•ANATOMY OF THE SMALL INTESTINE

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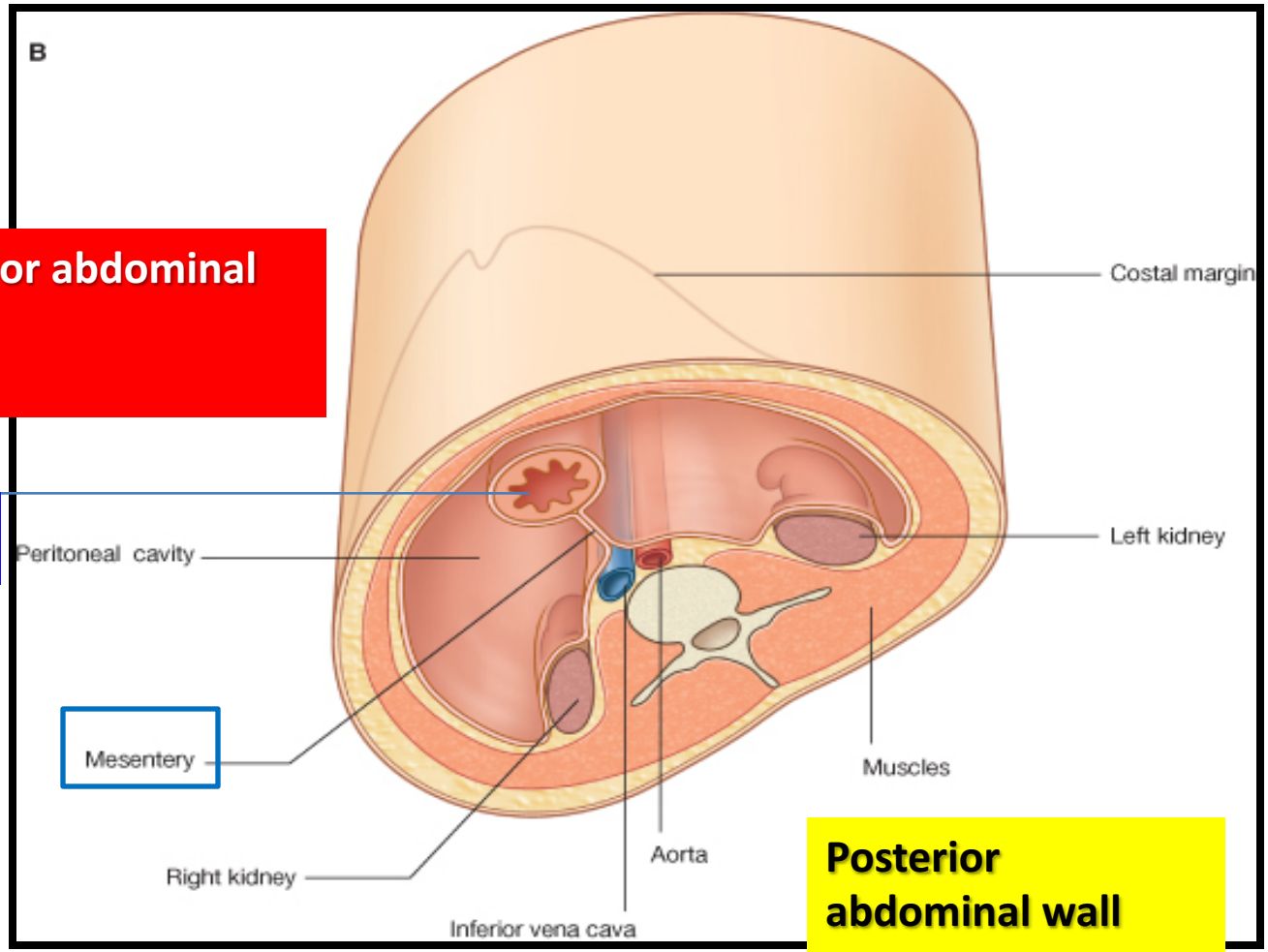
OBJECTIVES

At the end of the lecture, students should:

- List the different **parts** of small intestine.
- Describe the anatomy of **duodenum, jejunum & ileum** regarding: *the shape, length, site of beginning & termination, peritoneal covering, arterial supply & lymphatic drainage.*
- Differentiate between each part of duodenum regarding *the length, level & relations.*
- Differentiate between the **jejunum & ileum** regarding *the characteristic anatomical features of each of them.*

What is MESENTERY?

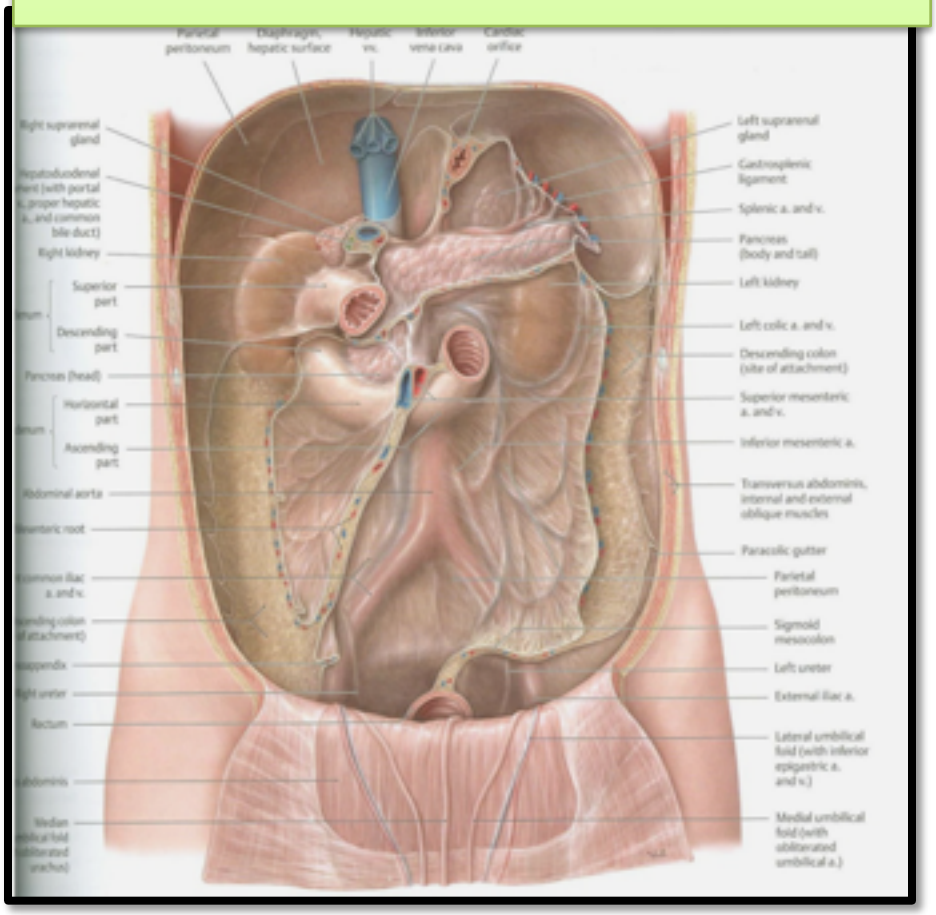


Anterior abdominal wall

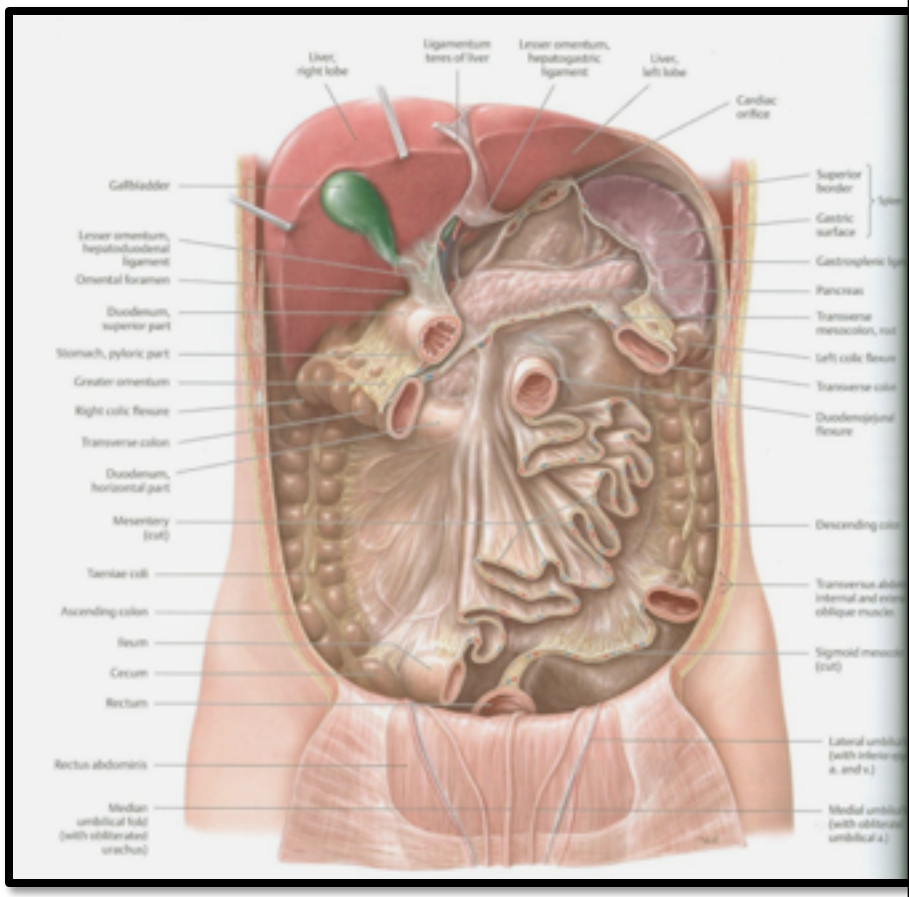
Loop of intestine

Posterior abdominal wall

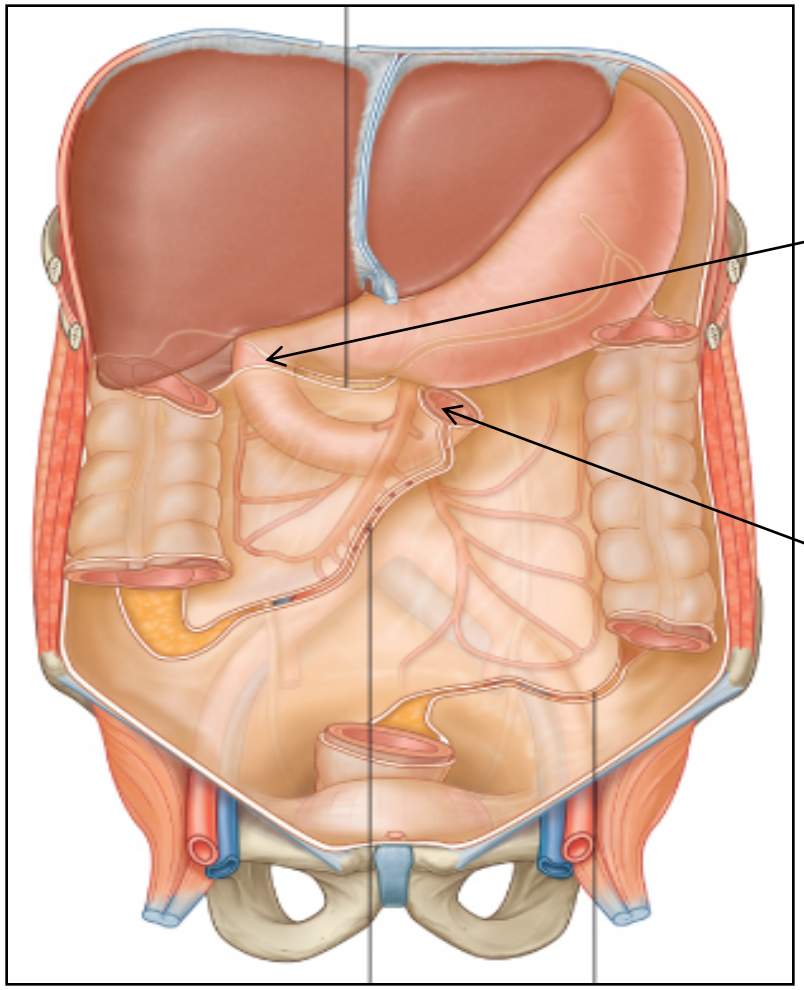
FIXED (Retro peritoneal) PART (NO MESENTERY) DUODENUM



FREE (MOVABLE) PART (WITH MESENTERY) JEJUNUM & ILEUM

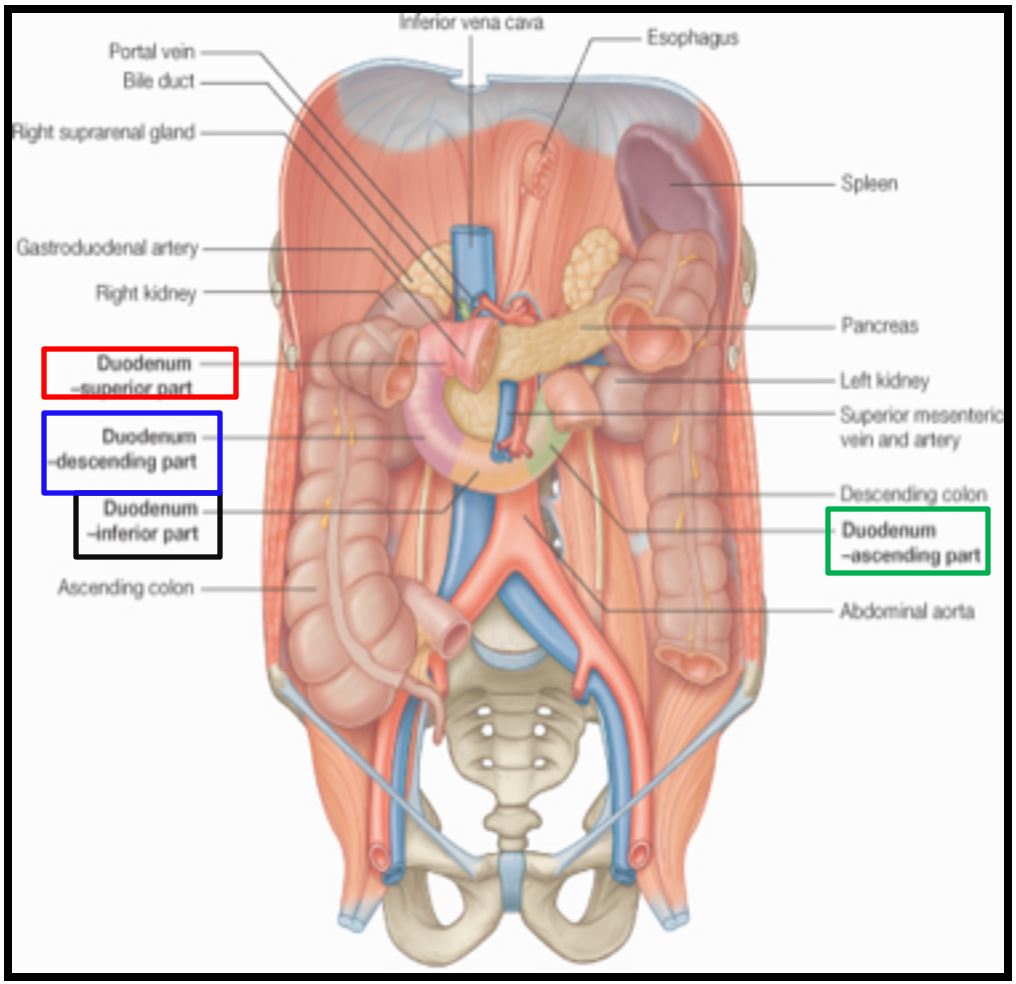


DUODENUM



- **SHAPE:** C-shaped loop
- **LENGTH:** 10 inches
- **BEGINNING:** at pyloro-duodenal junction
- **TERMINATION:** at duodeno-jejunal flexure
- **PERITONEAL COVERING:** retroperitoneal

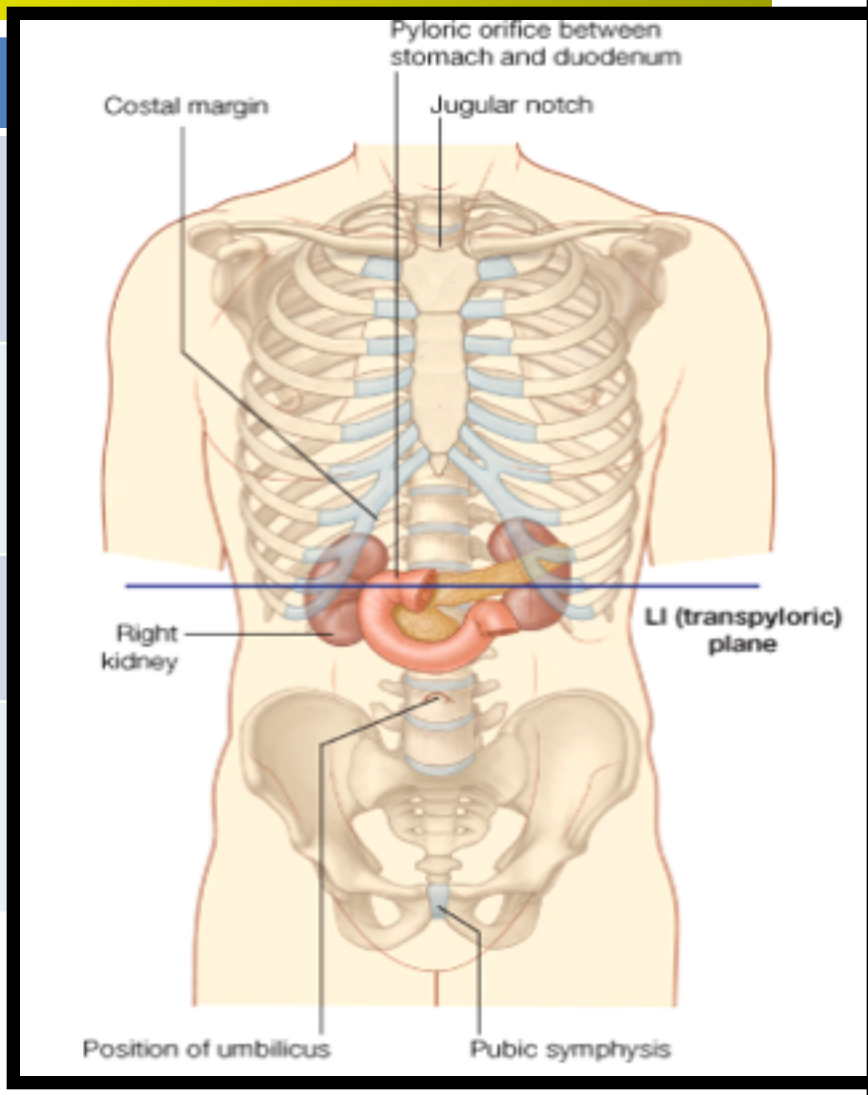
PARTS



- **The duodenum is divided into (4) parts:**
- **1st : Superior.**
- **2nd : Descending (vertical).**
- **3rd : Inferior (Horizontal)**
- **4th : Ascending**

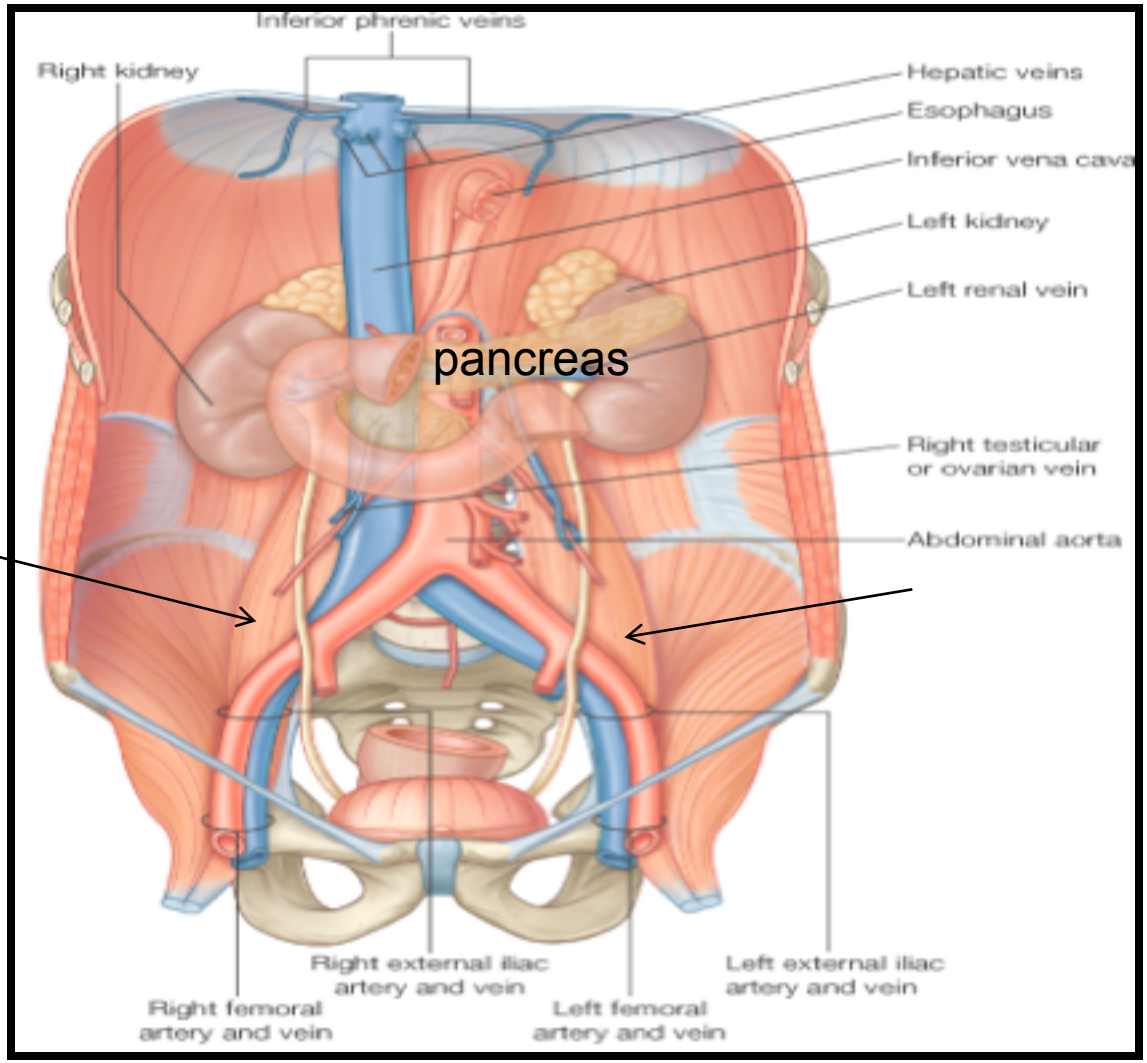
LENGTH – SURFACE ANATOMY

PART	LENGTH	LEVEL
FIRST PART (Superior)	2 INCHES	L1 (Transpyloric Plane)
SECOND PART (Descending	3 INCHES	DESCENDS FROM L1 TO L3
THIRD PART (Horizontal)	4 INCHES	L3 (SUBCOTAL PLANE)
FOURTH PART (Ascending)	1 INCHES	ASCENDS FROM L3 TO L2

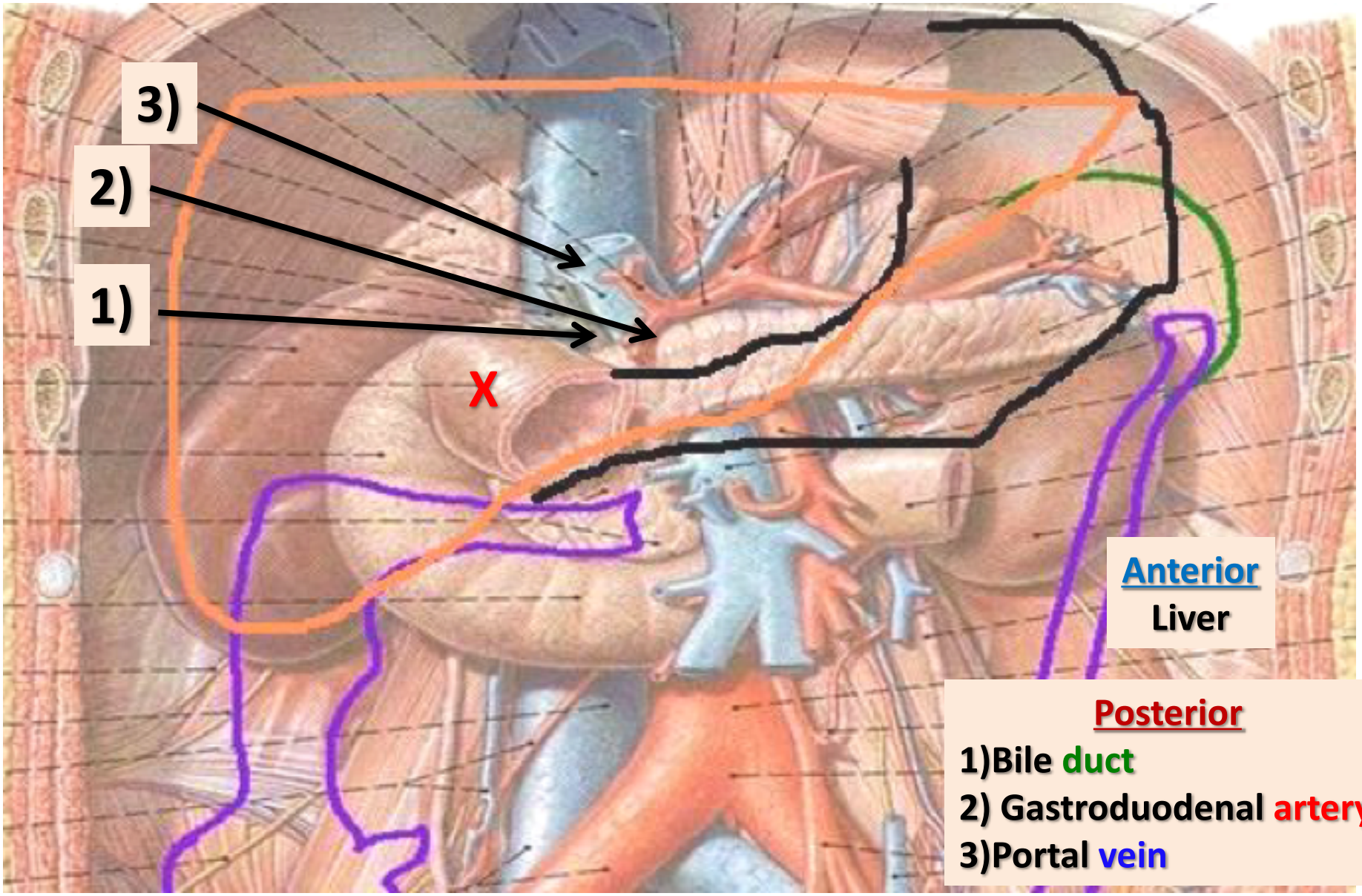


Structures Related

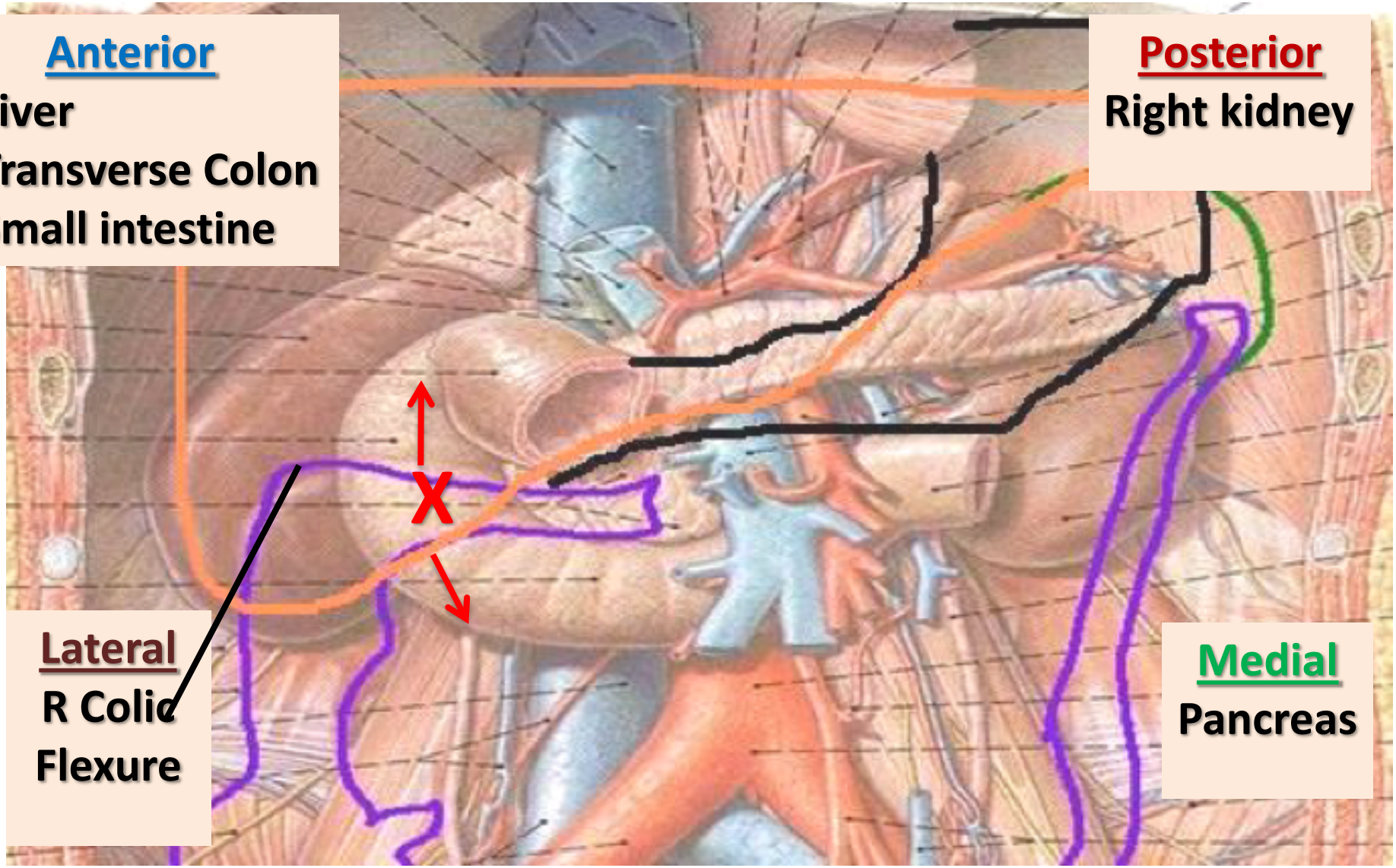
psoas



RELATIONS OF FIRST PART

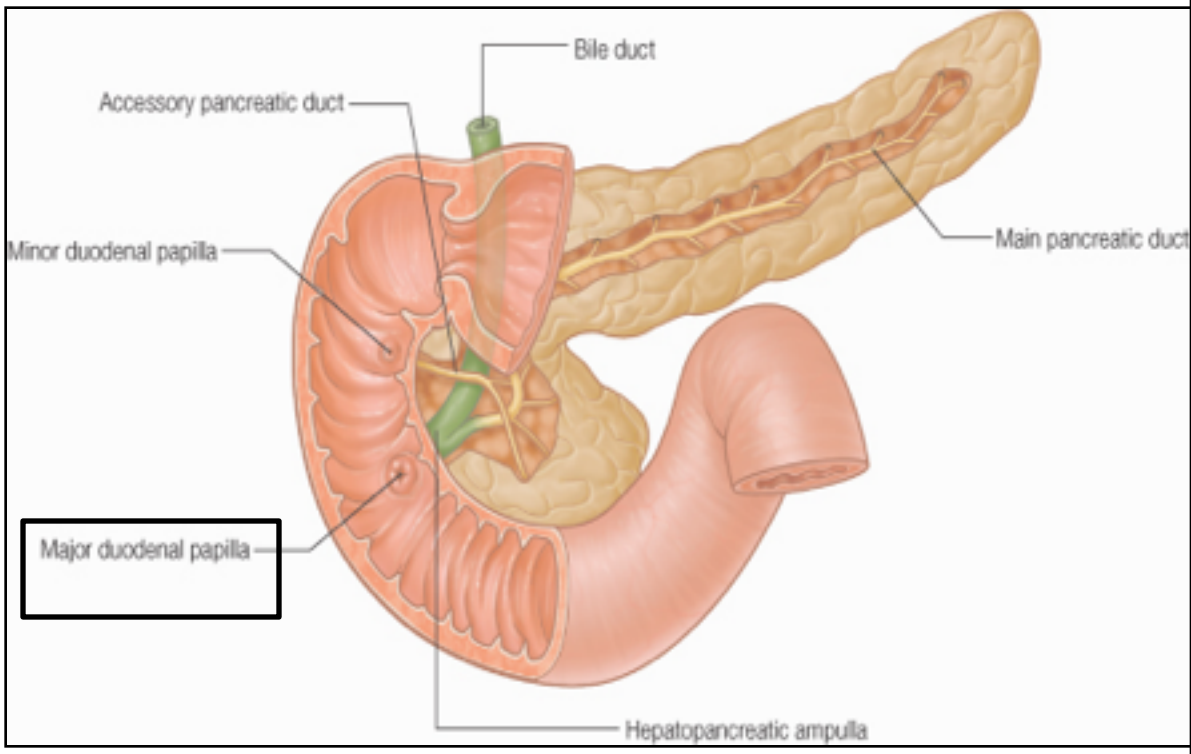


RELATIONS OF SECOND PART

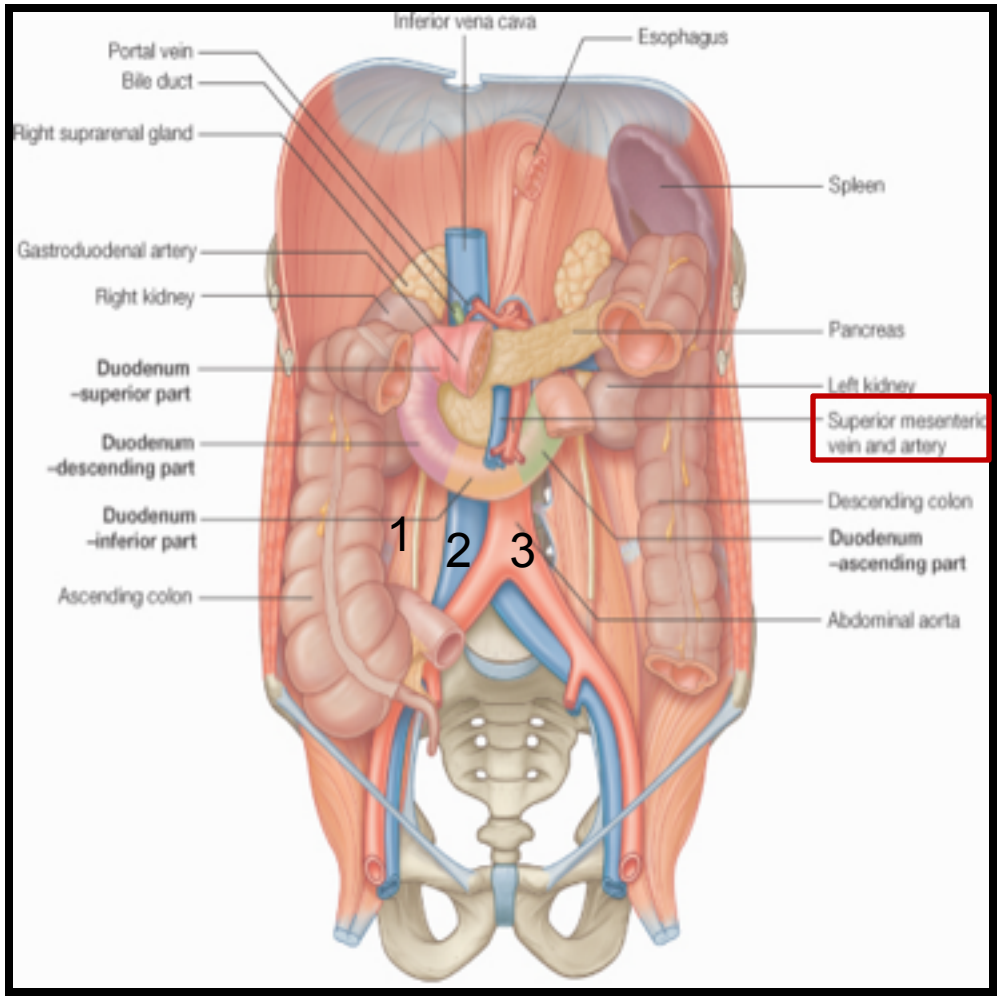


OPENINGS IN SECOND PART OF DUODENUM

1. **Common opening of bile duct & main pancreatic duct:** on summit of major duodenal papilla.
2. **Opening of accessory pancreatic duct** (one inch higher): on summit of minor duodenal papilla.



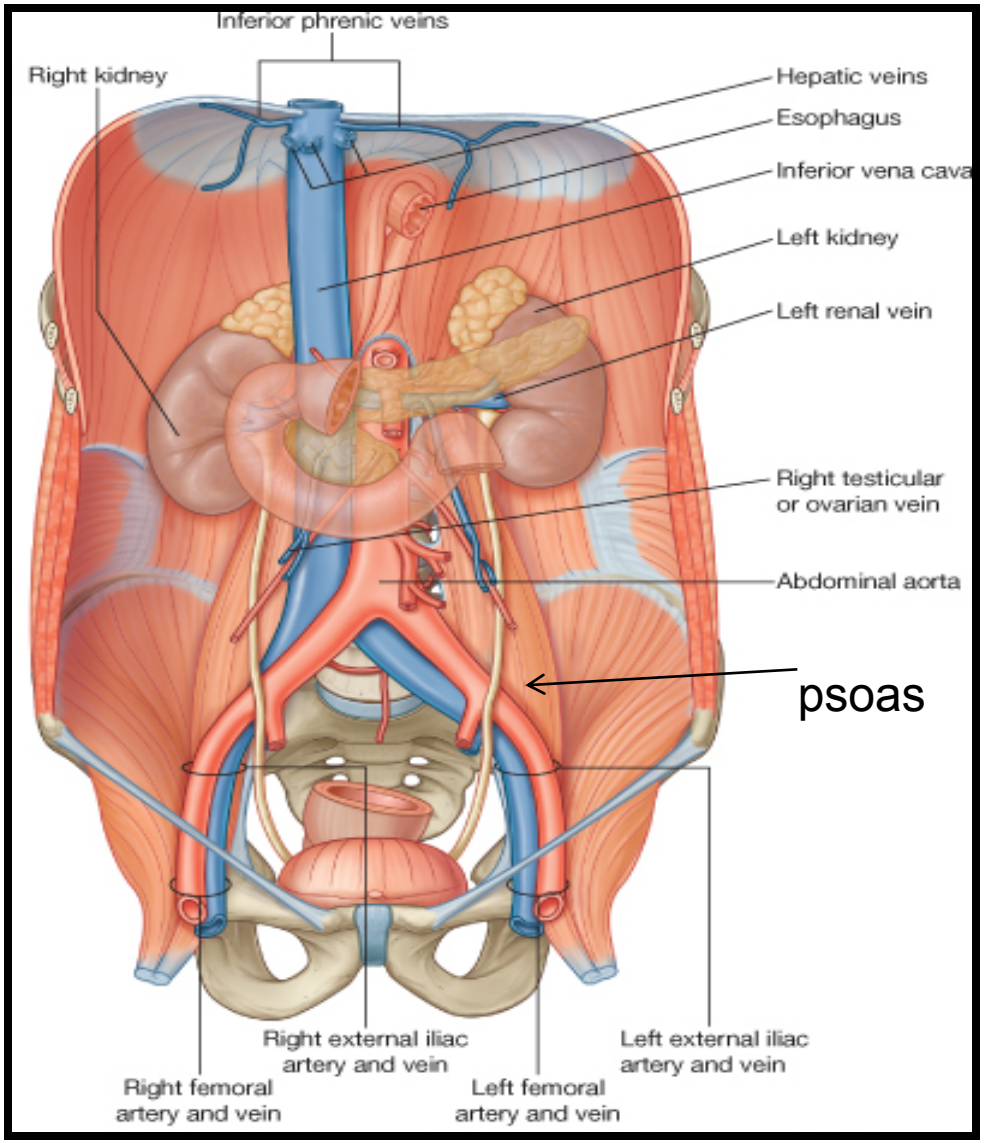
RELATIONS OF THIRD PART



- **Anterior:**
  - a) Small intestine
  - b) Superior mesenteric vessels
- **Posterior:**
  - 1) Right psoas major
  - 2) Inferior vena cava
  - 3) Abdominal aorta
  - 4) Inferior mesenteric vessels.

RELATIONS OF FOURTH PART

- **Anterior:**
  - Small intestine
- **Posterior:**
  - Left psoas major



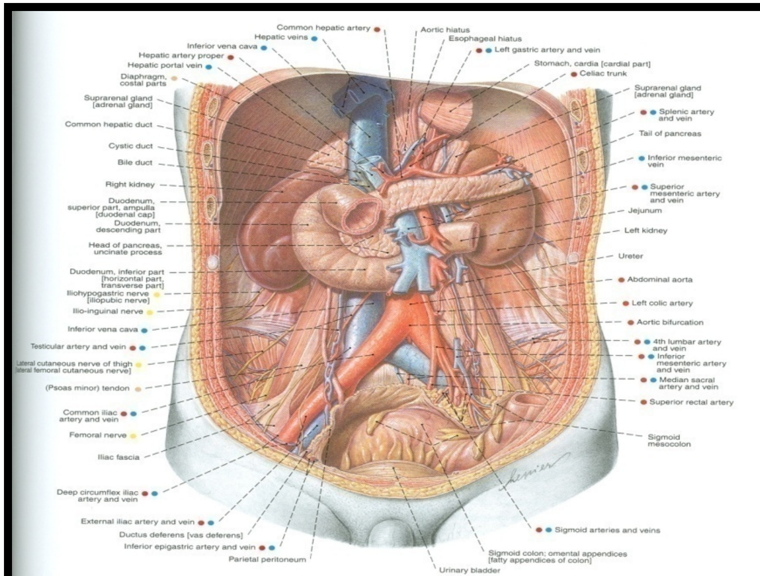
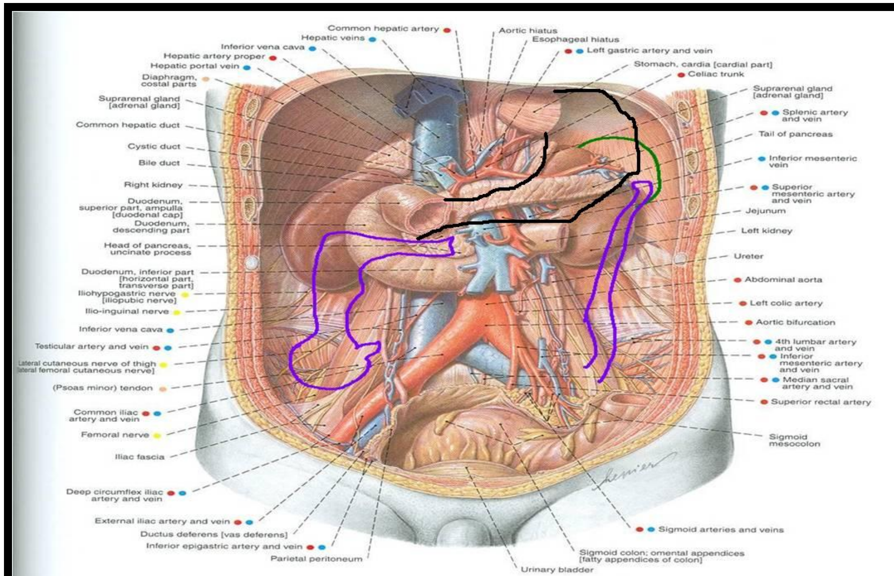


Fig. 1027 **Retroperitoneal space in the male; parietal** peritoneum extensively removed; ventral aspect.



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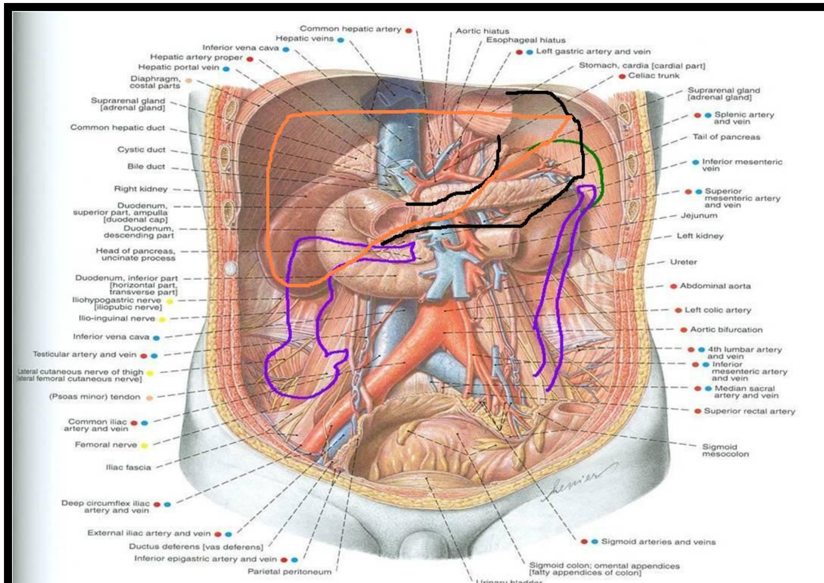

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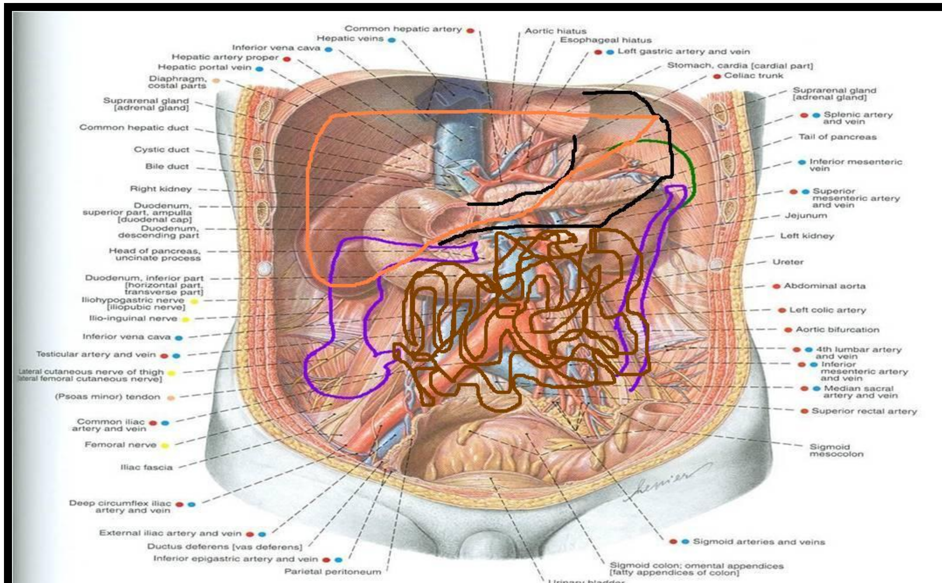

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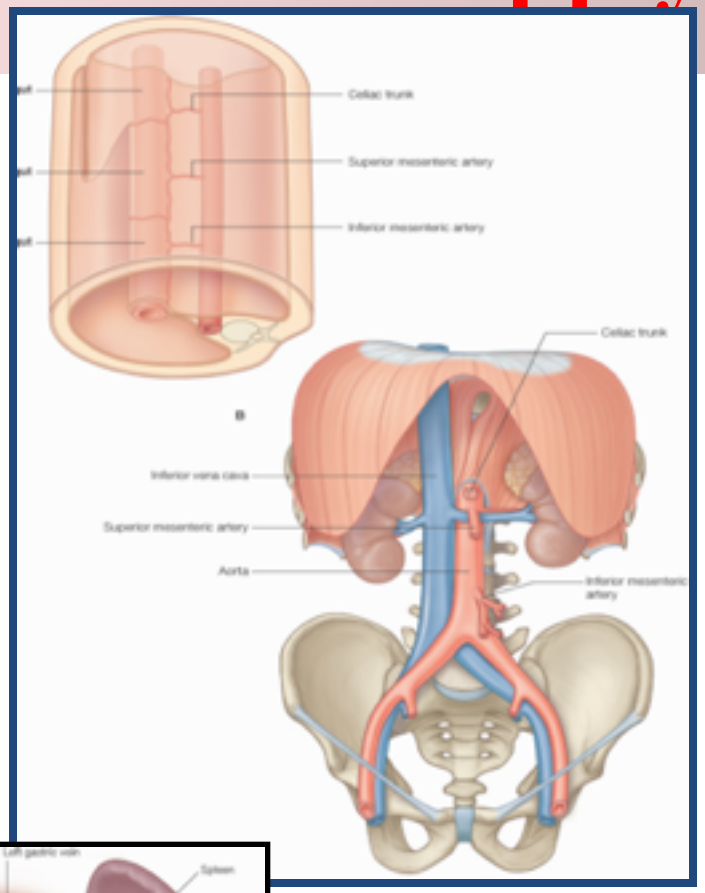
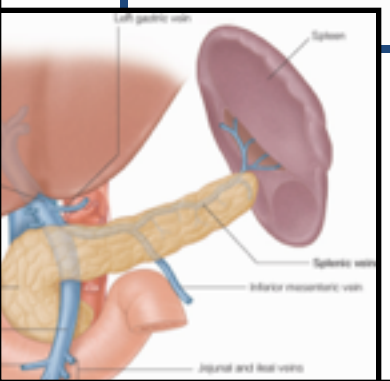
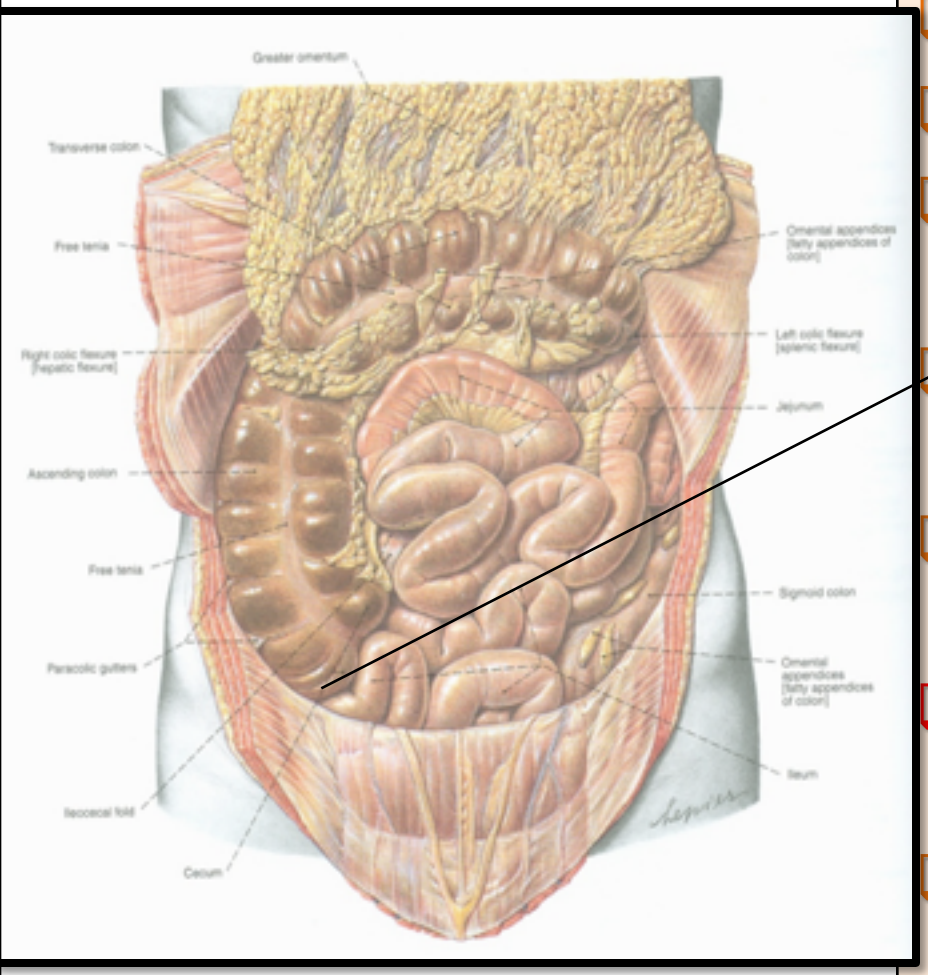
Blood Supply & Lymph drainage



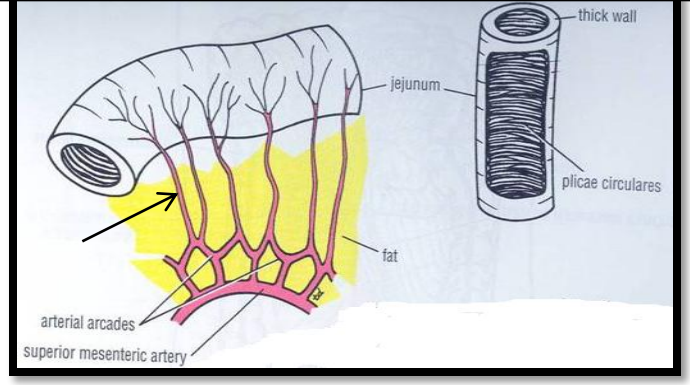


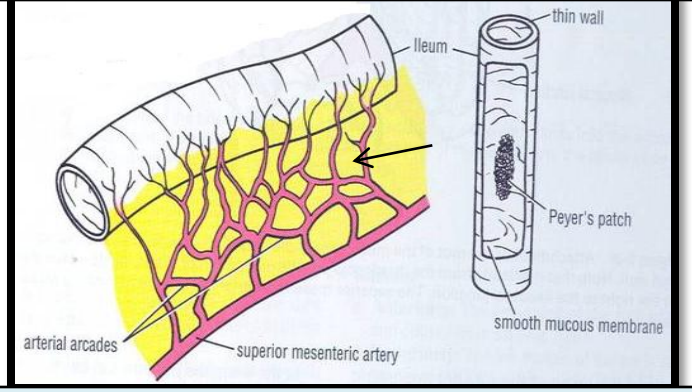
- **Because the duodenum is derived from both: Foregut & Midgut,**
- **It has its Arterial Supply from :**
- **Celiac & Superior mesenteric arteries.**
- **Venous Drainage to :**
- **Superior mesenteric& Portal veins.**
- **LYMPHATIC DRAINAGE: Celiac & Superior mesenteric lymph nodes.**

JEJUNUM & ILEUM



- **SHAPE:** Coiled tube
- **LENGTH:** 6 meters (20 feet)
- **BEGINNING:** at Duodeno-jejunal flexure
- **TERMINATION:** at Ilieo-caecal junction
- **EMBRYOLOGICAL ORIGIN:** Midgut
- **Blood SUPPLY:** Superior mesenteric A & V
- **LYMPHATIC DRAINAGE:** Superior mesenteric lymph nodes





	JEJUNUM	ILEUM
LENGTH	Shorter (proximal 2/5) of SI	Longer (distal 3/5) of SI
DIAMETER	Wider	Narrower
WALL	Thicker (more plicae circulares)	Thinner (less plicae circulares)
APPEARANCE	Dark red (more vascular)	Light red (less vascular)
VESSELS	High & Less arcades (long terminal branches)	Low & More arcades (short terminal branches
MESENTERIC FAT	Small amount & away from intestinal border	Large amount & close to intestinal border
LYMPHOID TISSUE	Few aggregations	Numerous aggregations (Peyer's patches)

THANK YOU