoneum
Mesentery
Retroperitoneal organ


Posterior abdominal wall
Peritoneum
Posterior abdominal wall
Transverse mesocolon
(Mobile)
Ascending colon or descending colon
(Fixed)
Transverse colon
By:
Dr. Ayman Khanfour

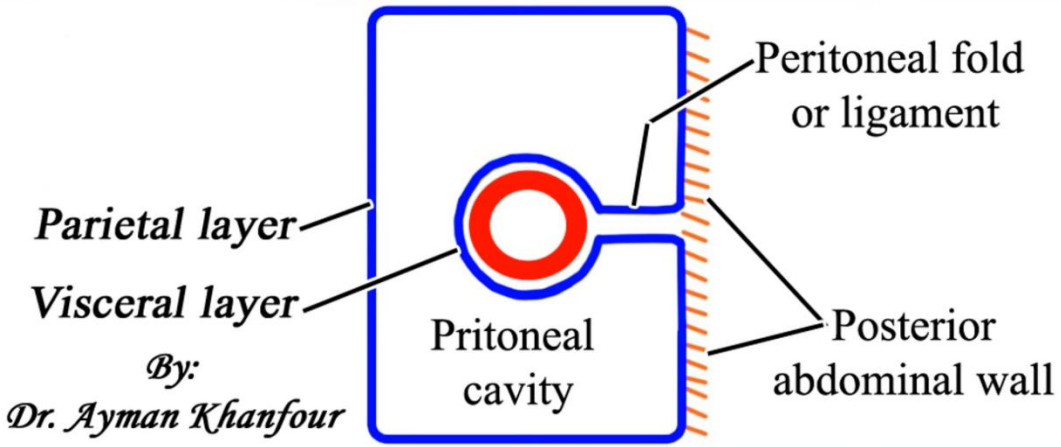
1. Intraperitoneal Organs:

✓ These organs are **fully wrapped** in visceral peritoneum.

✓ They are **freely mobile**, thanks to being **suspended by peritoneal** folds that allow movement of that organ.

✓ Examples:

1) Stomach
2) First & last inch of the duodenum
3) Jejunum, ileum
4) Cecum, appendix
5) Transverse colon, sigmoid colon
6) Spleen, ovaries

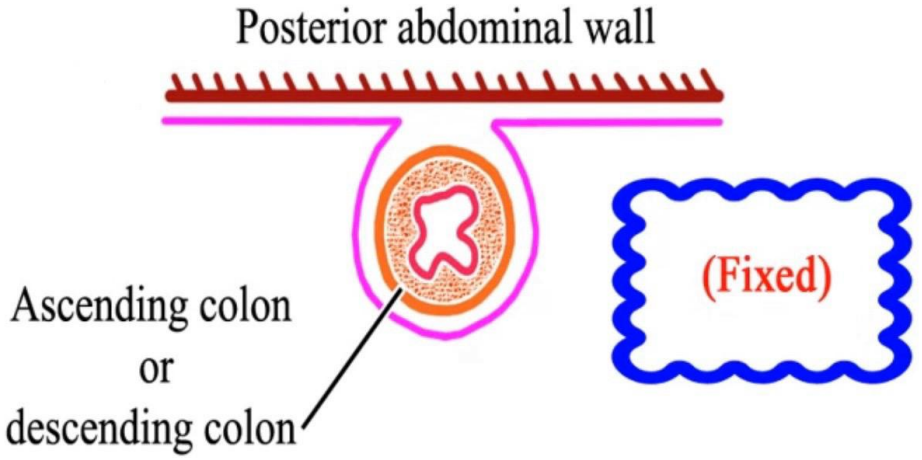


2. Retroperitoneal Organs:

- ✓ These organs lie **behind the peritoneum**.
- ✓ **Only their anterior surfaces are covered by peritoneum**, with the rest of the organ lying on the **posterior abdominal wall.**
- ✓ They are **immobile**, because they are pressed directly against the posterior abdominal wall and are not suspended by mesenteries.

✓ Examples:

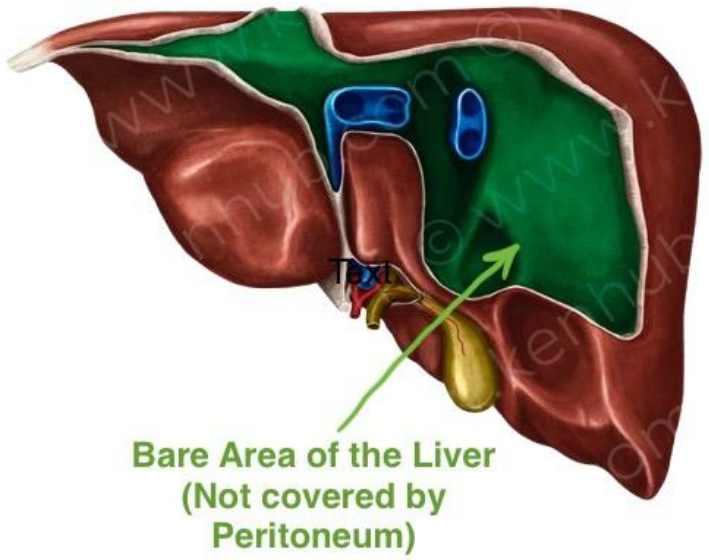
1) Duodenum (except 1st & last inch)
2) Pancreas
3) Kidneys
4) Suprarenal glands
5) Ureters
6) Aorta, IVC
7) Ascending & descending colon
8) Upper 1/3 of rectum



3. Interperitoneal Organs:

- ✓ These organs are **not completely enclosed by peritoneum = Partially Intraperitoneal**

- ✓ The entire organ is covered with peritoneum, except a certain surface or area (This bare area provides **attachment of the organ to the abdominal wall** or **adjacent organs and structures).**



- ✓ **Examples:**

1) Liver
2) Gallbladder
3) Urinary bladder
4) Uterus

*The liver's bare area provides a route for the **hepatic veins** and **IVC** to pass from the liver directly into the diaphragm and thorax.*

Naming of Peritoneal Folds and Ligaments

Peritoneal folds are **double layers of peritoneum** that suspend or connect **Intraperitoneal Organs**, and their names vary depending on the **organ involved**:

Organ	Peritoneal Fold / Ligament Name
Stomach	Omentum (greater and lesser)
Small intestine	Mesentery
Transverse colon	Transverse mesocolon
Sigmoid colon	Sigmoid mesocolon
Appendix	Mesoappendix
Liver	Falciform, coronary, and triangular ligaments
Spleen	Lienorenal (splenorenal) and gastrosplenic ligaments
Diaphragm	Gastrophrenic and phrenicocolic ligaments

Note: They are all the same structure (A double peritoneal layer), but they where named differently to indicate the intraperitoneal structure they are enclosing

*Note: The doctor referred to the Peritoneal Folds also as "**Peritoneal Reflections**"*

Note: Terminology:

- ✓ *"**Peritoneal Fold**" is a general term that indicates **any double peritoneal layer.***
- ✓ *"**Peritoneal Ligament**" indicates a **Peritoneal Fold that acts as a Ligament** (Attaches at its posterior end to another organ or to the Posterior Abdominal Wall.*

1- The Lesser Omentum

- Attachment:

✓ Extends from the **lesser curvature** of the stomach and the **first part of the duodenum (its upper surface)**

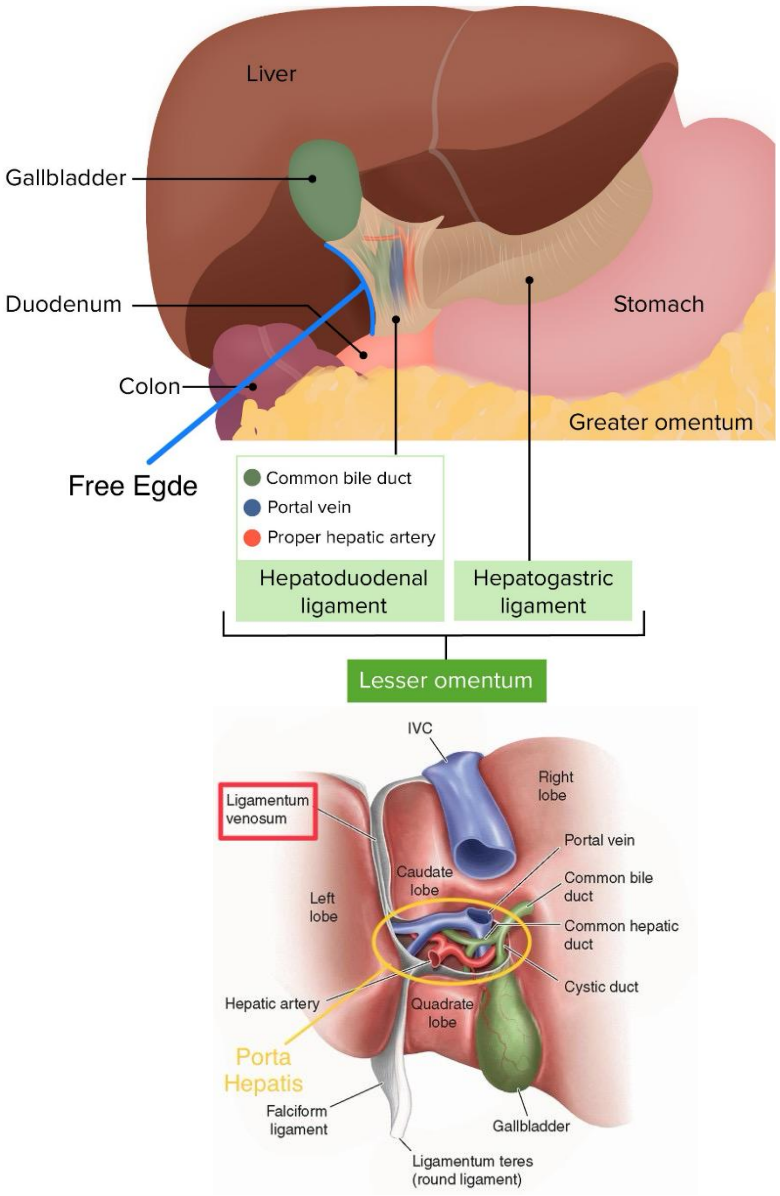
✓ Attaches to the **liver**, specifically:

1) **The Porta Hepatis**
2) **The fissure for ligamentum venosum**

- Subdivisions of the lesser omentum (Based on Attachments) :

1) **Hepatogastric ligament** : Between **liver** and **stomach**
2) **Hepatoduodenal ligament (The Free Edge)**: Between **liver** and **duodenum,** Contains the **Portal Triad**:

✓ **Portal vein**
✓ **Hepatic artery**
✓ **Bile duct**



Note : The free edge is the anterior boundary of the epiploic (omental) foramen

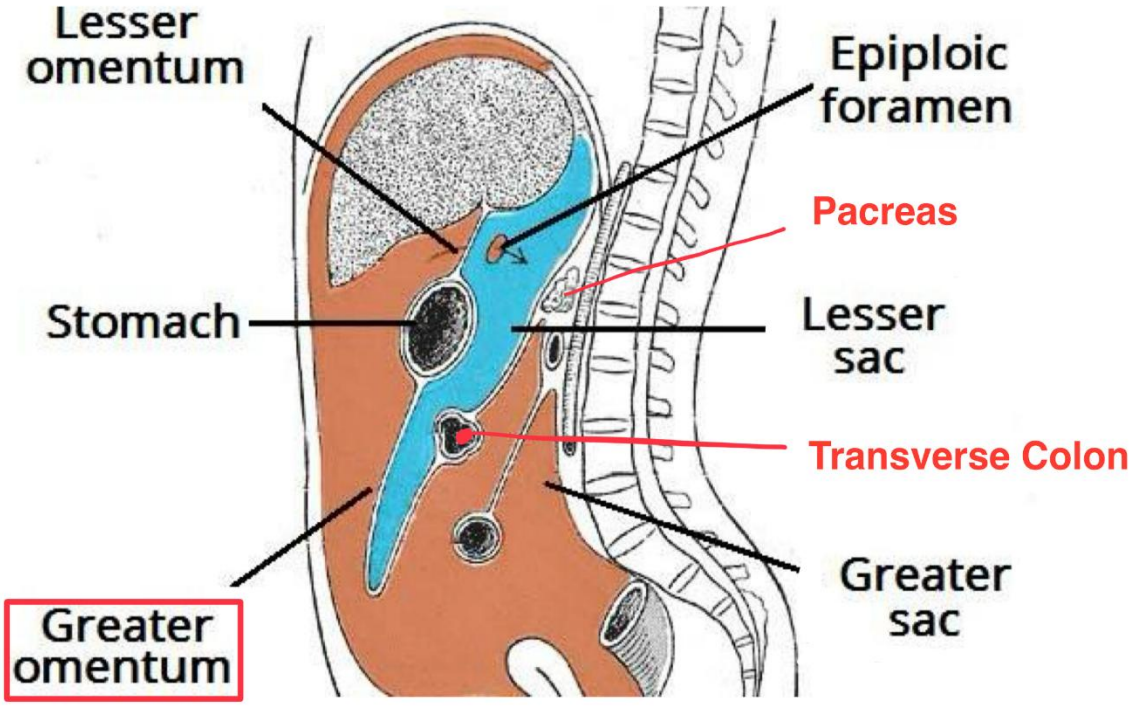
Contents of the Lesser Omentum

- ✓ **Blood vessels: Rt. & Lt. gastric vessels**
- ✓ Lymph nodes & lymphatic vessels
- ✓ Fat
- ✓ **Autonomic N.S: Sympathetic + Parasympathetic (vagus nerve)**

2- Greater Omentum: Course and Attachments

- Origin:

- ✓ Arises from the **first inch of the duodenum** (lower border) and the **greater curvature of the stomach**.



- Course:

- ✓ **Descends downward** from its origin.
- ✓ **Folds upward** to reach the **anterior surface of the transverse colon**.

- At the transverse colon:

- ✓ The greater omentum **splits into anterior and posterior layers.**
- ✓ These layers wrap around the transverse colon.
- ✓ After wrapping, they **rejoin** and continue forming the **Transverse Mesocolon** (The Peritoneal fold of the Transverse Colon).

- The Transverse Mesocolon then attaches to the **anterior surface of the pancreas**.

Subdivisions of the Greater Omentum (Based on Attachments):

- The greater omentum is subdivided into several named ligaments **based on the structures they connect to** :

✓ Gastrocolic ligament:

Connects the stomach to the **transverse colon**.

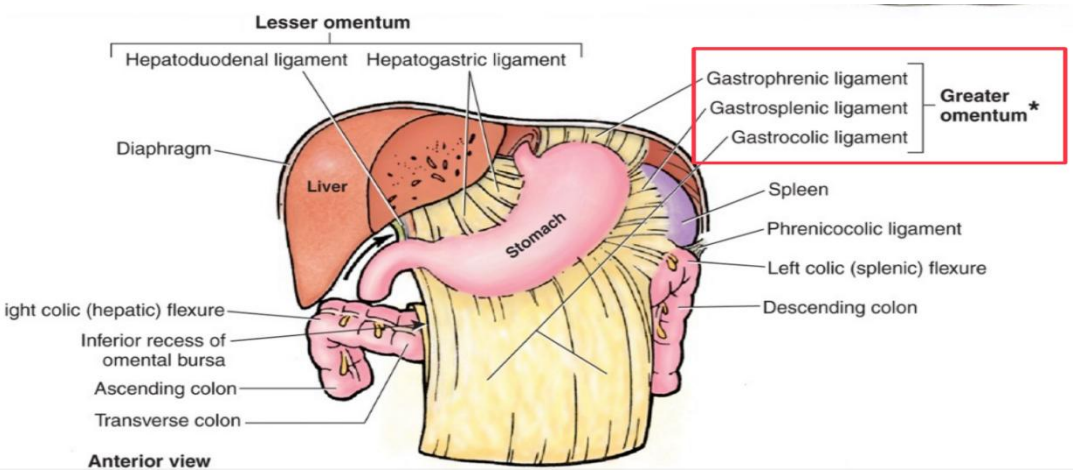
✓ Gastrosplenic ligament:

Connects the stomach to the **spleen**.

✓ Gastrophrenic ligament:

Connects the stomach to the **diaphragm**, near the fundus.

Note: All these ligaments participate in maintaining the stomach in its position (Remember: That's the main role of the peritoneum from the first place)



Contents of the Greater Omentum

- ✓ **Blood Vessels :Gastroepiploic vessels**
- ✓ Lymph nodes & lymphatic vessels
- ✓ Fat
- ✓ **Autonomic N.S→Sympathetic + Parasympathetic (vagus nerve)**

Note that all these structures are found between the **Descending** (*Anterior 2 layers*) part and the **Ascending** (*Posterior 2 layers*) parts of the **Gastrocolic Ligament .**

Functions of the Greater Omentum

- Protective Role :

- ✓ The greater omentum is rich in **fixed macrophages**, which help detect and eliminate pathogens.

- Fat Storage :

- ✓ Contains adipose tissue **even in thin individuals**, and this fat is more abundant in obese individuals.
- ✓ Serves as an **energy reserve** and contributes to **insulation** and **cushioning of abdominal organs.**

- Infection Control & Isolation (Migration & Limitation) :

- ✓ Has the unique ability to **migrate to areas of inflammation** (e.g. infection, perforation, trauma).
- ✓ It **wraps around inflamed sites**, **physically isolating** them to **prevent the spread of infection.**
- ✓ This action has earned it the nickname "**policeman of the abdomen**".

For example, in appendicitis, it may wrap around the inflamed appendix to contain infection.

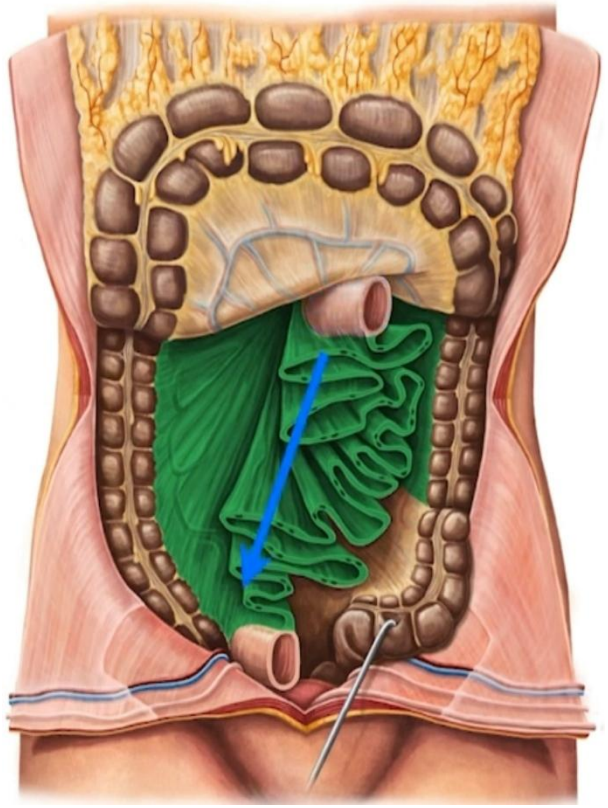
3- Mesentery of the Small Intestine

- ✓ The mesentery is the **peritoneal fold** that suspends the **jejunum** and **ileum** from the posterior abdominal wall.

- ✓ The mesentery has a **posterior fixed part** (called The **Root of The Mesentery**) and a long **free edge** that **encloses the intestinal loops** and forms a **Fan-shaped** structure.

- ✓ The root is the short, fixed part that **attaches the mesentery to the posterior abdominal wall.**

- ✓ It measures approximately 15 cm (**6 inches**) in length, but **supports up to 6 meters of small intestine** (**The length of the Free Edge**).



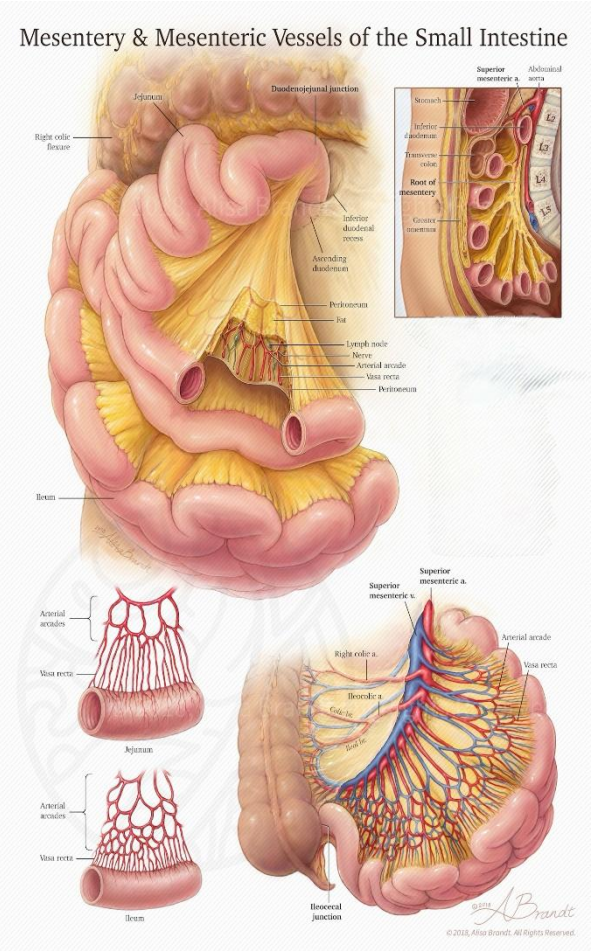
- Course of the Mesenteric Root:

- ✓ Starts at the **L2 vertebra**, **1 inch to the left of midline** (near the **duodenojejunal junction**),
- ✓ Extends **obliquely downward** to the **Ileocecal Junction** (at the level of the **right sacroiliac joint**).

Contents of the Mesentery

Between its two peritoneal layers, the mesentery contains:

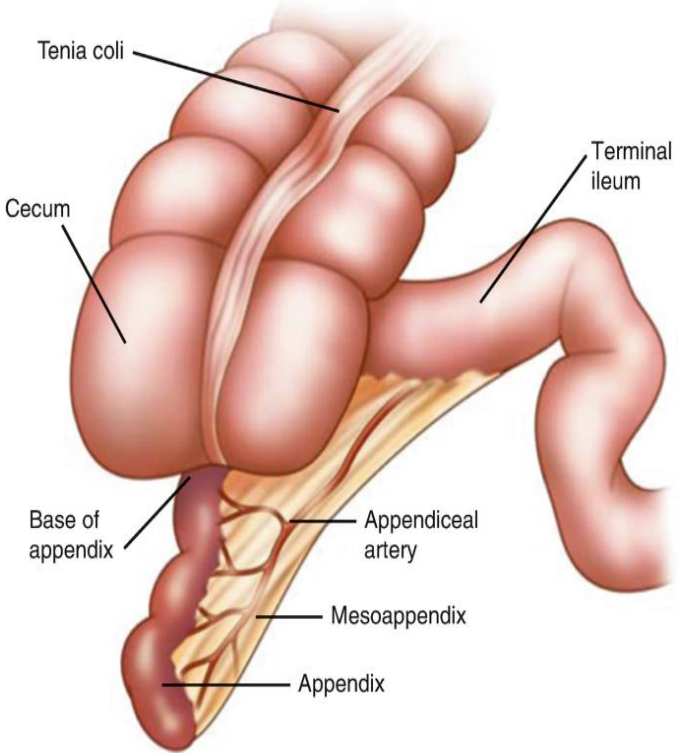
- ✓ Blood vessels: **Jejunal** and **ileal branches** of the **superior mesenteric artery** and **veins**.
- ✓ Nervous structures: **Autonomic nerve plexuses** (including sympathetic and parasympathetic fibers).
- ✓ Lymphatic structures: **Lymphatic vessels** and **lymph nodes.**
- ✓ Fat: Abundant adipose tissue, especially prominent in the **Ileum region** (compared to the Jejunum).
- ✓ Loose connective tissue supporting all the above.



4- Mesoappendix

- ✓ The peritoneal fold of the appendix is called the **Mesoappendix**.

- ✓ Carries the **blood vessels, nerves**, and **lymphatics** to and from the **appendix**.



- Blood Supply:

- ✓ The **appendicular artery** travels through the mesoappendix.
- ✓ Origin of the Appendicular Artery :

Superior Mesenteric Artery (SMA)→ **Ileocolic Artery** (terminal branch of SMA)→ **Posterior Cecal Branch→Appendicular Artery**

- Clinical Relevance (Appendectomy):

- ✓ During an appendectomy, the base of the appendix is cut.
- ✓ **The appendicular artery must be ligated** (tied off) to prevent bleeding, since it runs inside the mesoappendix.

Note: The prefix "Meso" means: Mesentery Like, aka: Peritoneal Fold

5- Transverse Mesocolon

- ✓ It connects the transverse colon to the **anterior surface of the Pancreas**.

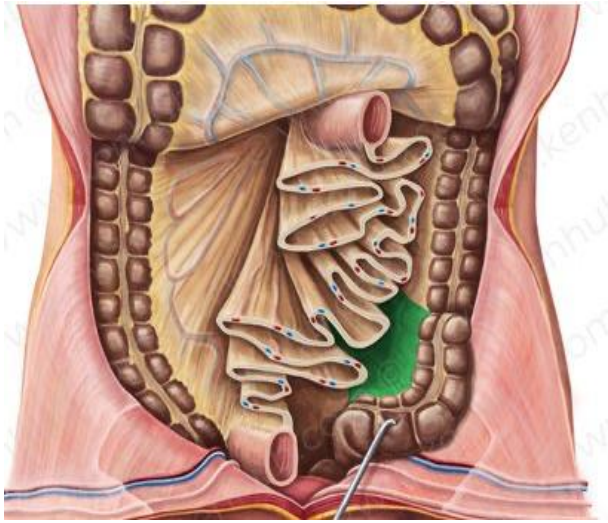
- Contents:

- ✓ **Blood vessels:**

1) **Medial two-thirds**: supplied by branches from the **superior mesenteric artery.**
2) **Lateral one-third:** supplied by branches from the **inferior mesenteric artery.**

- ✓ **Nerves**: autonomic fibers supplying the colon.

- ✓ **Lymphatics**



6- Sigmoid Mesocolon

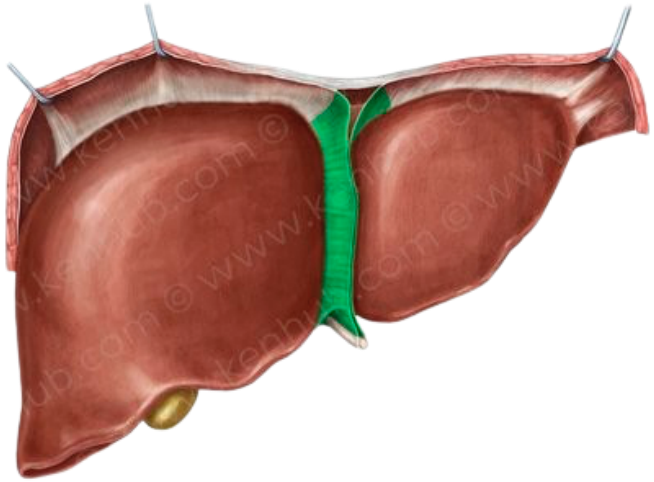
Ligaments of the Peritoneum

Remember : A Peritoneal Ligament is a regular Peritoneal Fold but it connects at its posterior border to ***another organ*** *or to the* ***posterior abdominal wall*** *(=Acts as a Ligament)*

1. Ligaments of the Liver

1) The **Falciform ligament of liver**
2) The **Ligamentum Teres Hepatis**
3) The **Coronary ligament**
4) The **Right Triangular ligament**
5) The **Left Triangular ligament**
6) The **Hepatogastric ligament**
7) The **Hepatoduonedenal ligament**

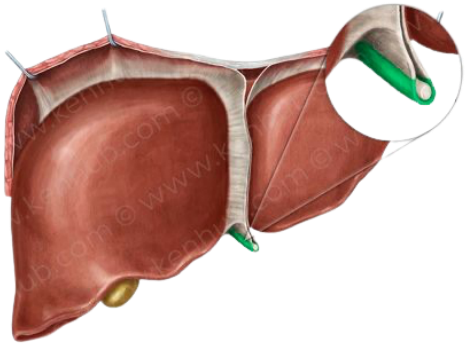
1- Falciform Ligament



- ✓ A peritoneal fold that attaches the **anterior surface of the liver** to the **anterior abdominal wall and the diaphragm**.
- ✓ It anatomically **separates** the **right** and **left lobes of the liver.**
- ✓ Also plays a role in **dividing the greater sac** into **right** and **left Subphrenic compartments.**

2- Ligamentum Teres Hepatis (Round Ligament of the Liver)

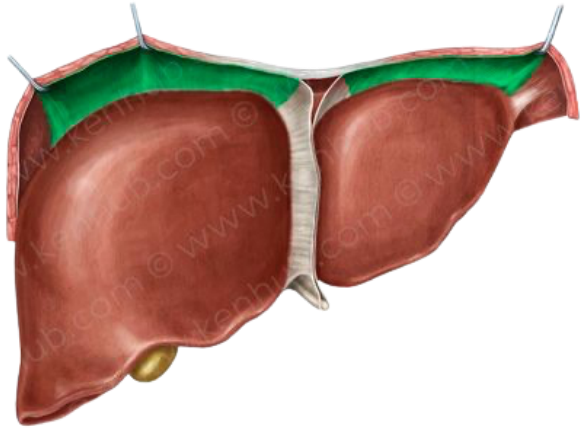
- ✓ Found at the **free inferior edge of the falciform ligament.**



- ✓ It is the **remnant of the obliterated left umbilical vein,** which carried oxygenated blood from the placenta to the fetus during fetal life.
- ✓ In adults, it has **no functional role**—it is a fibrous remnant.

3- Coronary Ligament

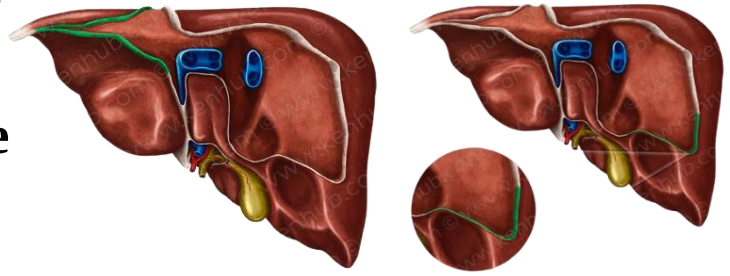
- ✓ A peritoneal reflection that connects the **superior surface of the liver** to the **Diaphragm**.



- ✓ *It consists of **anterior** and **posterior** layers, which diverge to **enclose the bare area of the liver**.*
- ✓ ***The bare area** is the part of the liver **not covered by peritoneum**, and it is **in direct contact with the diaphragm.***

4&5 - Left and Right Triangular Ligaments

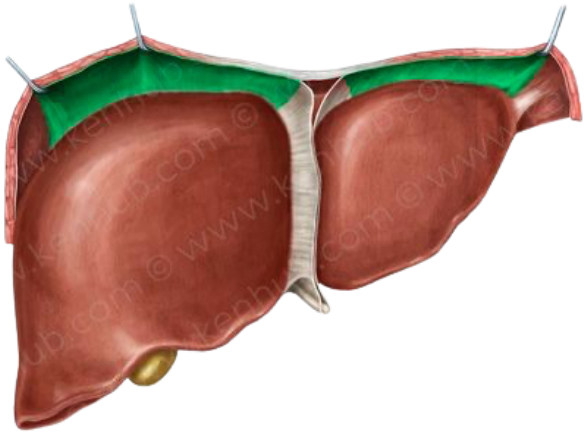
- ✓ These are formed by the **lateral fusion** of the **anterior** and **posterior layers** of the **coronary ligament.**
- ✓ Located at the **right** and **left extremities of the liver.**
- ✓ They help **anchor the liver to the diaphragm at its lateral edges.**



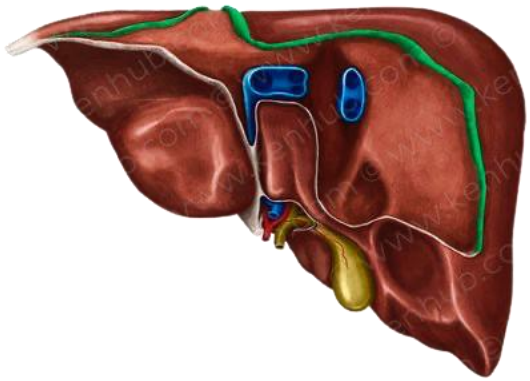
Left Triangular Ligament

Right Triangular Ligament

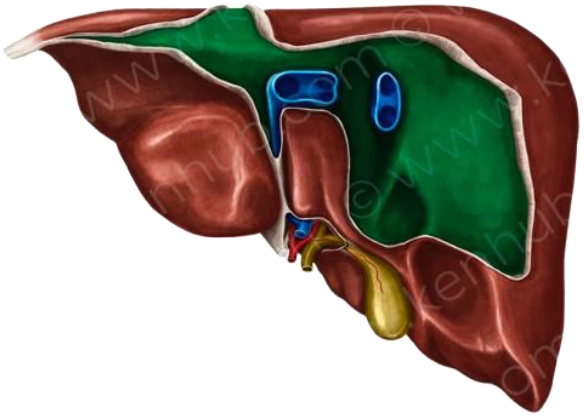
The Coronary Ligament :



Anterior View

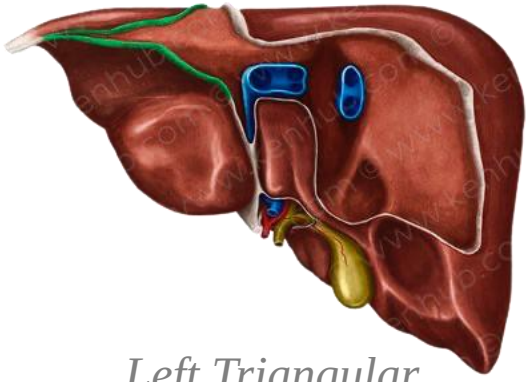


Posterior View

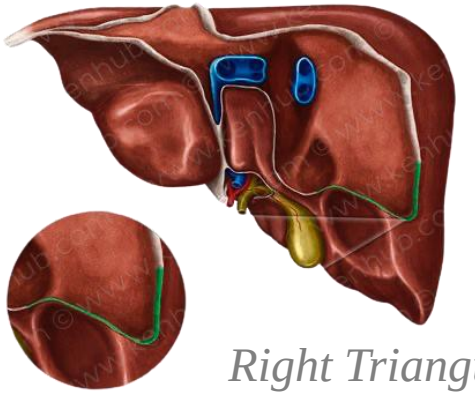


Bare Area

The Right and Left Triangular Ligaments :



Left Triangular Ligament

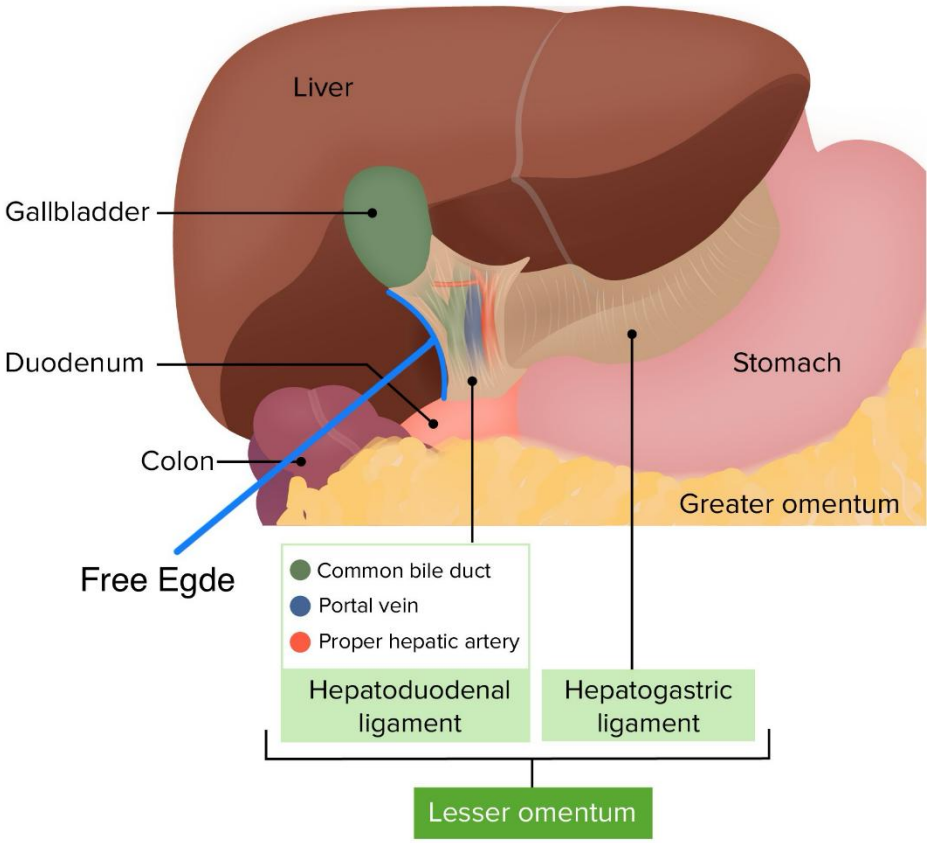


Right Triangular Ligament

6- Hepatogastric Ligament

7- Hepatoduodenal Ligament

- ✓ These two ligaments are part of the **Lesser Omentum**



2. Ligaments of Spleen

1- Gastrosplenic Ligament

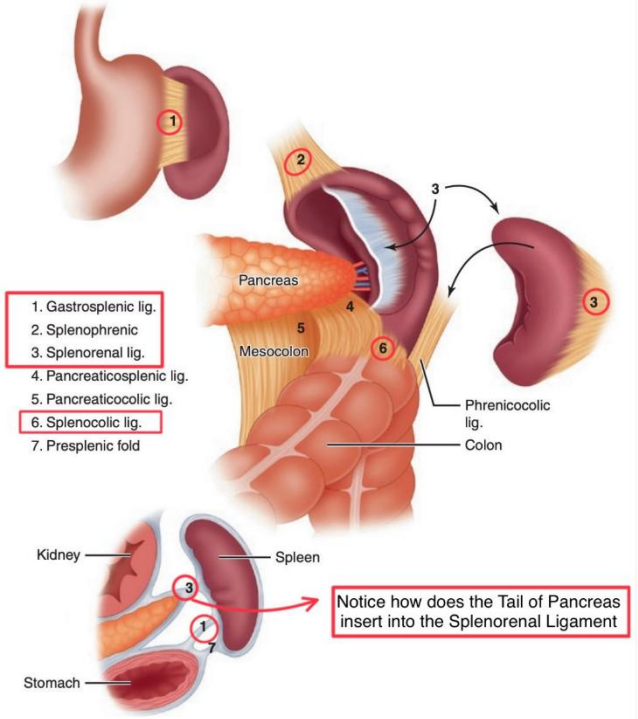
- ✓ Connects the **Greater Curvature of Stomach** to **Hilum of Spleen** (Part of the Greater Omentum).

2- Splenorenal Ligament (Lienorenal ligament)

- ✓ Extends from the **Hilum of the Spleen** to the anterior surface of the **Left Kidney**.

- ✓ **Contains:**

1) Splenic vessels
2) Lymphatic vessels and nodes
3) Nerves
4) **Tail of the pancreas**



*Clinical Note: Care must be taken during **splenectomy** to avoid injuring the **tail of the pancreas**, which lies in this ligament.*

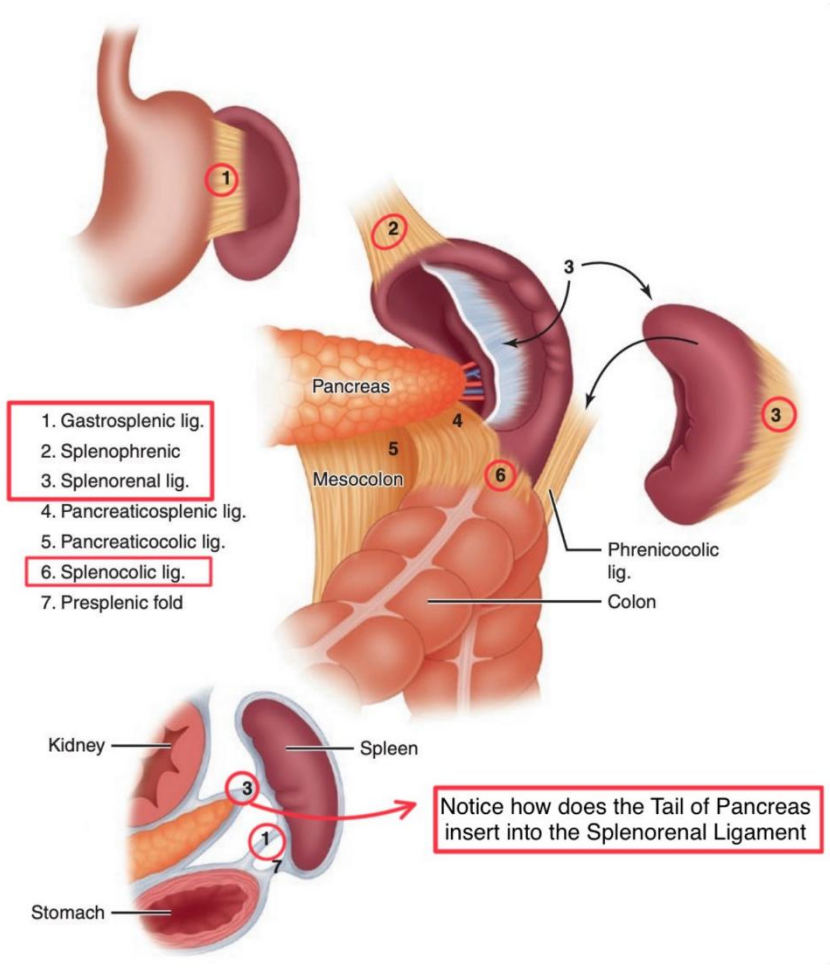
Note:The prefix "Lieno" means Relating to the Spleen

3- Phrenicosplenic ligament

- ✓ Runs between the diaphragm and the upper pole of the spleen.

4- Splenocolic ligament

- ✓ Between the **Splenic Flexure** of the colon (**left colic flexure**) and the inferior surface of the **Spleen**



3- Ligaments of Stomach

- Ligaments participating in the formation of the Lesser Omentum :

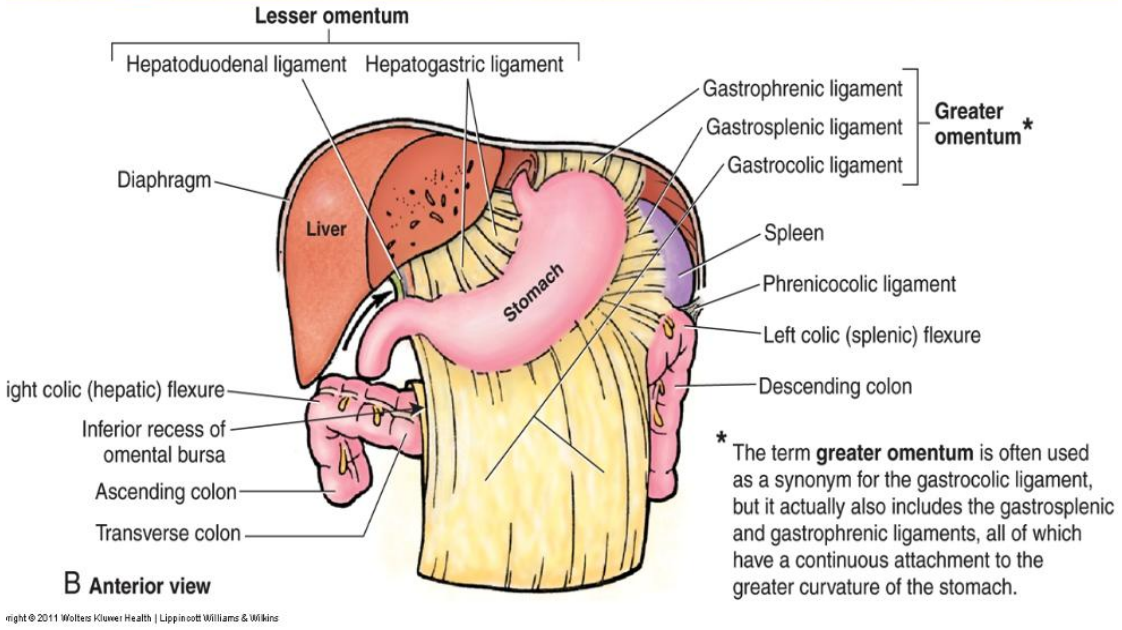
- ✓ Hepatogastric ligament

- Ligaments participating in the formation of the Greater Omentum :

- ✓ Gastrosplenic ligament (with the spleen)
- ✓ Gastrophrenic ligament (with the diaphragm)
- ✓ Gastrocolic ligament (with the colon)

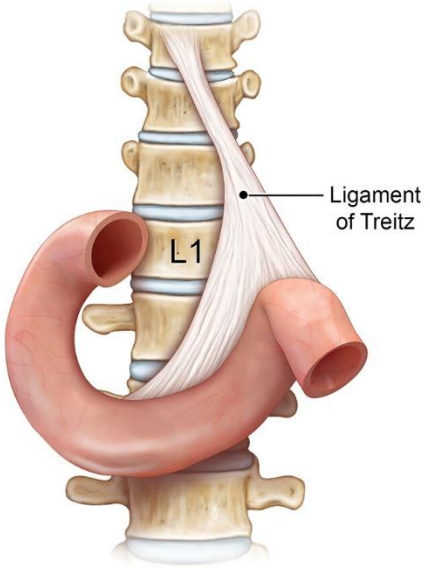
- Other Gastric Ligaments :

- ✓ Gastropancreatic Ligament (with pancreas)



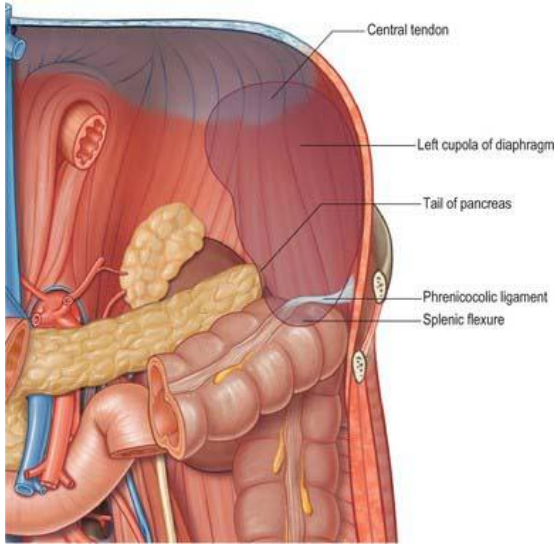
4- Suspensory ligament of the duodenum (Ligament of Treitz):

- ✓ It attaches the **Duodenojejunal Junction** to the **Right Crus of the Diaphragm**.



5- Phrenicocolic ligament:

- ✓ A peritoneal fold stretching from the **left colic (splenic) flexure** of the colon to the **diaphragm**, opposite the **10th–12th ribs.**



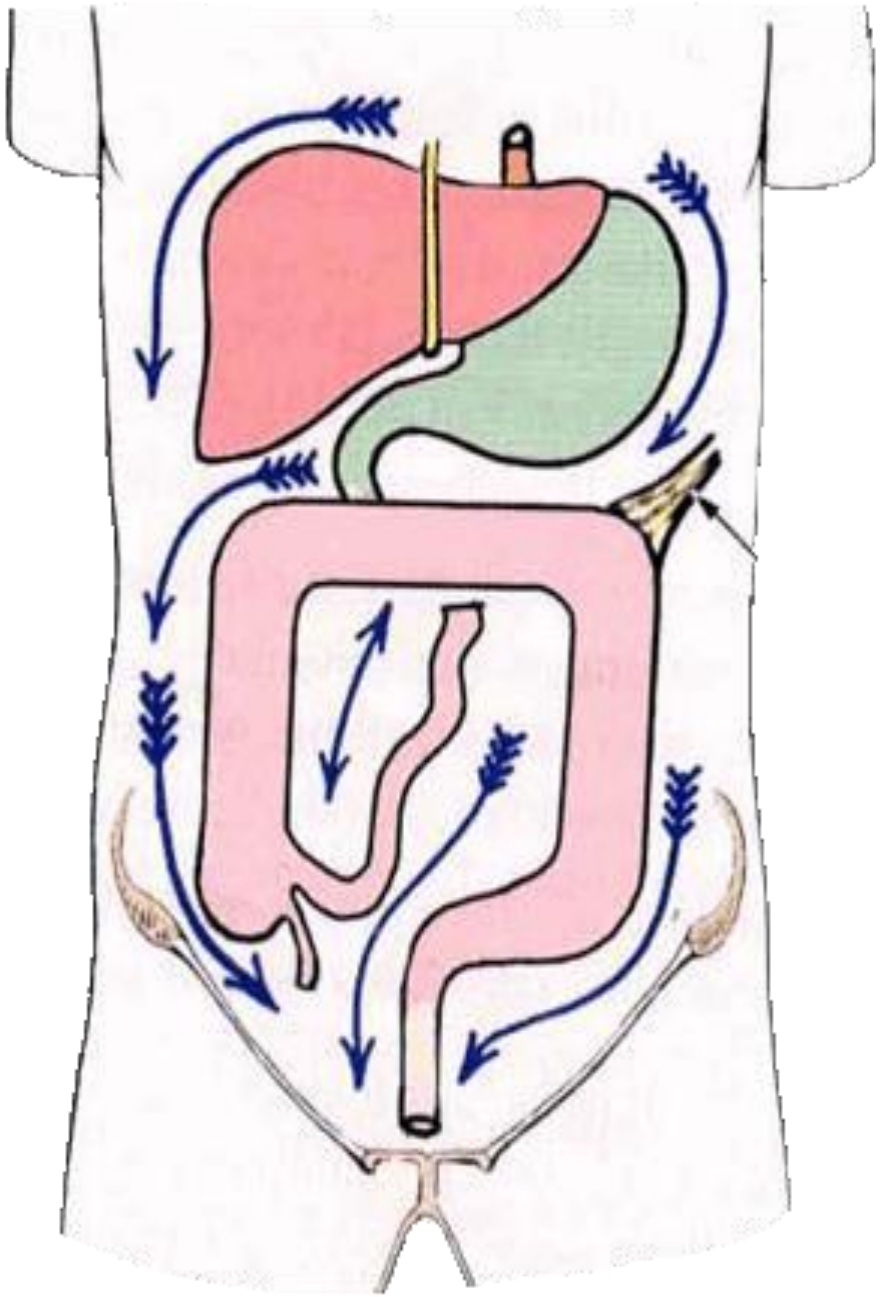
- The Protective Role of the Peritoneal Ligaments :

✓ These ligaments act as **Mechanical Barriers** that **limit the spread of infections** through the different compartments of the abdominal cavity.

- **Ex:**

✓ **Splenic Ligaments :** Infections or inflammatory infiltrate are **less probable** to spread to the **Left Subphrenic Region** due to the presence of the **Splenic Ligaments.** In contrast, **the right side lacks** similar barriers, making it **more susceptible** to the spread of infection from sources like the greater omentum.

✓ **Root of Mesentery:** Infectious or inflammatory infiltrate originating from the **Left ovary** (**Left Infracolic Region**) could accumulate in the **Pelvic region**, But **not** in the **Right Infracolic Region** as they are **separated mechanically** by the **Root of Mesentery** (Remember, the root of mesentery divides the infracolic region of the greater sac into Right and Left regions)



✓ Clinical note with high importance :

✓ Infections in the **Right Infracolic Region** are **less probable to spread** to adjacent areas (As it is trapped by the root of mesentery + **doesn't open** to the **Pelvic Cavity**

- Spread of Intra-Abdominal Infections via Paracolic Gutters:

➢ **Right Paracolic Gutter:**

- Provides a continuous route for the spread of infections:

✓ **Superiorly** into the **supracolic region,** particularly the **Hepatorenal pouch.** *(will be discussed soon)*

✓ **Inferiorly** into the **pelvic cavity.**

➢ **Left Paracolic Gutter:**

✓ Infections can spread **inferiorly** into the **pelvis**

✓ But **cannot ascend** freely into the supracolic region due to the presence of the **Phrenicocolic Ligament.**

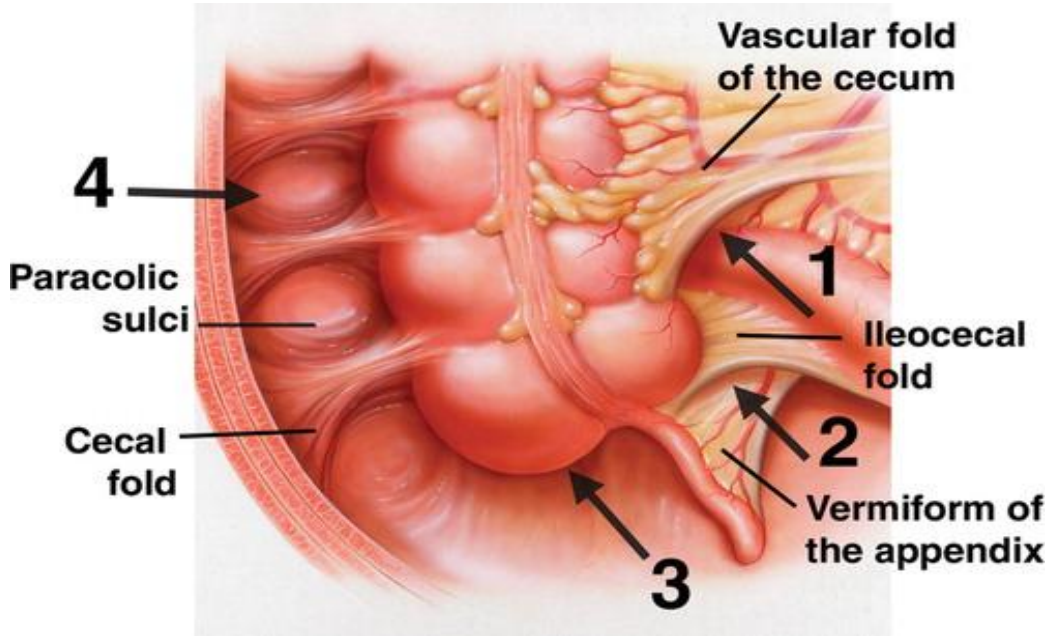
The Peritoneal Recesses (Peritoneal Fossae)

- ✓ In certain regions of the abdomen, folds of peritoneum create small **pouches** or **recesses** (also called fossae) **at the junctions between intraperitoneal and retroperitoneal organs.**

- These recesses are clinically important, as they may:

- ✓ Allow part of the intestine to enter and become trapped, leading to **Internal Hernias,** which eventually require **surgical intervention** to relieve the obstruction and restore bowel continuity.

- ✓ Site for **fluid accumulation** (e.g., blood, pus…)



*Note: Large Peritoneal Recesses are also called **Pouches***

Peritoneal Recesses, Examples:

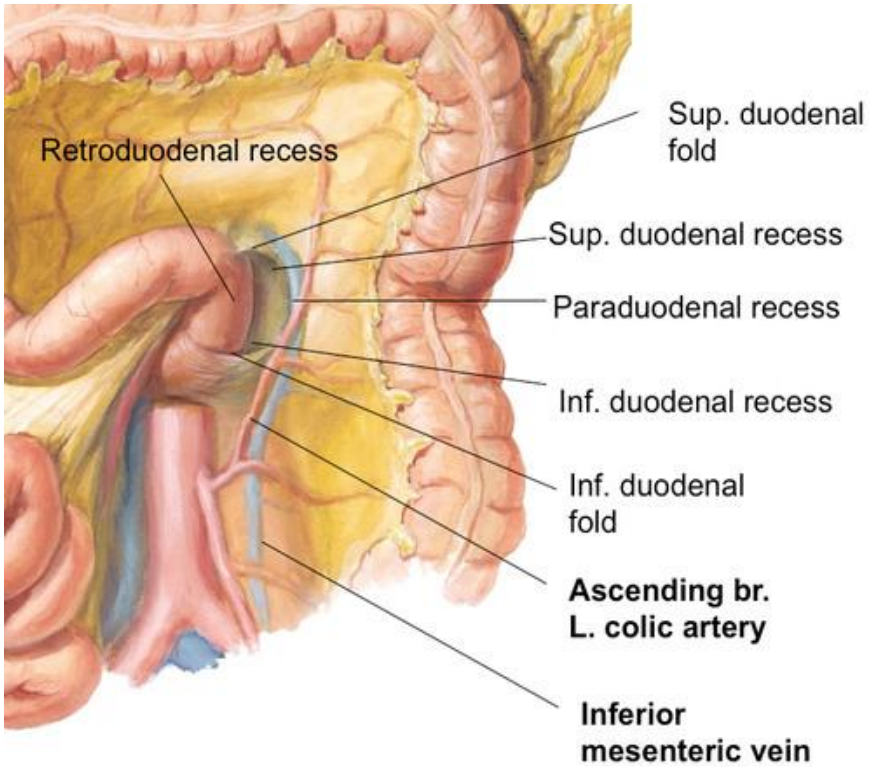
1- Duodenal Recesses (Found near the Duodenojejunal Flexure) :

1) Superior duodenal recess
2) Inferior duodenal recess
3) Paraduodenal recess

2- Cecal Recesses

3- Intersigmoid Recess

Duodenal recess:
*Between the **duodenum (retroperitoneal)** and the **jejunum (intraperitoneal)***
Cecal recess:
*Between the **cecum (intraperitoneal)** and the **ascending colon (retroperitoneal)***
Sigmoid recess:
*Between the **sigmoid colon (intraperitoneal)** and the **descending colon (retroperitoneal)***

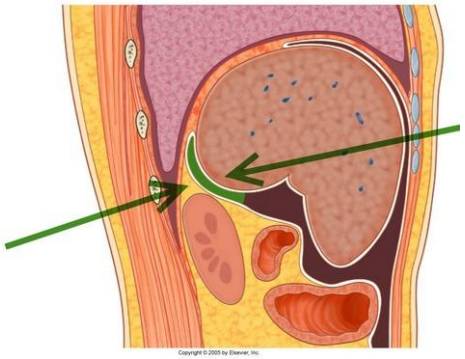


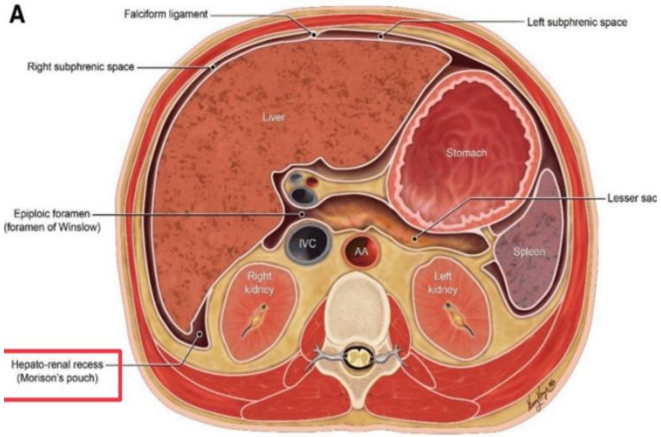
4- Hepatorenal Recess (Morrison's Pouch) :

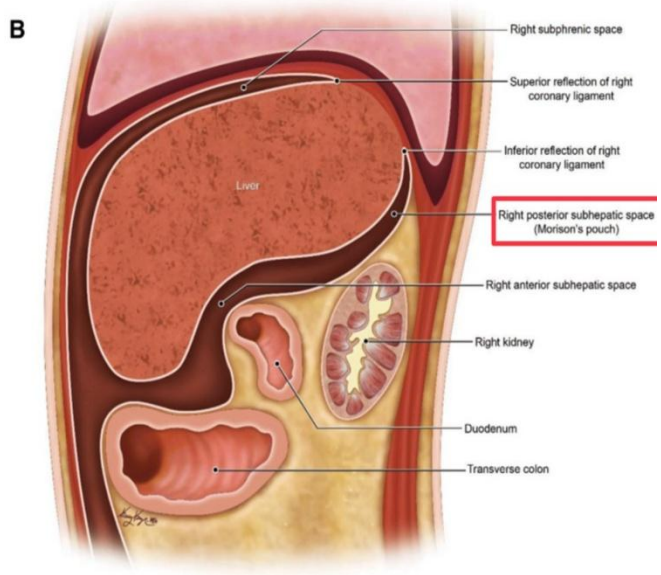
✓ Lies between: **Right lobe of the liver, Right kidney** and the **Right colic flexure**

- Clinical relevance:

✓ In addition to the recess being a common site for **Intestinal Herniation** and **Fluid Accumulation**, the Hepatorenal Recess is a common site for receiving **Pus from Appendicitis** if the patient **lies on his right side** with the his **hip flexed (raising intra-abdominal pressure).**







5- Pelvic Peritoneal Pouches :

(Pouches made from the inferior dipping of the peritoneum at the Pelvic Floor)

- **In Males:**

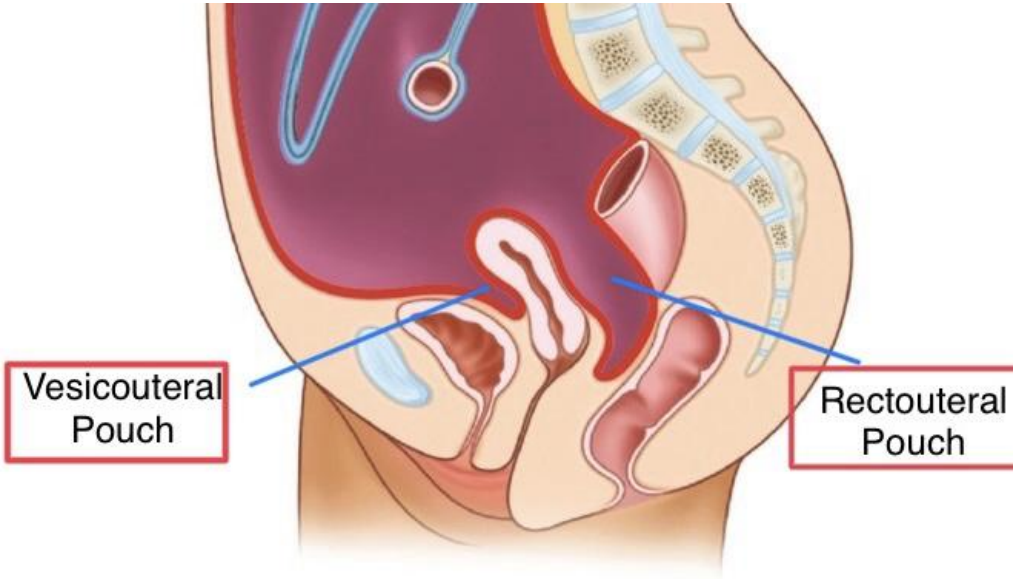
1) **Rectovesical Pouch ,** located between the **Rectum** and **Urinary Bladder.**

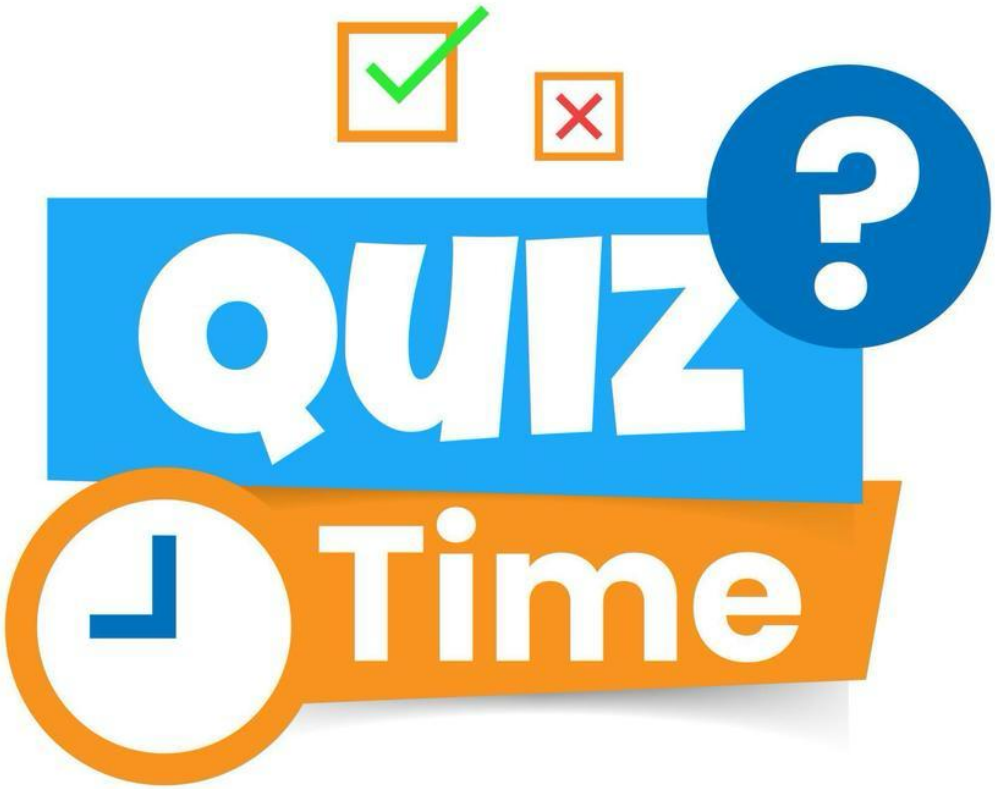
- **In Females :**

1) **Rectouterine Pouch (Pouch of Douglas),** between the **Rectum** and the **Uterus**.

2) **Vesicouterine Pouch,** between the **Urinary Bladder** and the **Uterus**.

*Note: The **Female's Pelvic Pouches** are usually **larger**, increasing the susceptibility for developing Internal Hernias and Fluid Accumulation*




Quiz
?
Time

For any feedback, scan the code or click on it.

Versions	Slide #	Before Correction	After Correction
V0 → V1	38 Multiple	Falciform ligament picture wrong -	Falciform ligament picture corrected Some general modifications
V1 → V2	Added slide 2 11 24 (table) 32	First inch of duodenum is intraperitoneal Kidney (compared to the duodenum)	First and last inches… Spleen (compared to the jejunum)
V2 → V3	23 33 41 & 42 (Rt. Figure)	One surface is covered with peritoneum, while the other is **attached to the abdominal wall** or **adjacent organs and structures**. **Ileocecal Artery** **Head of pancreas**	The entire organ is covered with peritoneum, except a certain surface or area (This bare area provides **attachment of the organ to the abdominal wall** or **adjacent organs and structures).** **Ileocolic Artery** **Tail of pancreas**

رسالة من الفريق العلمي:

إنّ الفرق بين من لا يأخذ من العلم إلّا المعلومة و من يأخذ المعلومة و يزداد بها إيمانًا هي ثوانٍ معدودة يتوقف فيها الإنسان بعد كل موضوعٍ جديدٍ تعلّمه لينسب و يرجع كل ما تعلمه من دقةٍ و عظمةٍ في الخلق الى خالقٍ حكيمٍ مصوّر