

# **Intestines**

## **Anatomy Practical**

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**College of Medicine**

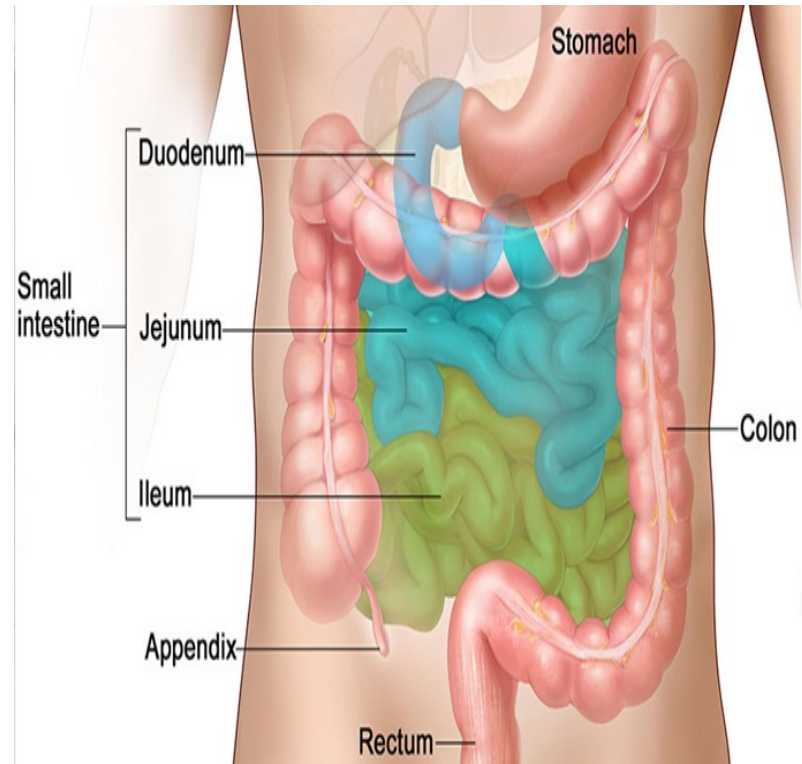
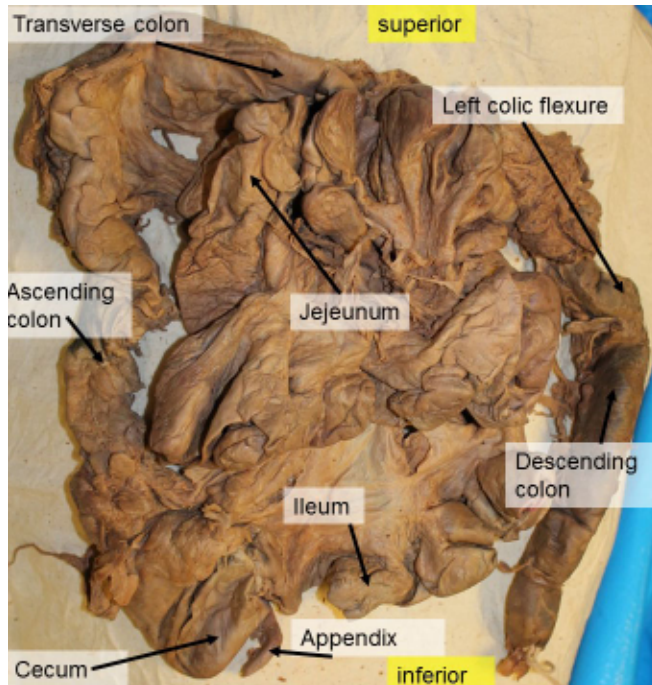
**King Saud University**

# SMALL INTESTINE

The small intestine is 6 meters long, extending from pyloric end of stomach down to ileocaecal junction, its parts are:

1- Duodenum: fixed part.

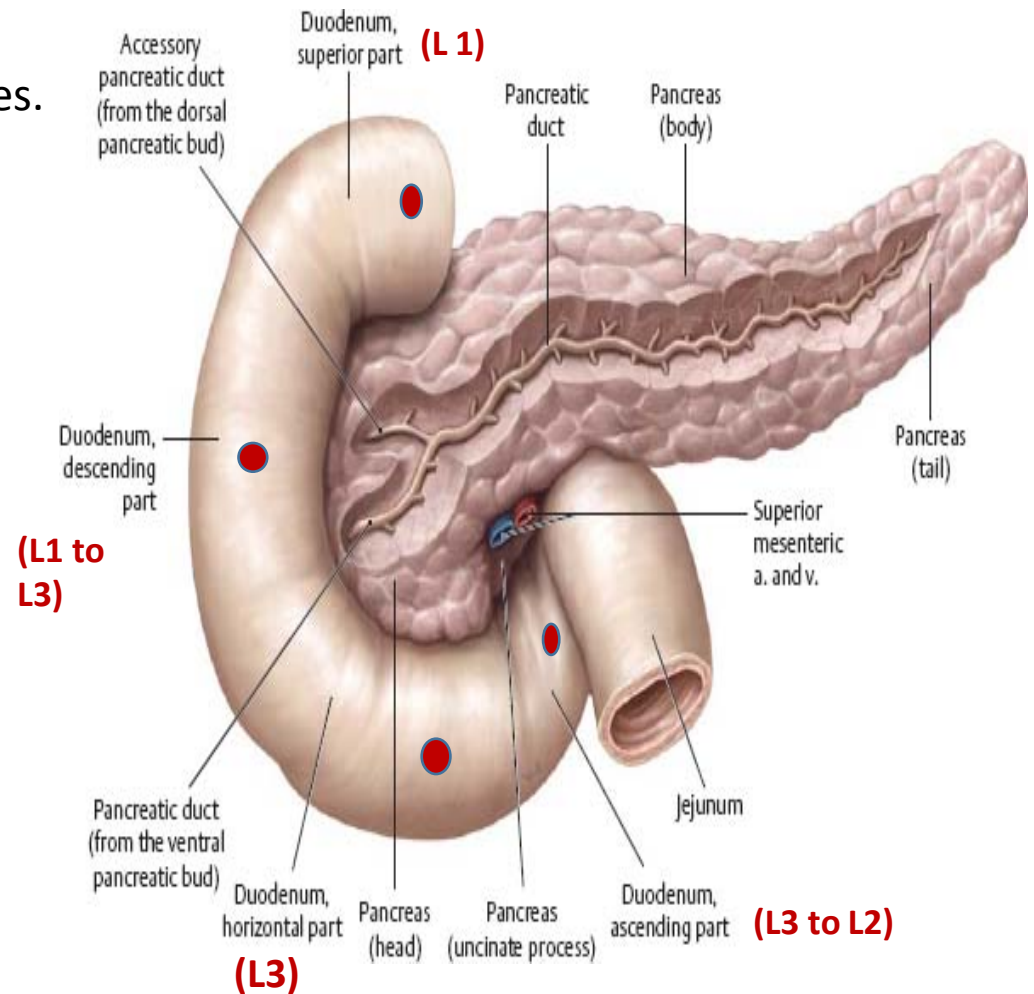
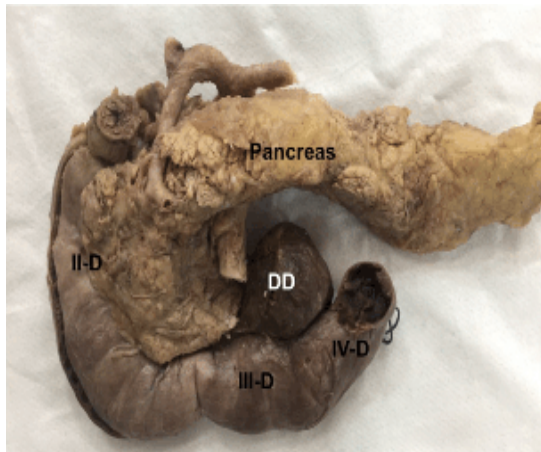
2- Jejunum & ileum: movable part (with mesentery).



# DUODENUM

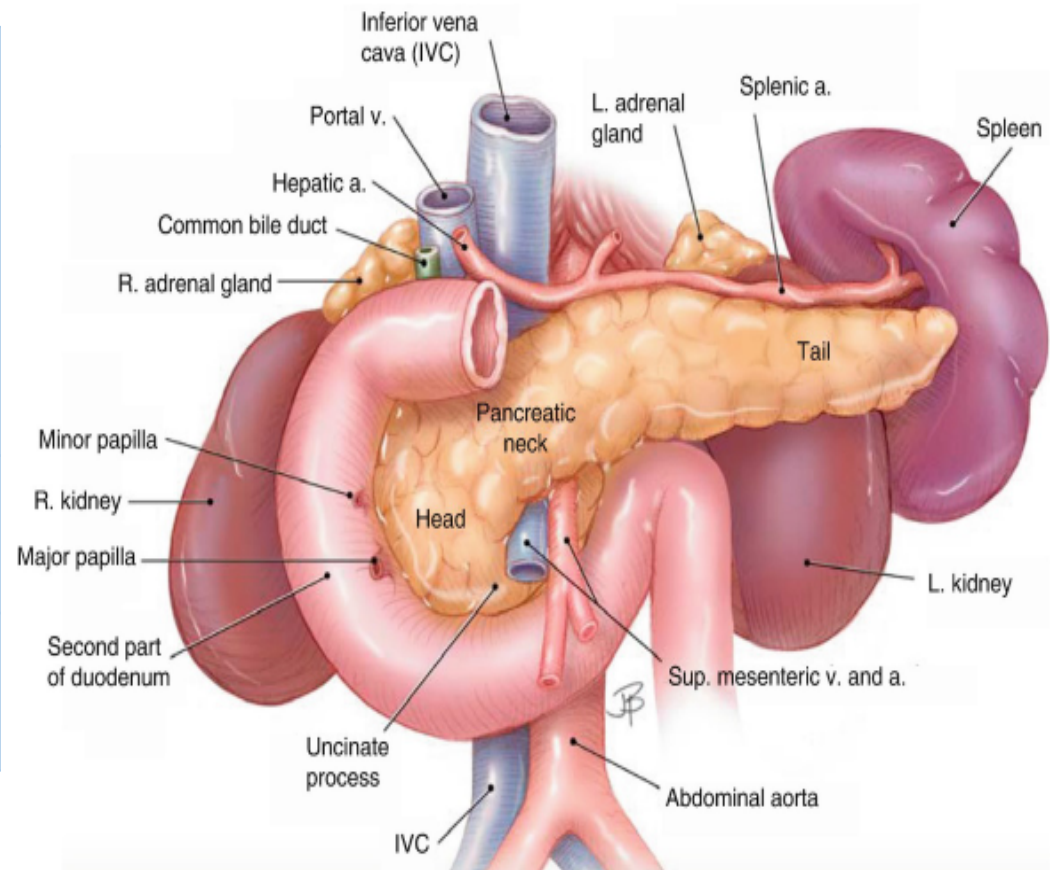
The duodenum (10 inches) is C shaped formed of 4 parts

1. First (superior) part: 2 inches.
2. Second (descending) part: 3 inches.
3. Third (horizontal) part: 4 inches.
4. Fourth (ascending) part: 1 inch.



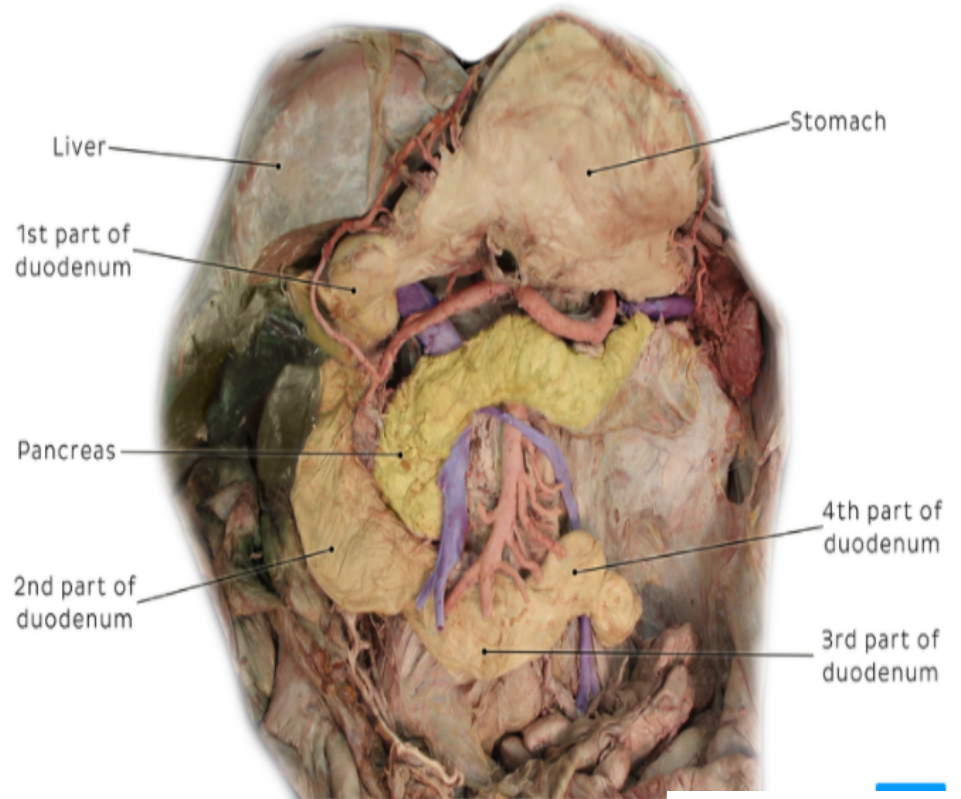
# Relations of the First Part of the Duodenum

<b>Anterior</b>	liver
<b>Posterior</b>	<ul style="list-style-type: none"> <li>• Gastroduodenal artery</li> <li>• Bile duct</li> <li>• Portal vein</li> </ul>
<b>Above</b>	Epiploic foramen
<b>Below</b>	Head and neck of pancreas



# Relations of the Second Part of the Duodenum

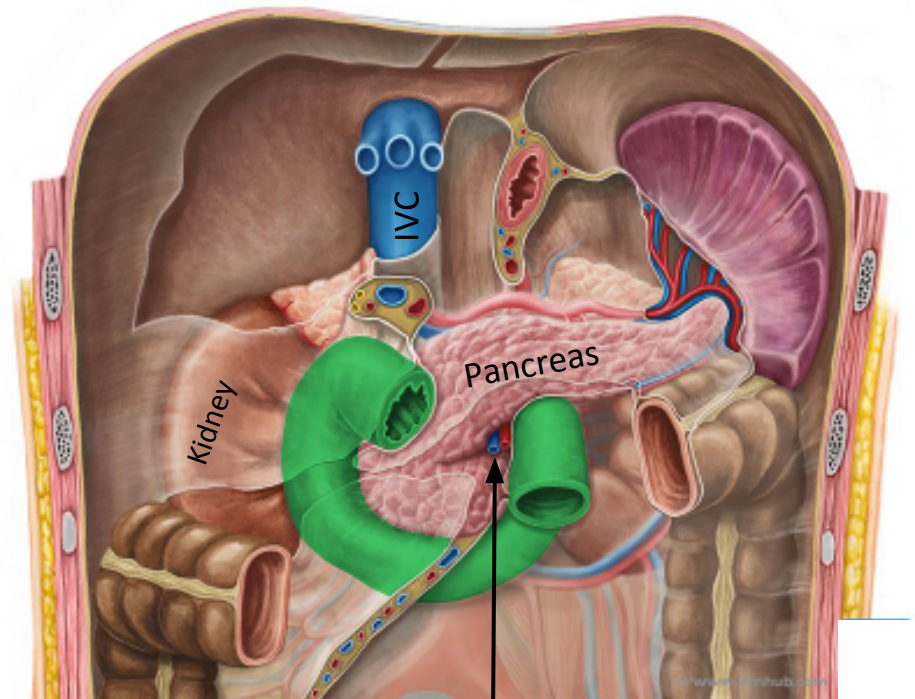
<b>Anterior</b>	<ul style="list-style-type: none"><li>• Liver</li><li>• Transverse Colon</li><li>• Small intestine</li></ul>
<b>Posterior</b>	Right kidney
<b>Medial</b>	Pancreas
<b>Lateral</b>	Right Colic Flexure





# Relations of the Third Part of the Duodenum

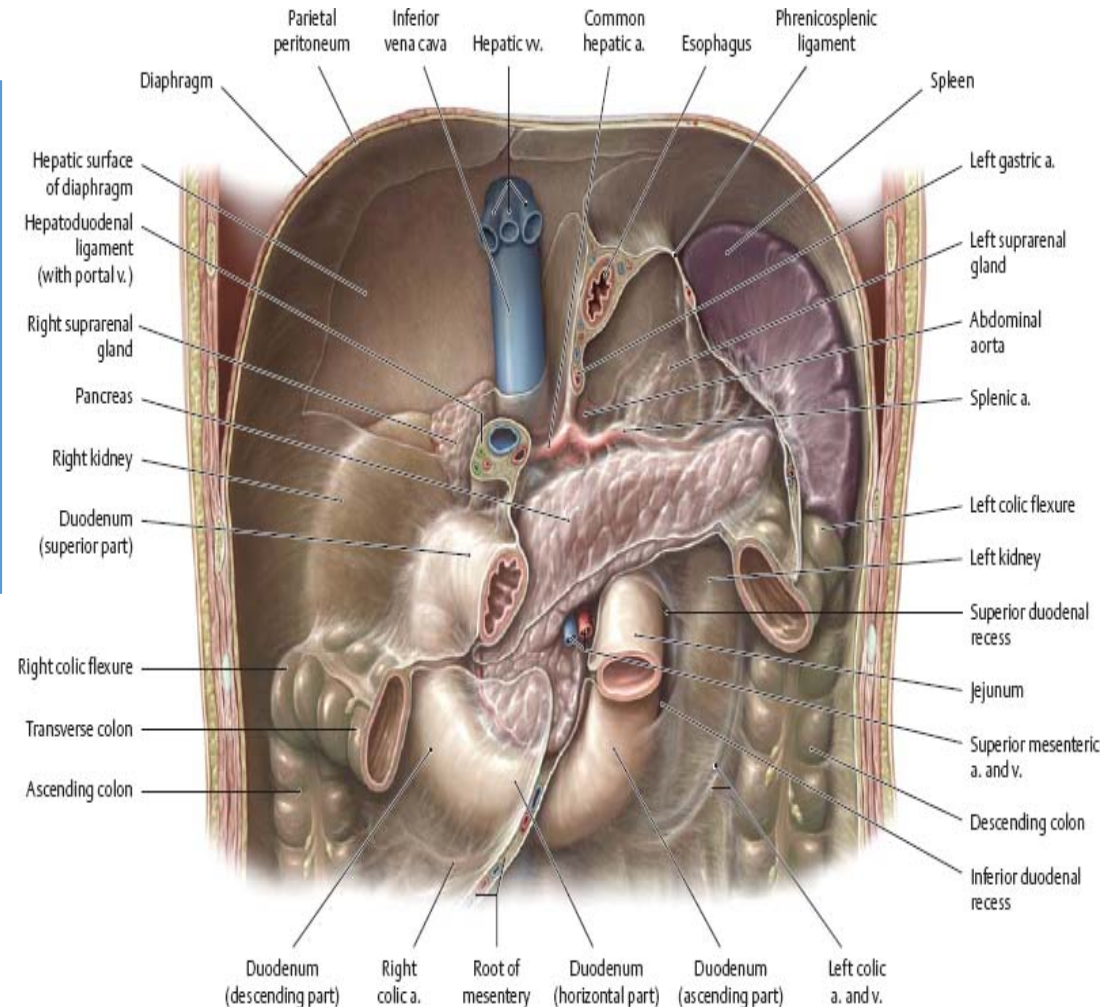
<b>Anterior</b>	Small intestine Superior mesenteric vessels
<b>Posterior</b>	Right psoas major Inferior vena cava Abdominal aorta Inferior mesenteric vessels.
<b>Above</b>	pancreas
<b>Below</b>	Coils of small intestine



Superior mesenteric vessels

# Relations of the Fourth Part of the Duodenum

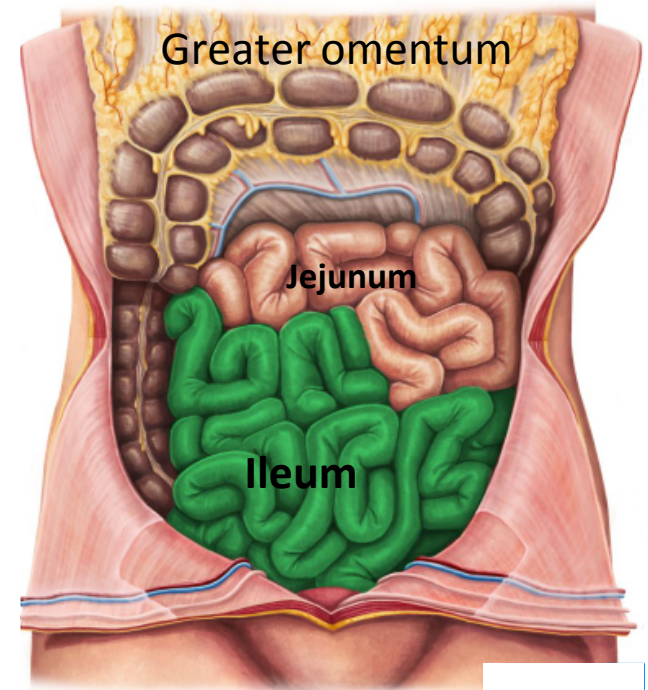
<b>Anterior</b>	Transverse colon and mesocolon
<b>Posterior</b>	Left psoas major Left gonadal vessels Left renal vessels
<b>Medial</b>	pancreas



# JEJUNUM AND ILEUM

Jejunum and ileum (Coiled tube, 6 meters long, begins at duodeno-jejunal flexure and ends at ileo-cecal junction).

	Jejunum	Ileum
<b>Length</b>	Shorter (proximal 2/5)	Longer (distal 3/5)
<b>Diameter</b>	Wider	Narrower
<b>Wall</b>	Thicker	Thinner
<b>Appearance</b>	Dark red (more vascular)	Light red (less vascular)
<b>vessels</b>	Few arterial arcades (long vasa recta)	Many arterial arcades (short vasa recta)
<b>Mesenteric fat</b>	Small amount & away from intestinal border	Large amount & close to intestinal border

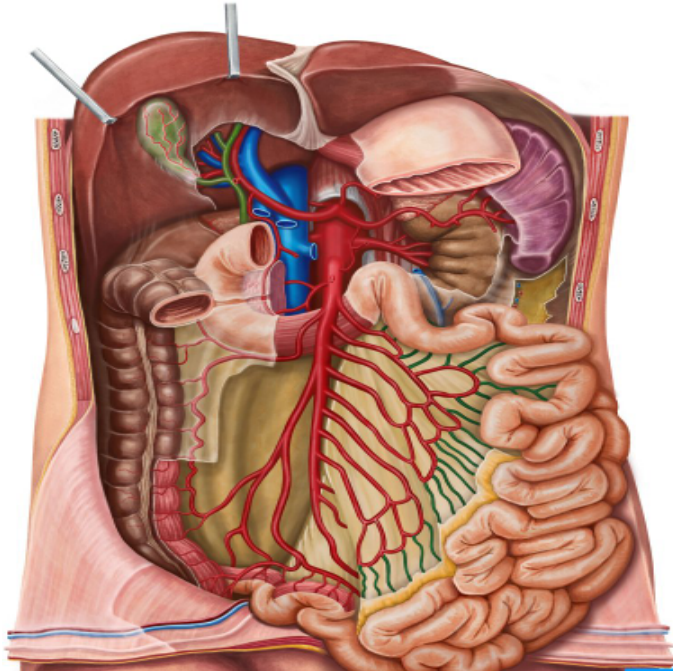




# Blood Supply of Small Intestine

## Duodenum

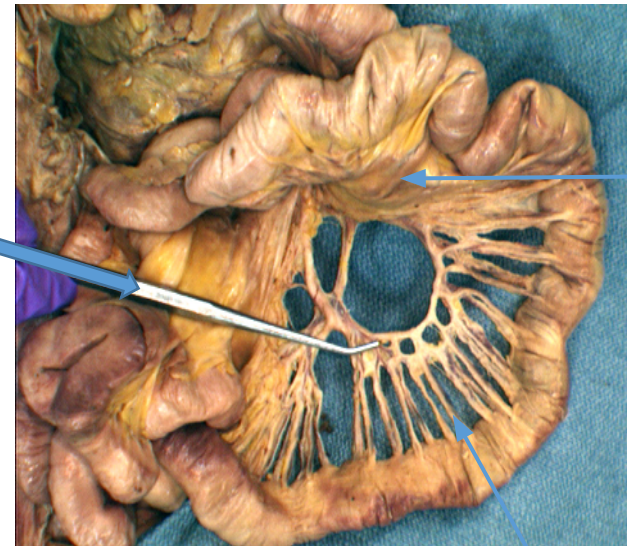
- 1- Gastroduodenal artery from coeliac trunk
- 2- Inferior pancreaticoduodenal artery from superior mesenteric artery



## Jejunum and ileum

Jejunal and ileal branches from superior mesenteric artery forming arterial arcades with terminal straight vessels called vasa recta

Arterial arcades



Mesentery, Mesenteric fat

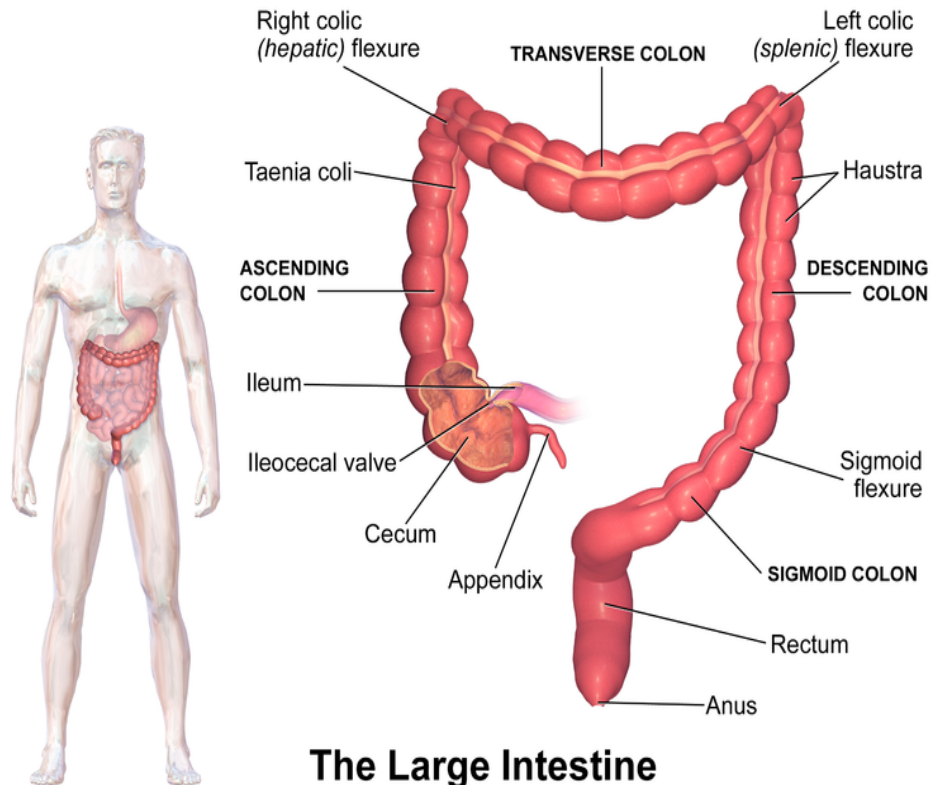
Vasa recta

# LARGE INTESTINE

Large intestine is 1.5 meters, extending from caecum at orifice guarded by ileocaecal valve to anal canal at orifice guarded by anal sphincter.

Parts:

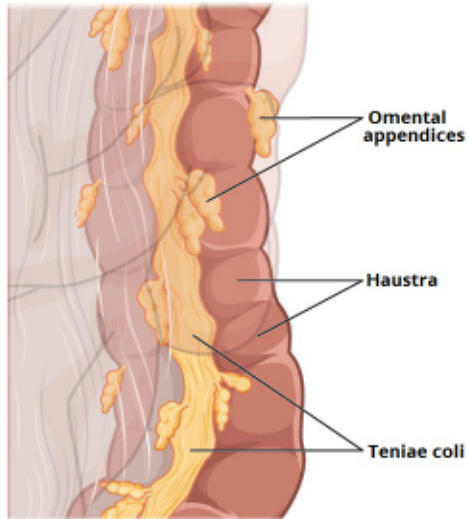
1. Cecum.
2. Appendix.
3. Ascending colon.
4. Transverse colon.
5. Descending colon.
6. Sigmoid colon.
7. Rectum.
8. Anal canal.



**The Large Intestine**

# Characters of Large Intestine

1. Appendices epiploicae: except in rectum & anal canal.
2. Sacculations (Haustrations).
3. Taeniae coli.



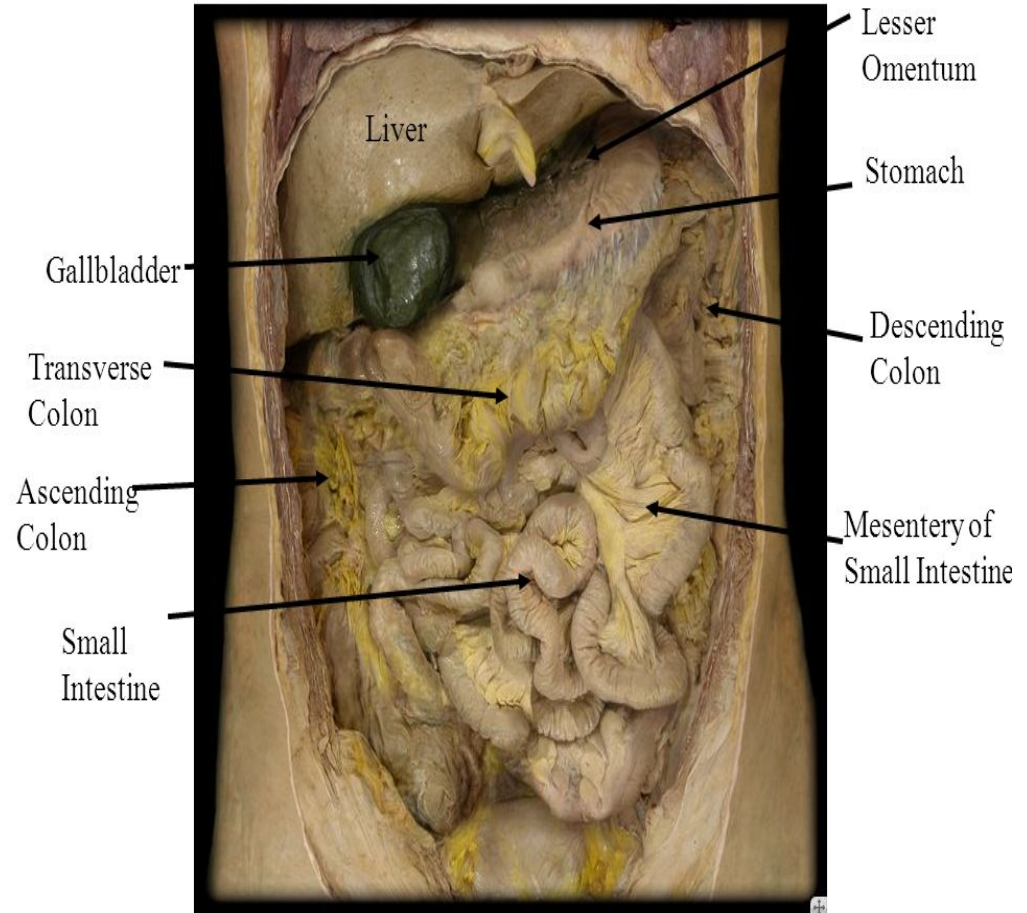
# Relations of Large Intestine

## Anterior relations of cecum, ascending & descending colon

- Coils of small intestine.
- Greater omentum.
- Anterior abdominal wall.

## Anterior Relations of transverse colon

- Greater omentum.
- Anterior abdominal wall.





# Posterior Relations of Large Intestine

	Posterior relations
<b>Caecum</b>	psoas major, genitofemoral nerve, iliacus, lateral cutaneous nerve of thigh, femoral nerve
<b>Ascending colon</b>	iliacus, lateral cutaneous nerve of thigh, quadratus lumborum, ilioinguinal nerve, iliohypogastric nerve, iliac crest, origin of transversus abdominis from lumbar fascia
<b>Descending colon</b>	relations of cecum + relations of ascending colon + left kidney
<b>Transverse colon</b>	2nd part of duodenum, head of pancreas, coils of small intestine
<b>Sigmoid colon</b>	Rectum, Sacrum, Ileum

# Vermiform Appendix

- Worm-like tube 5 to 15 cm long. Opens at posteromedial aspect of cecum, 1 inch below ileo-cecal junction.
- It is completely enclosed by peritoneum “**mesoappendix**”.

## “McBurney’s point”

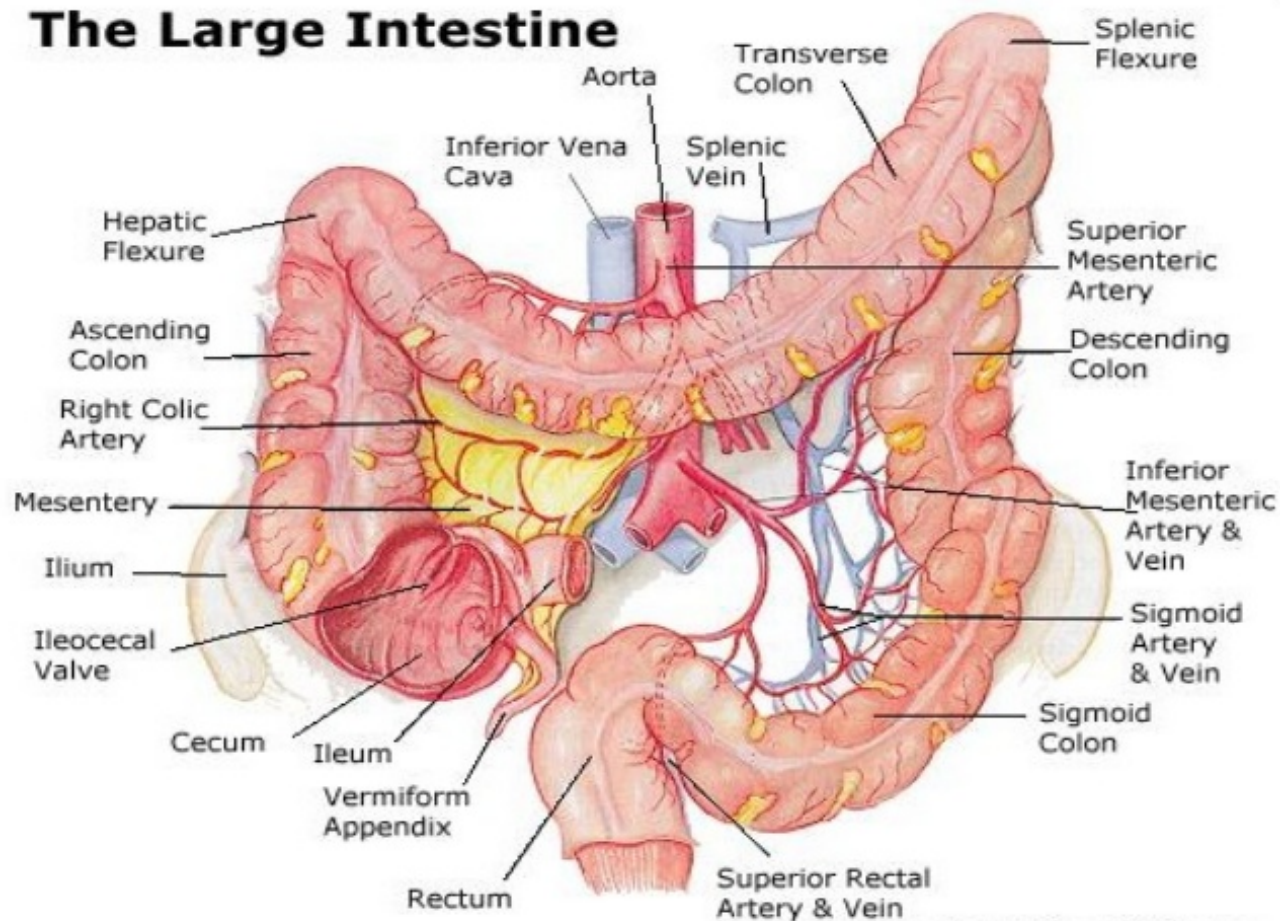
A point at the junction between lateral 1/3 & medial 2/3 of a line extending from right anterior superior iliac spine to umbilicus.



Represents the base of the appendix



# Blood Supply of Large Intestine



# Blood Supply of Large Intestine

## Superior mesenteric artery

### Branches for large intestine

#### 1- Ileocolic artery

- Ascending colon (lower  $\frac{1}{4}$ ).
- Anterior and posterior cecal branches to cecum.
- Appendicular artery.

#### 2- Right colic artery

- Ascending colon (upper  $\frac{3}{4}$ ).
- Right colic flexure.

#### 3- Middle colic artery

- Right  $\frac{2}{3}$  of the transverse colon.

## Inferior mesenteric artery

### Branches for large intestine

#### 1- Left colic artery

- Left  $\frac{1}{3}$  of transverse colon.
- Left colic flexure.
- Upper part of descending colon.

#### 2- Sigmoid arteries

- Lower part of descending colon.
- Sigmoid colon.

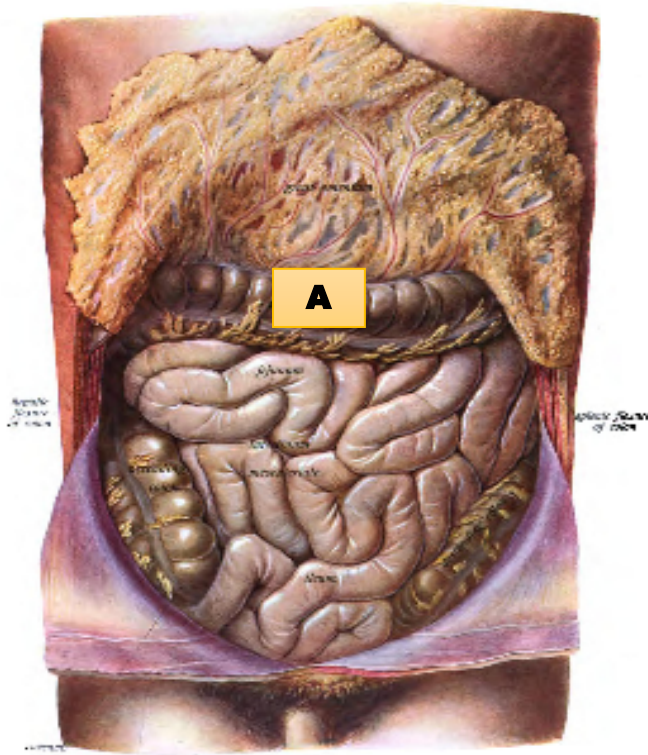
#### 3- Superior rectal artery

- Rectum.

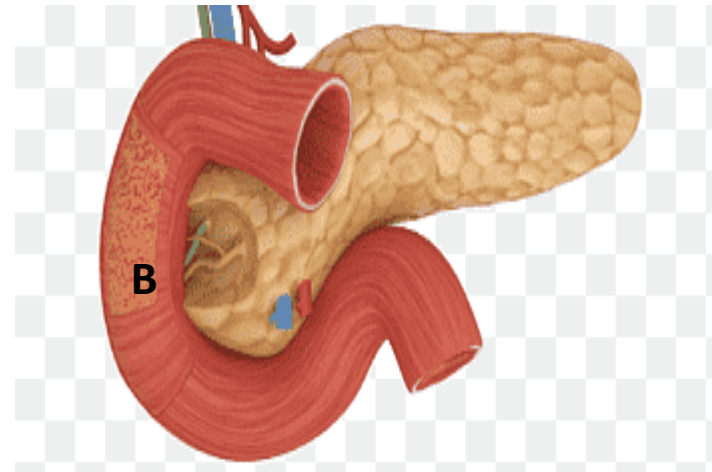


# Revision

- Name the structure (A).
- Mention the posterior relations of (A).



- Name the structure (B).
- Mention the anterior relations of (B).
- Mention the anatomical level of (B).



**Thank You**

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