

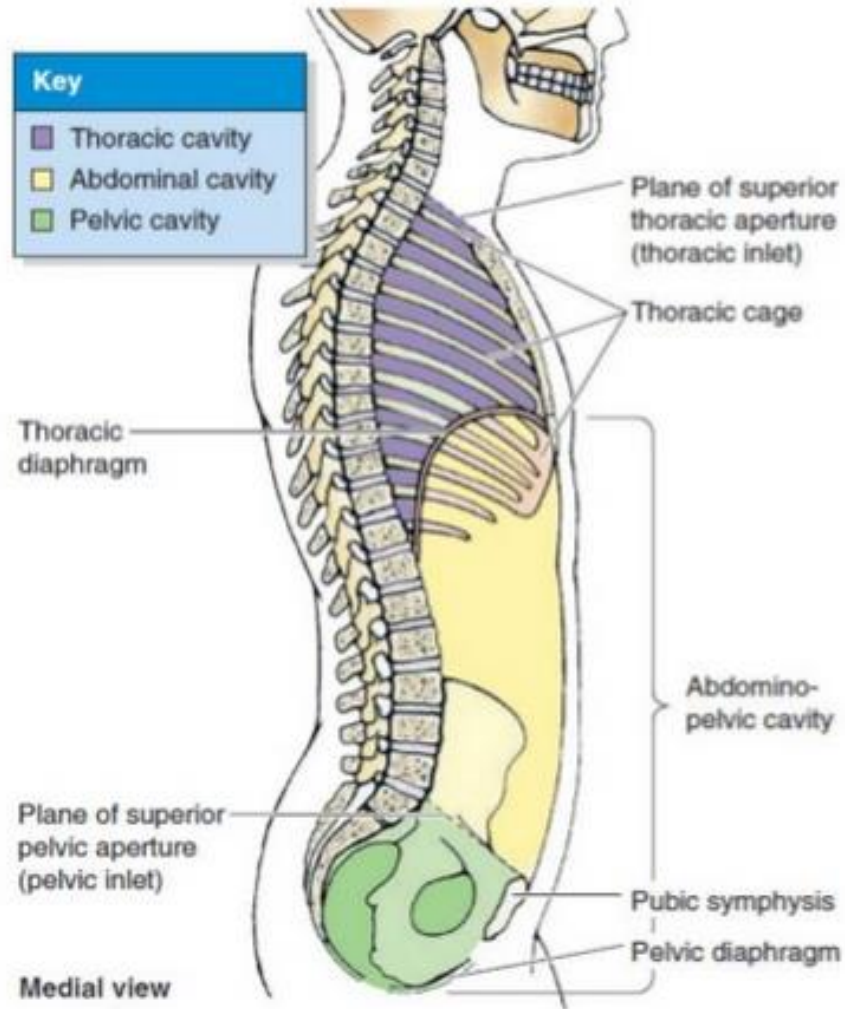
# Topographical Anatomy of the Abdominal Cavity

seminar from Human Morphology

2. 11. 2023

M. Chalupová

# Abdominal Cavity



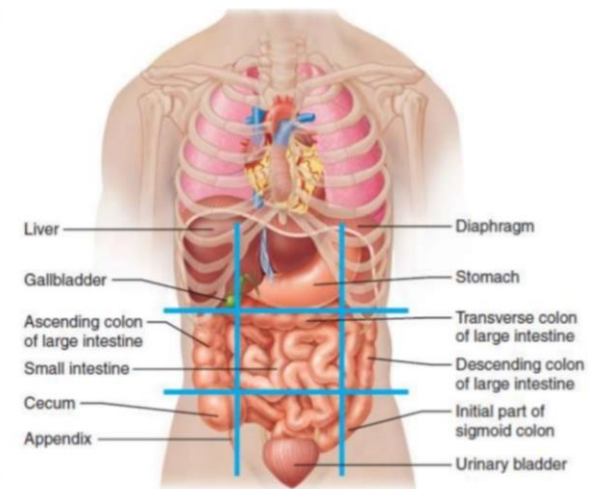
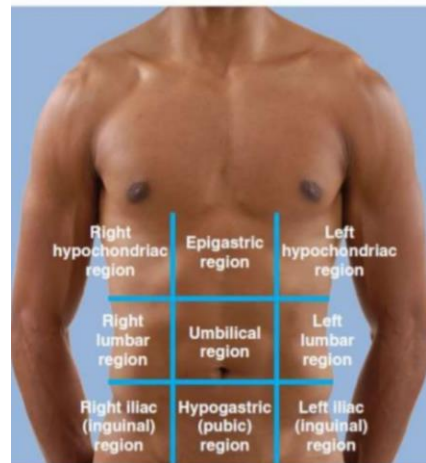
# Abdominal Surface Anatomy and Regions

## Superior boundary

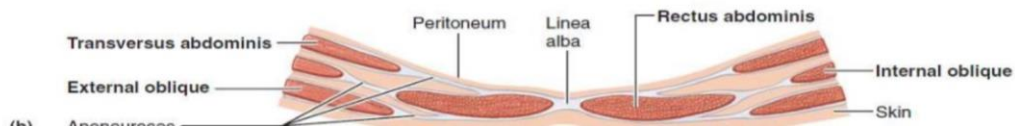
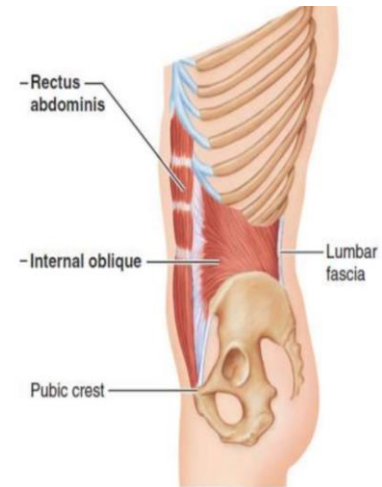
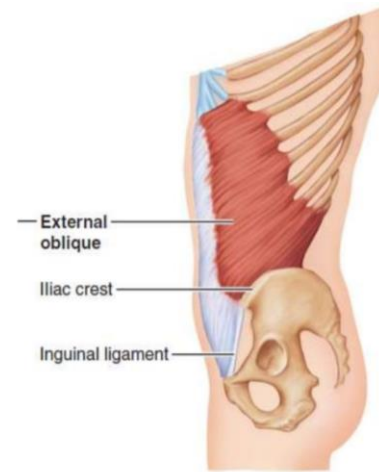
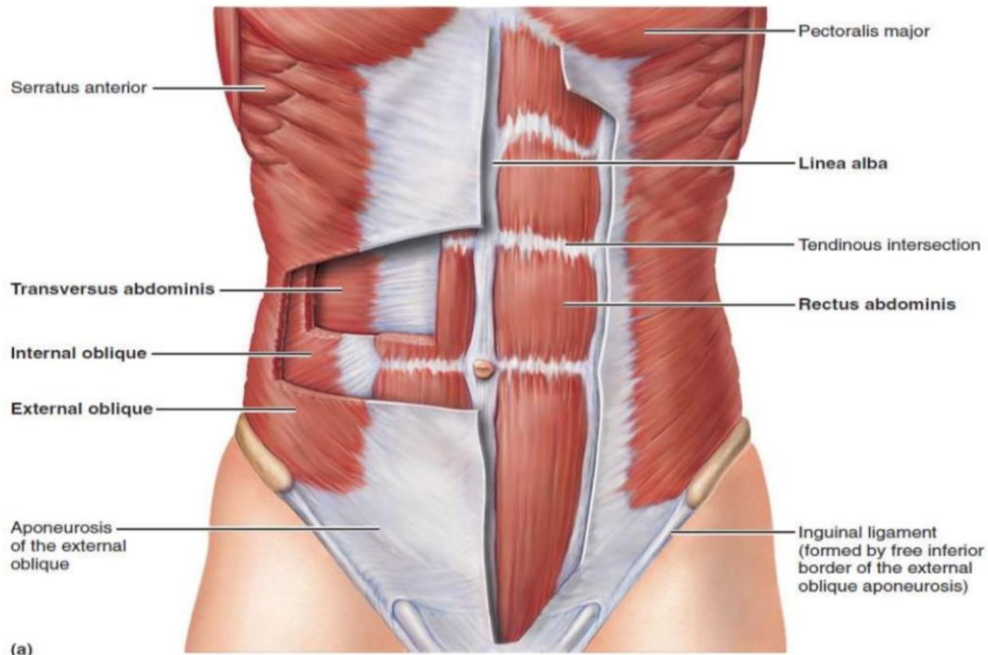
- diaphragm

## Inferior boundary

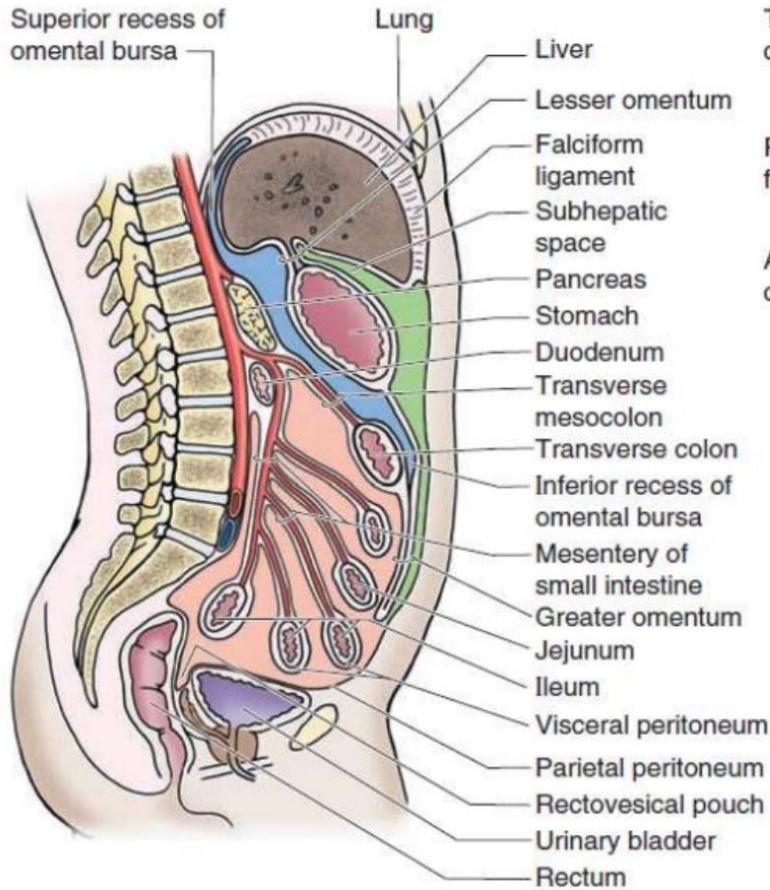
- iliac crest
- inguinal ligament
- pubic crest



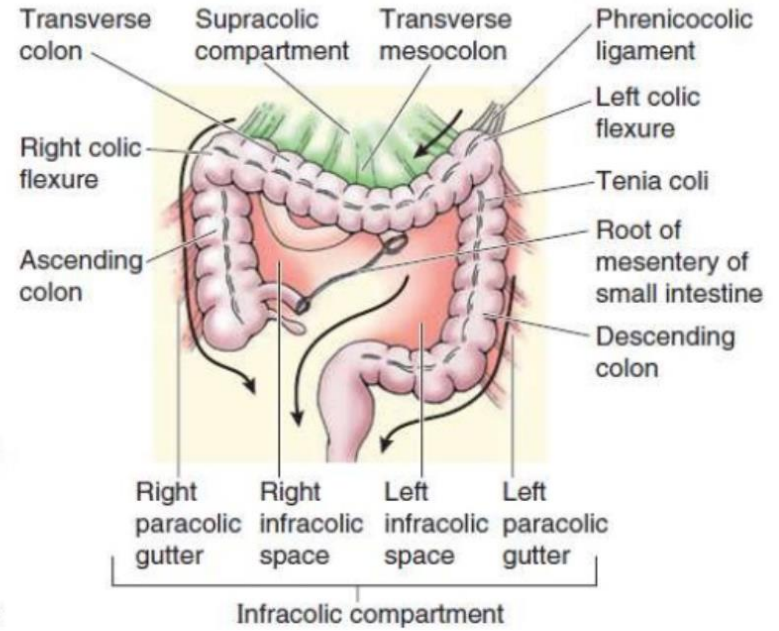
# Abdominal Muscles



# Peritoneal Cavity



(A) Right lateral view



(B) Anterior view

Key		
<span style="color: green;">■</span> Supracolic compartment (greater sac)	<span style="color: blue;">■</span> Omental bursa (lesser sac)	<span style="color: red;">■</span> Infracolic compartment (greater sac)

# Peritoneal Cavity

## **Supracolic compartment (pars supramesocolica)**

- liver, gall bladder, stomach, spleen, duodenum, pancreas

## **Infracolic compartment (pars infracolica)**

- small and large intestine
- superior rectum

# Peritoneum

- shiny serous membrane that lines in the abdomino-pelvic cavity

## Mesentery

- double layer of peritoneum
- holds the organs in place
- route for vessels and nerves

## Mesocolon

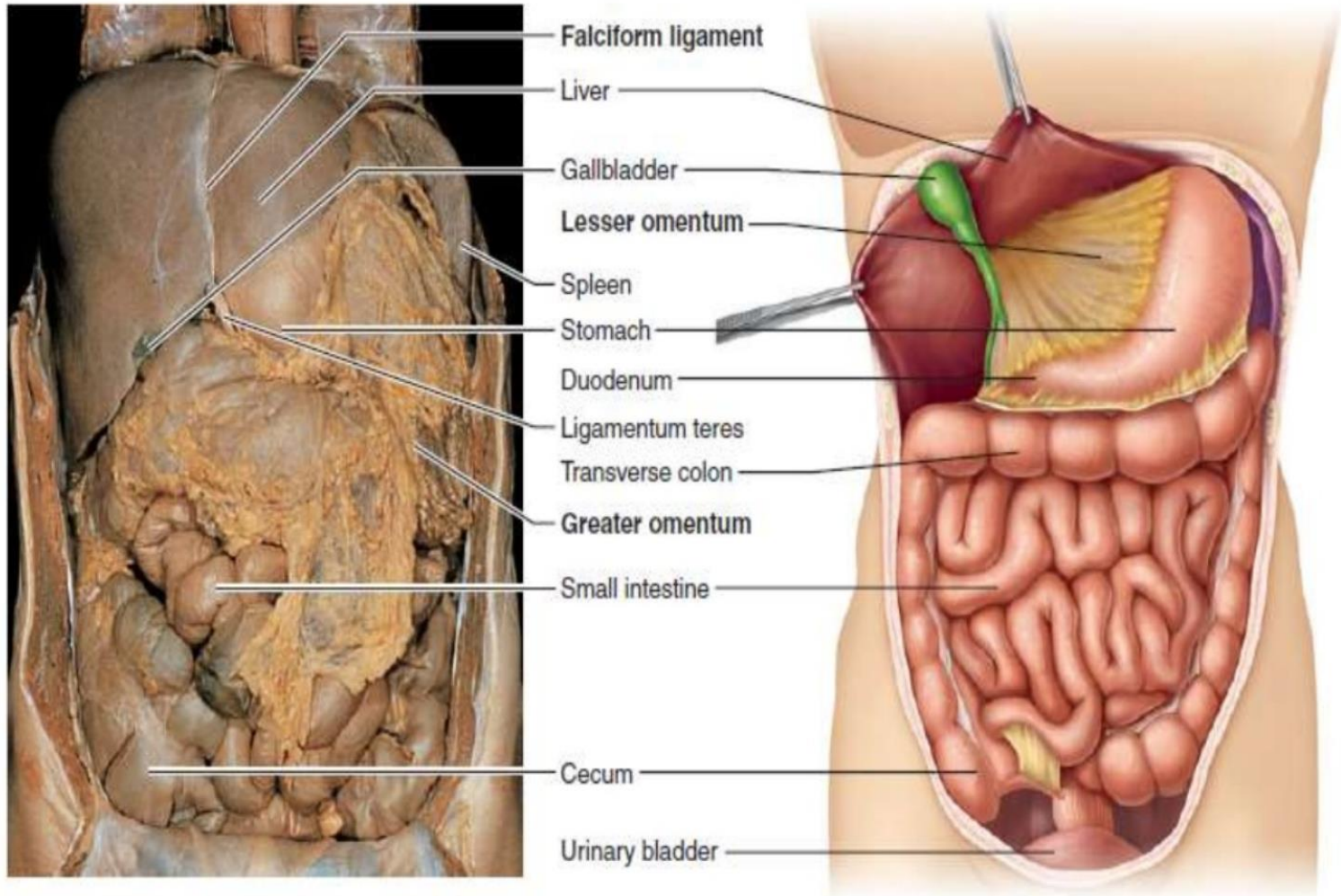
- fold of visceral peritoneum attaching the colon to posterior abd. wall
- **mesoappendix, mesocaecum, mesocolon transversum and sigmoideum, mesorectum**
- *mesocolon ascendens and descendens disappeared*

## Omentum

- fold of visceral peritoneum
- **greater (omentum majus)** – extends from the stomach and covers the front of the intestines
- **lesser (omentum minus)** – between the stomach, duodenum and liver

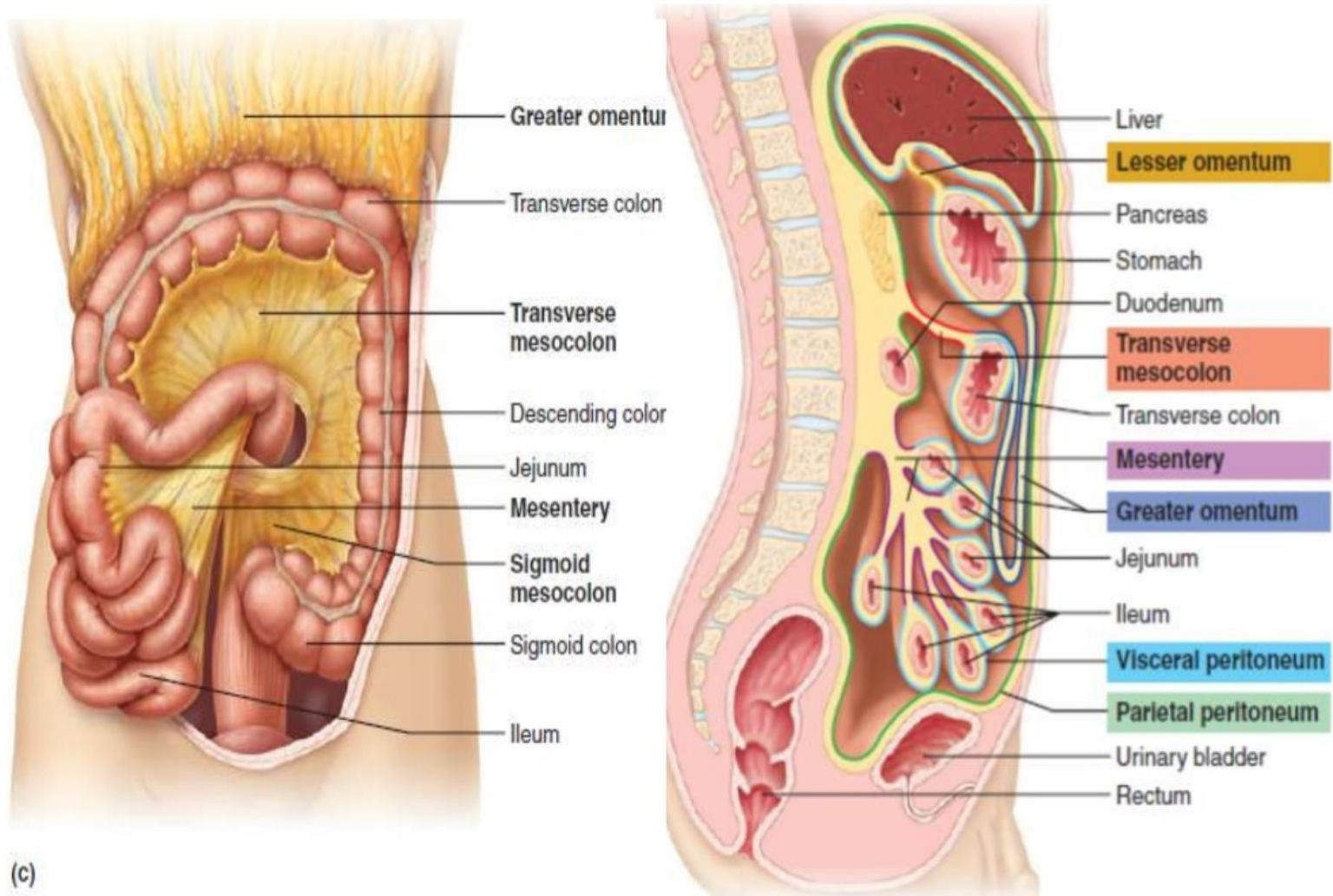


# Peritoneal Cavity





# Peritoneal Cavity



(c)

# Relation of Organs to Peritoneum

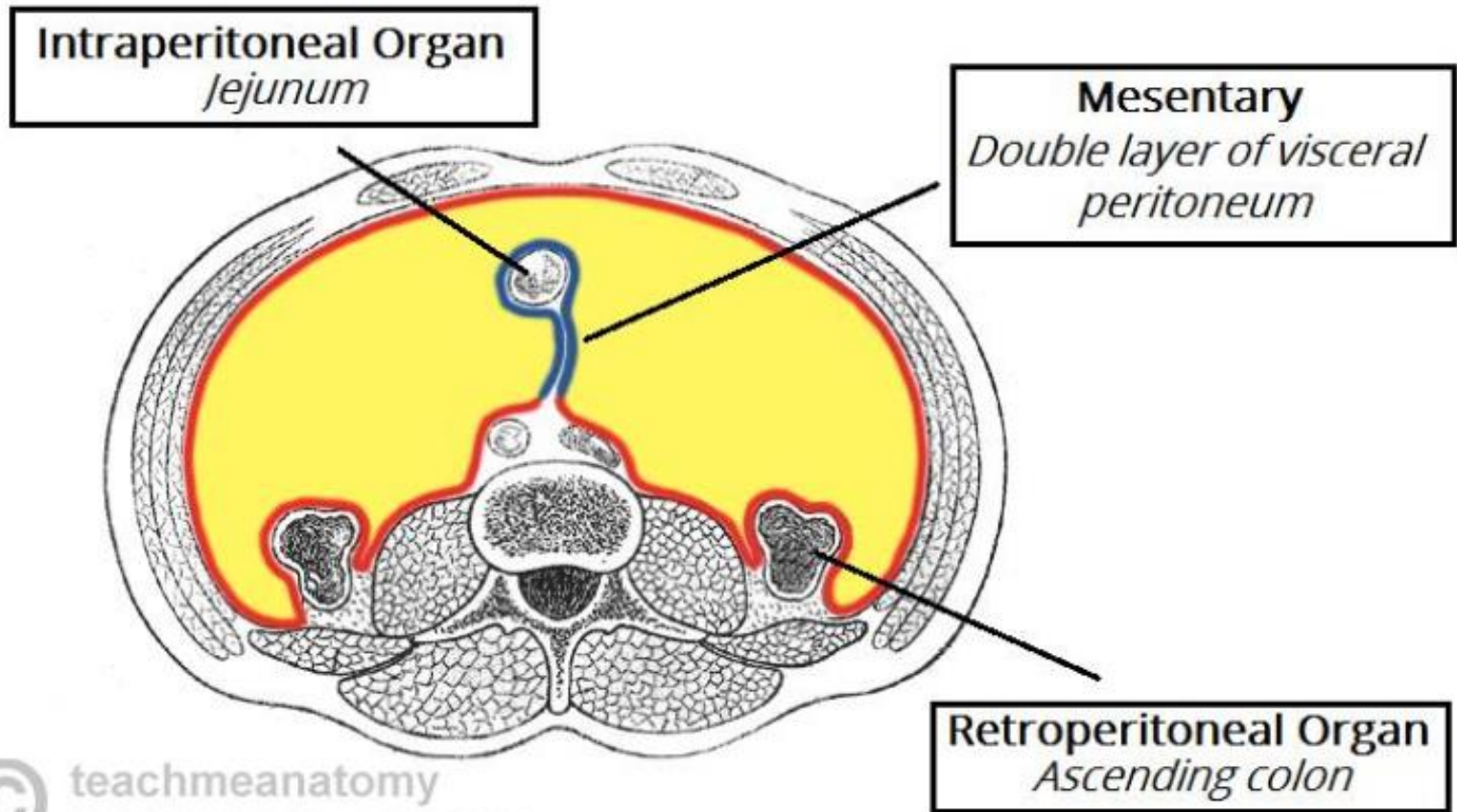
## Peritoneal

- are covered with peritoneum, have suspension
- stomach, liver, spleen, small intestine, caecum, colon transversum, colon sigmoideum, superior rectum

## Retroperitoneal

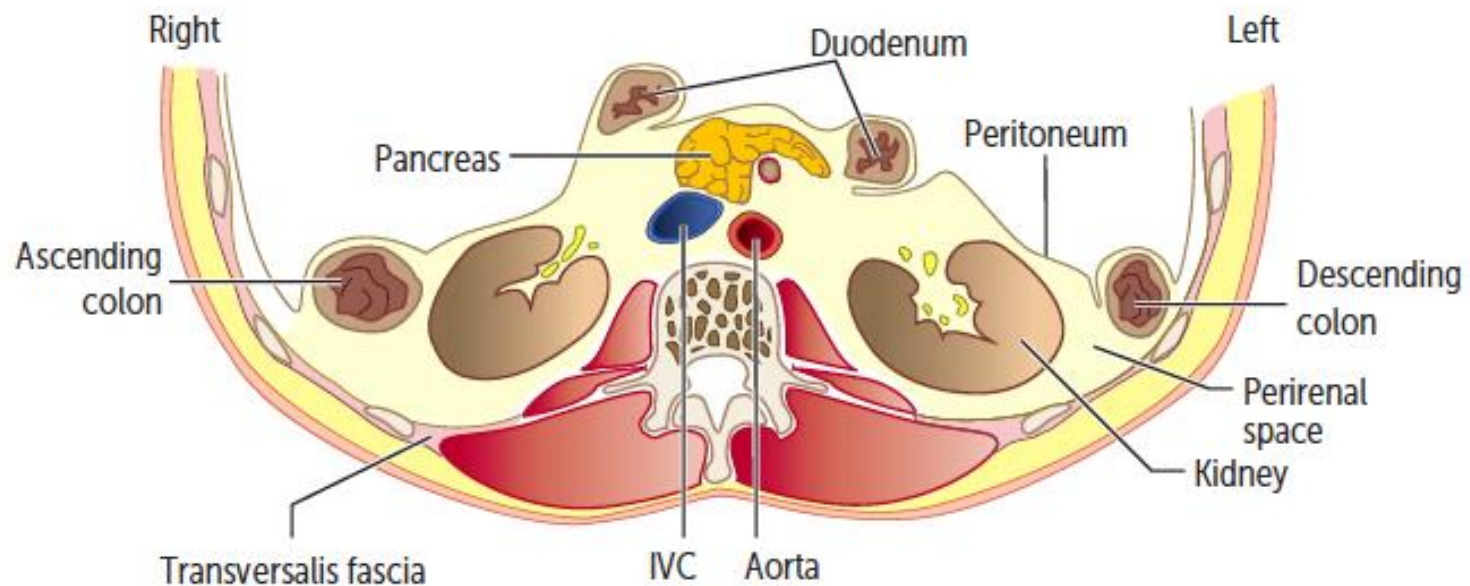
- covered with peritoneum on the front side, no suspension
- primary
  - kidneys, suprarenal glands, ureters, aorta, v. cava inf.
- secondary
  - originally covered by peritoneum, during development visceral and parietal peritoneum fused
  - duodenum, pancreas, colon ascendens, colon descendens

# Relation of Organs to Peritoneum



# Retroperitoneum

- retroperitoneal organs are partly covered on one anterior side by parietal peritoneum and not suspended by mesentery

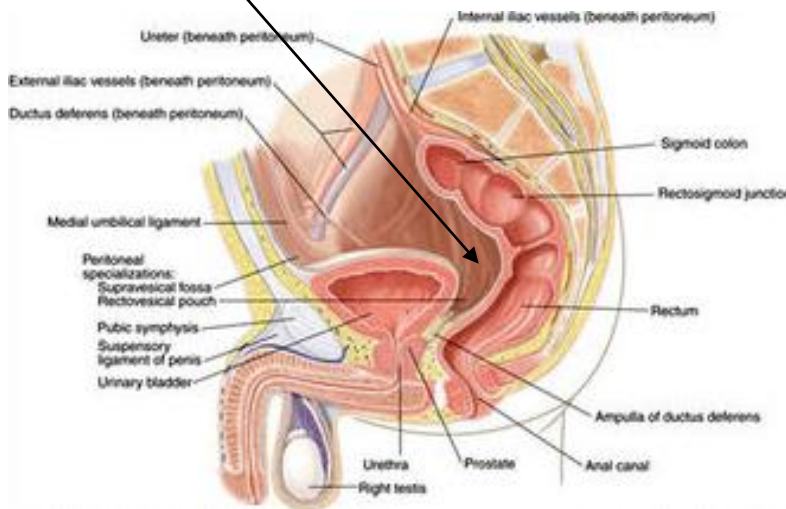




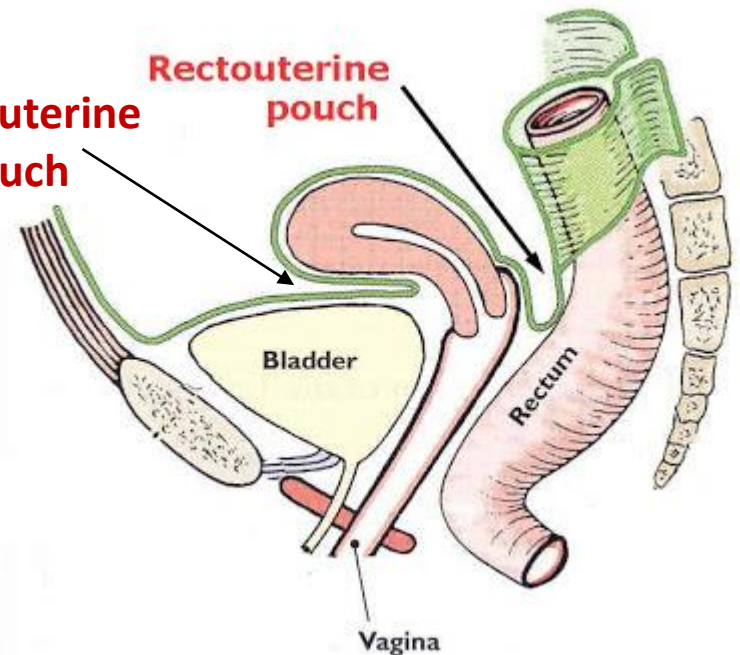
# Peritoneum in Pelvis

- **rectovesical pouch** (excavation)
- **rectouterine pouch**
- **vesicouterine pouch**

## rectovesical pouch

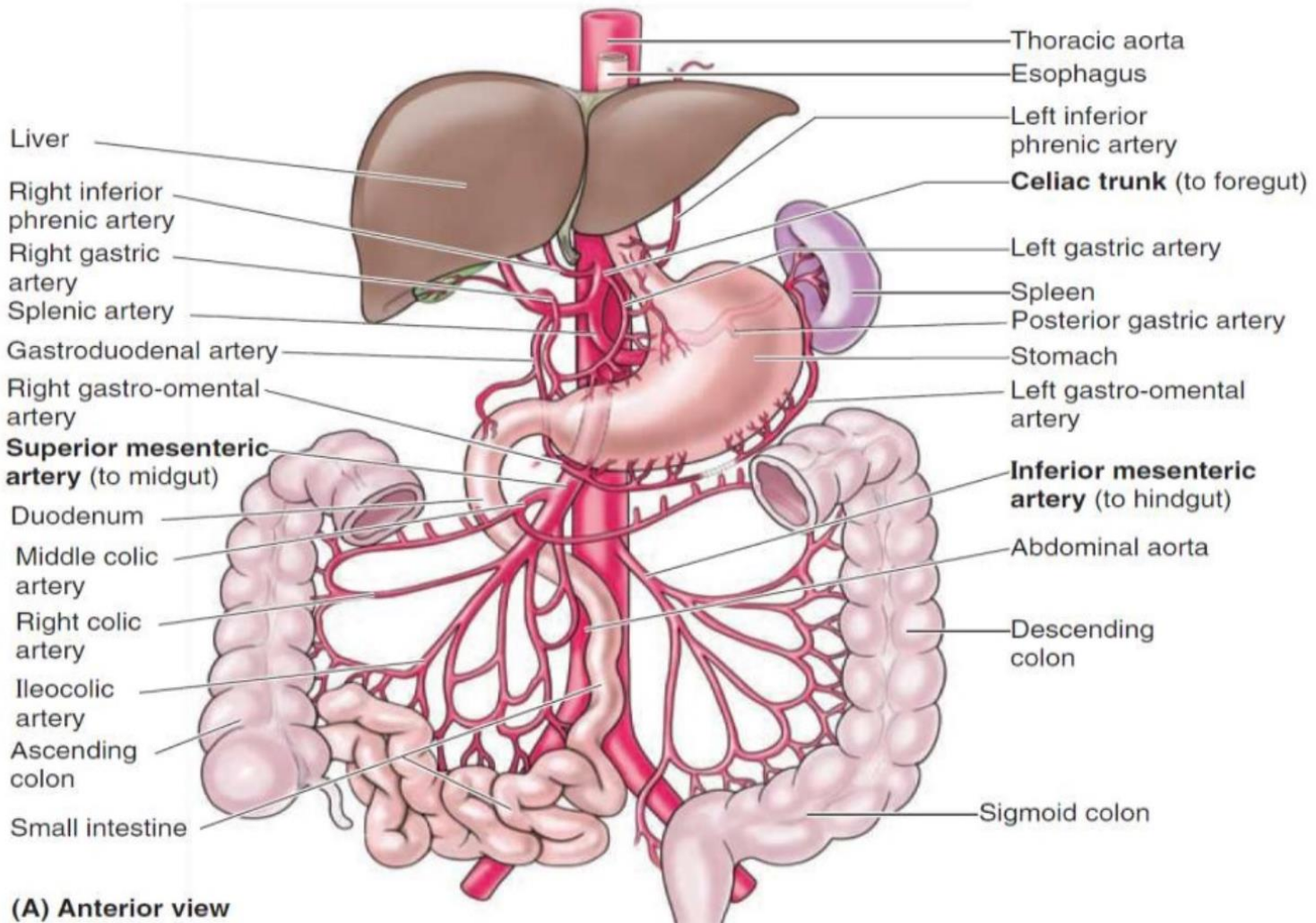


## vesicouterine pouch

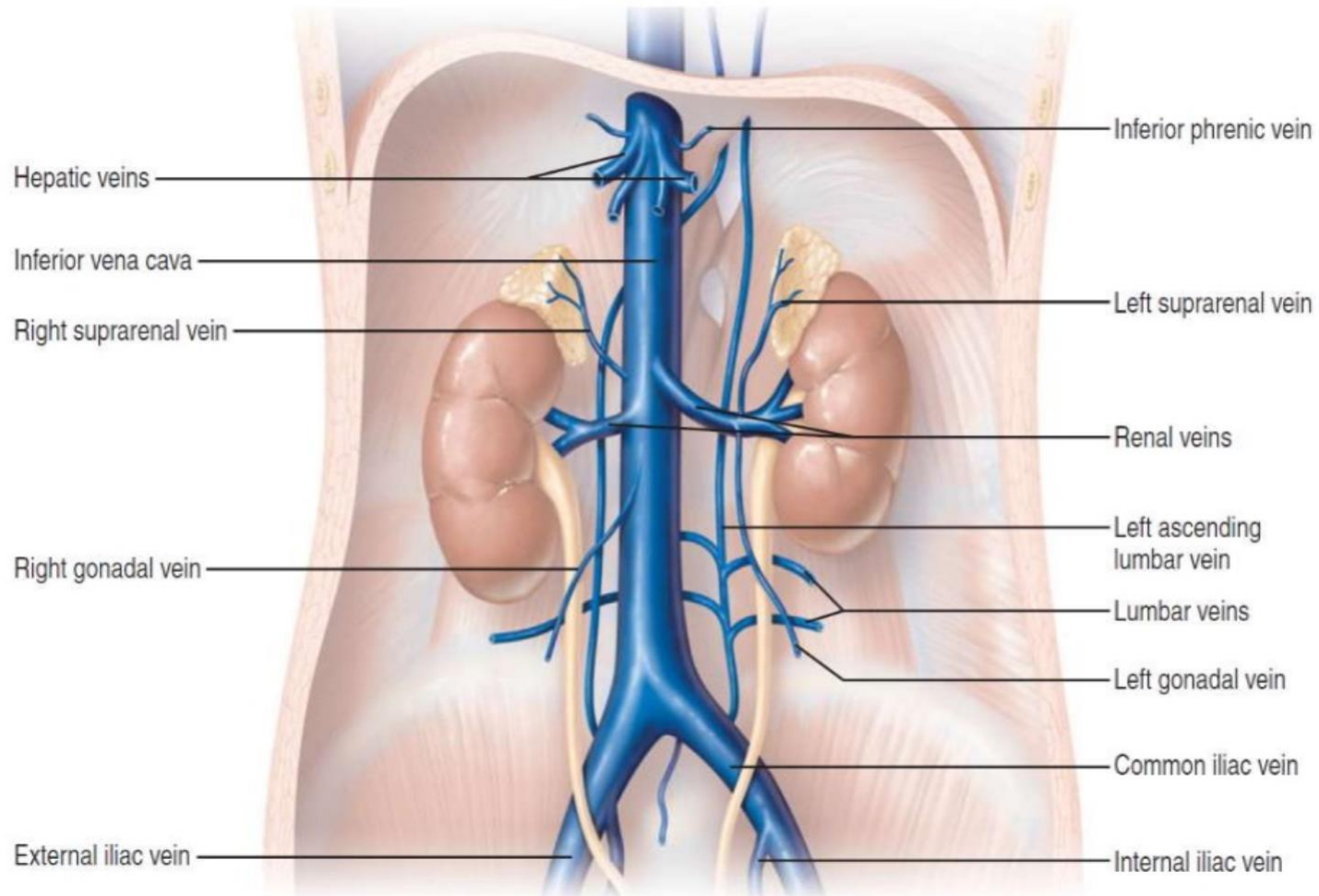




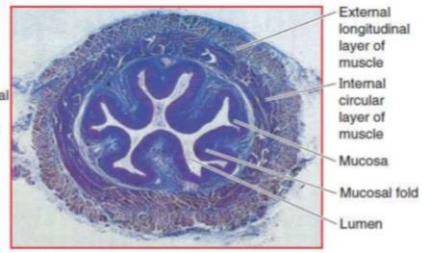
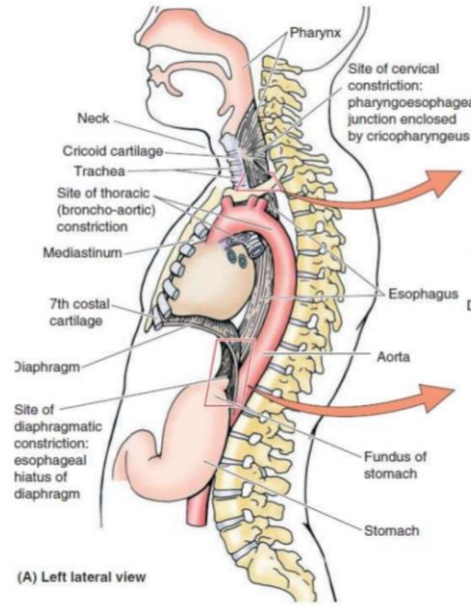
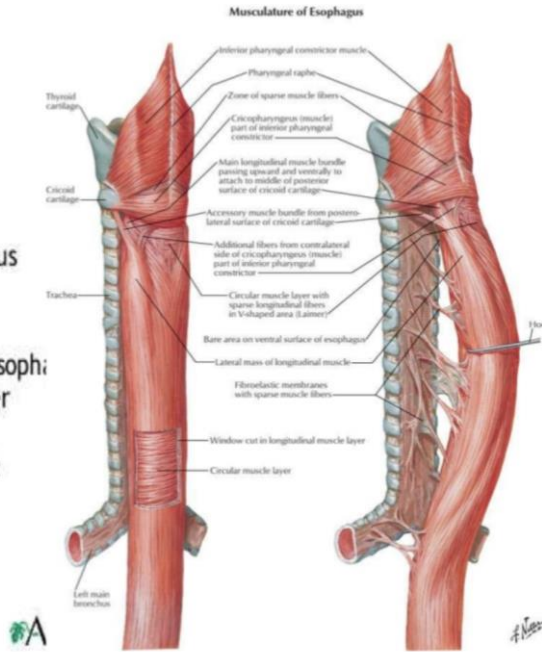
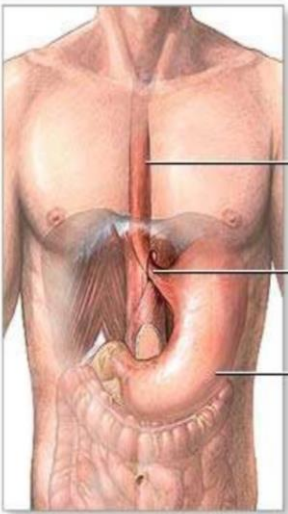
# Abdominal Aorta



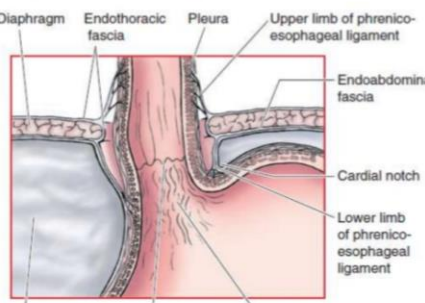
# Inferior Vena Cava



# Gullet (Oesophagus)



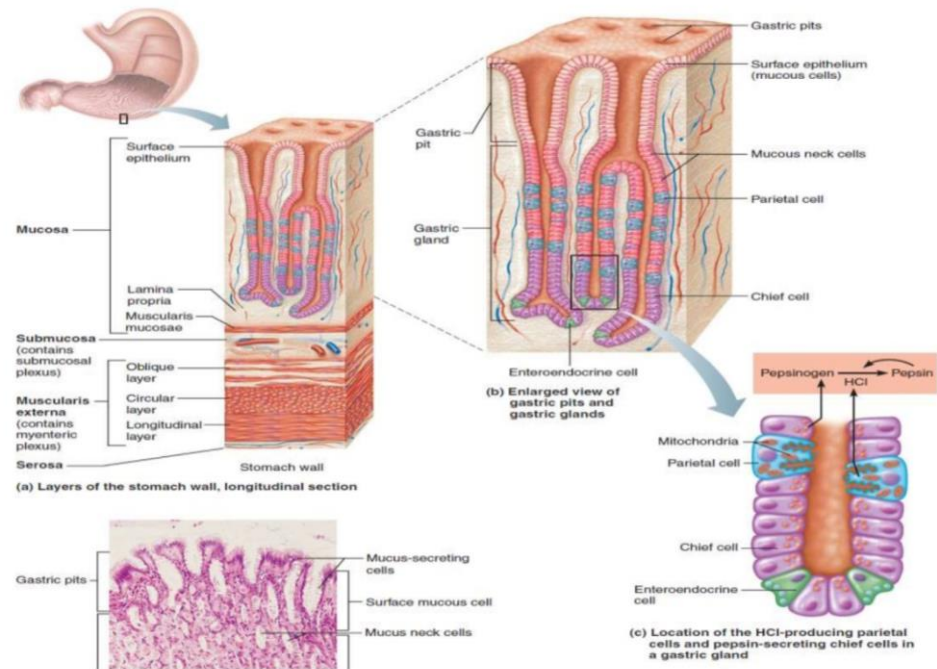
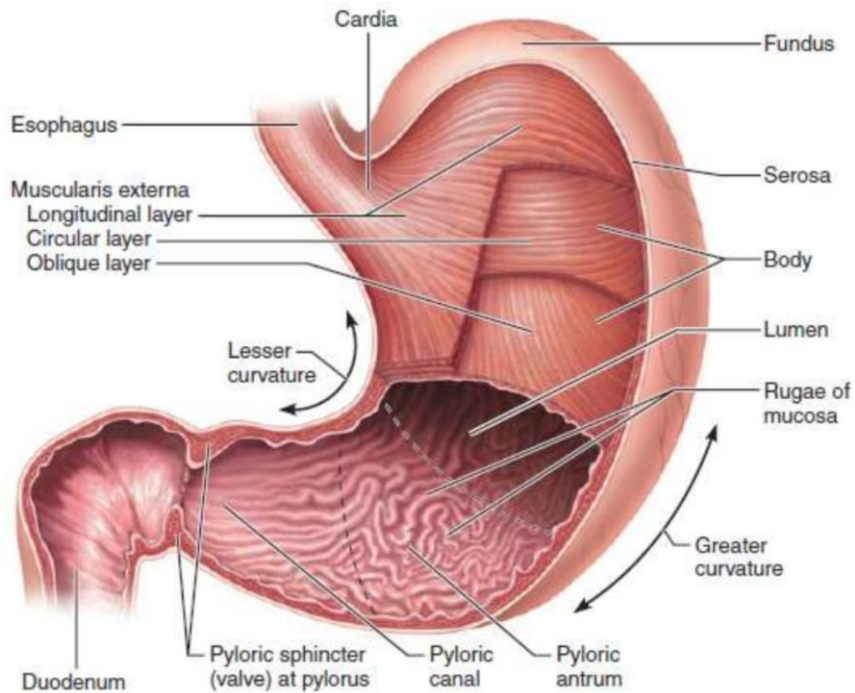
(B) Inferior microscopic view, transverse section



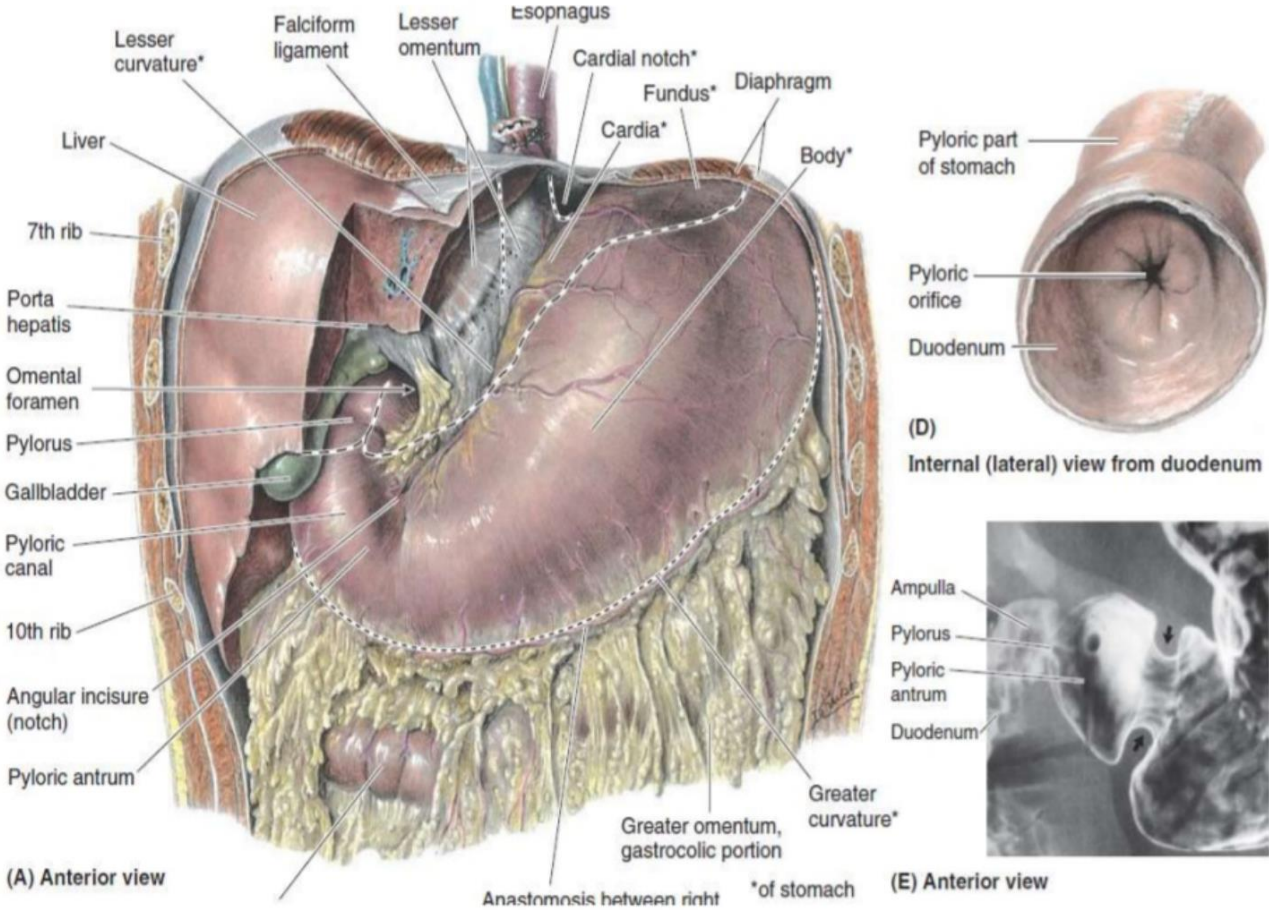
(C) Anterior view



# Stomach (Ventriculus, Gaster)



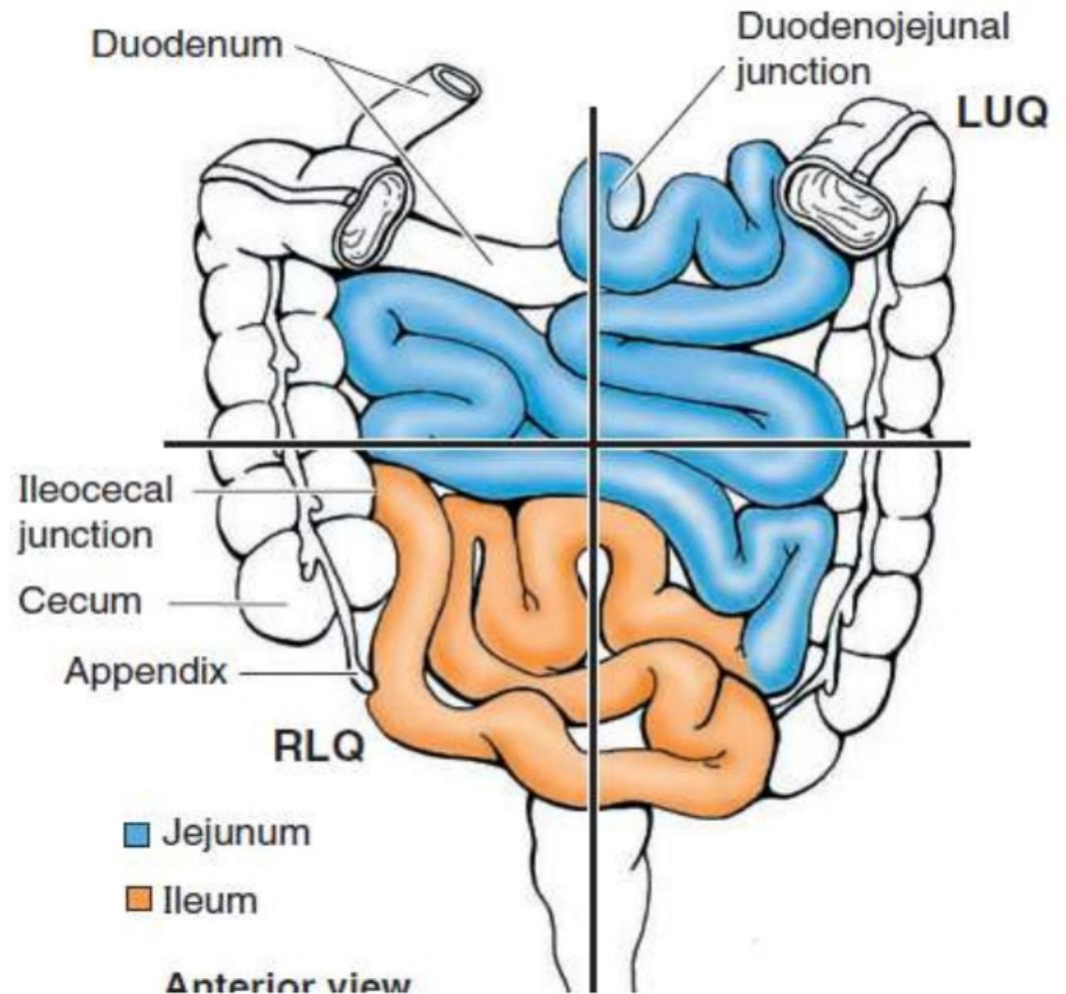
# Stomach Position



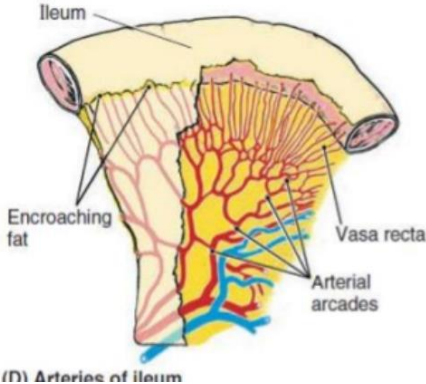
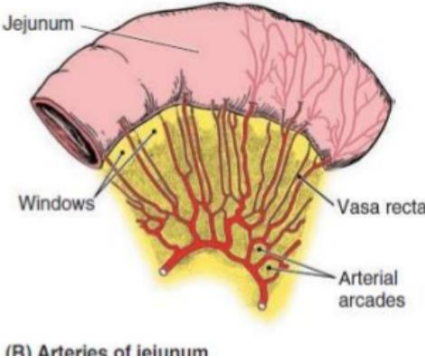
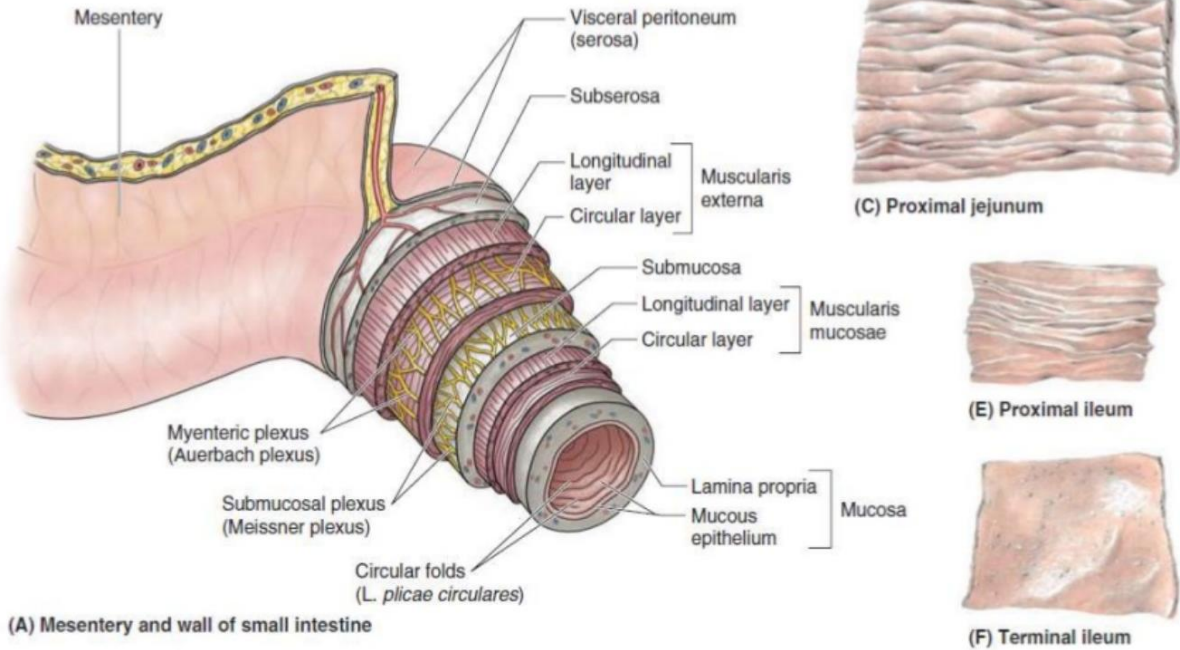


# Small Intestine

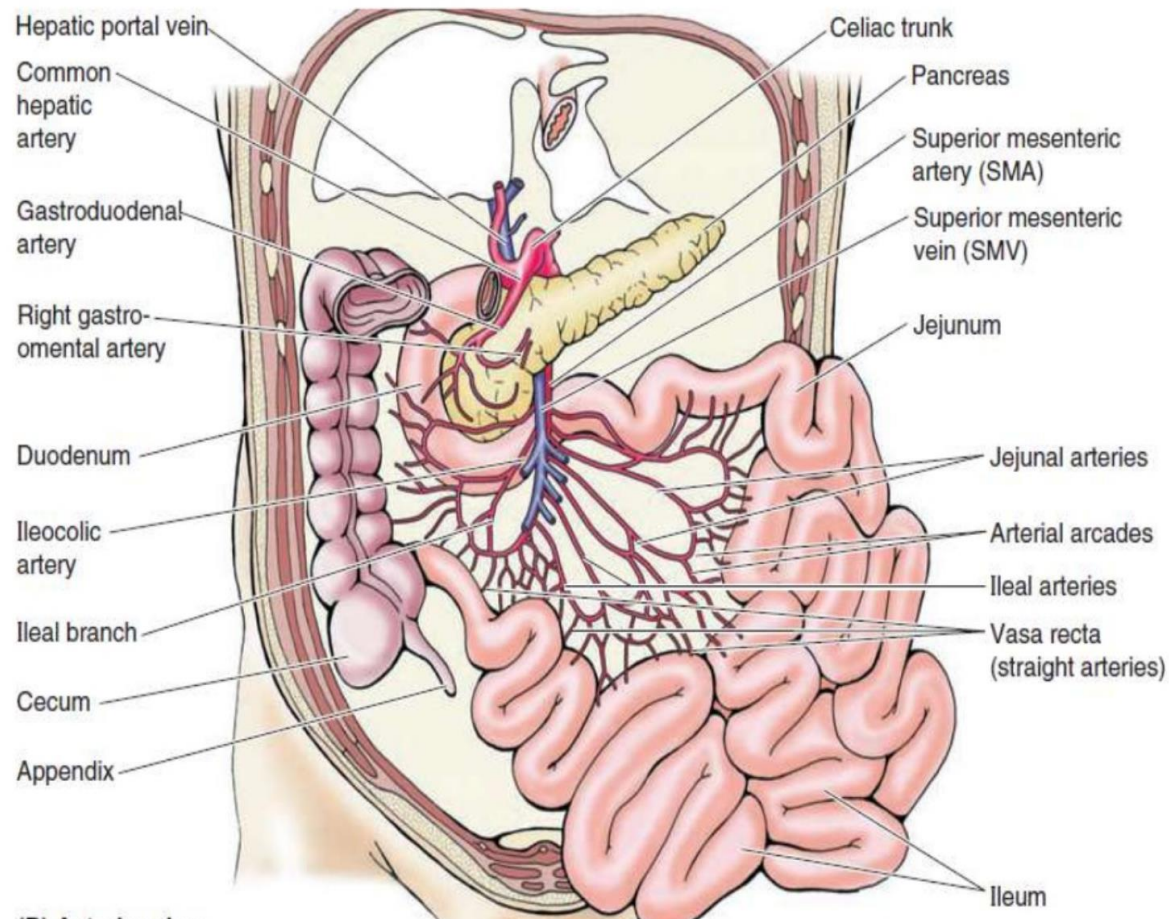
- duodeum
- jejunum
- ileum



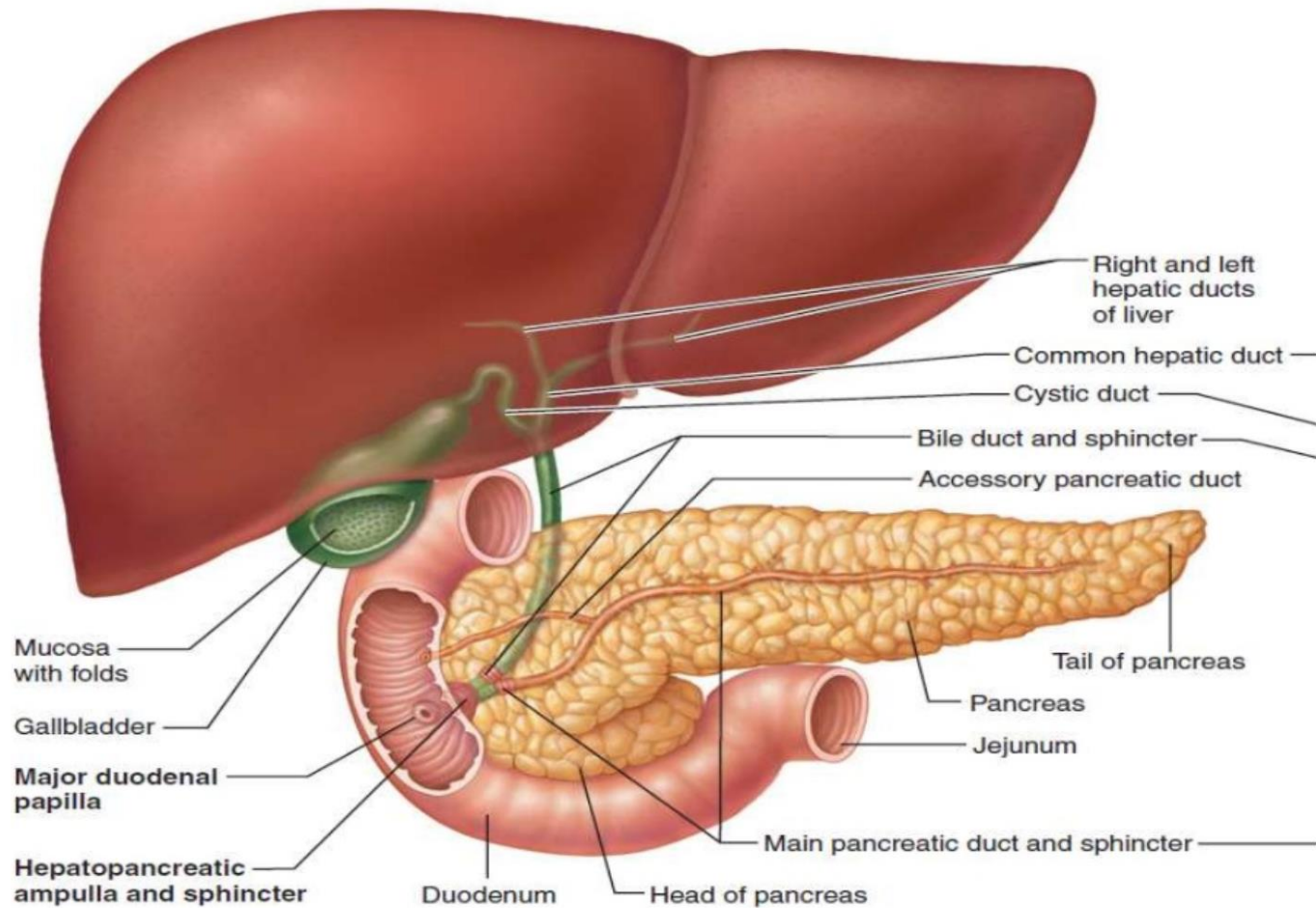
# Small Intestine Wall



# Small Intestine and Mesentery

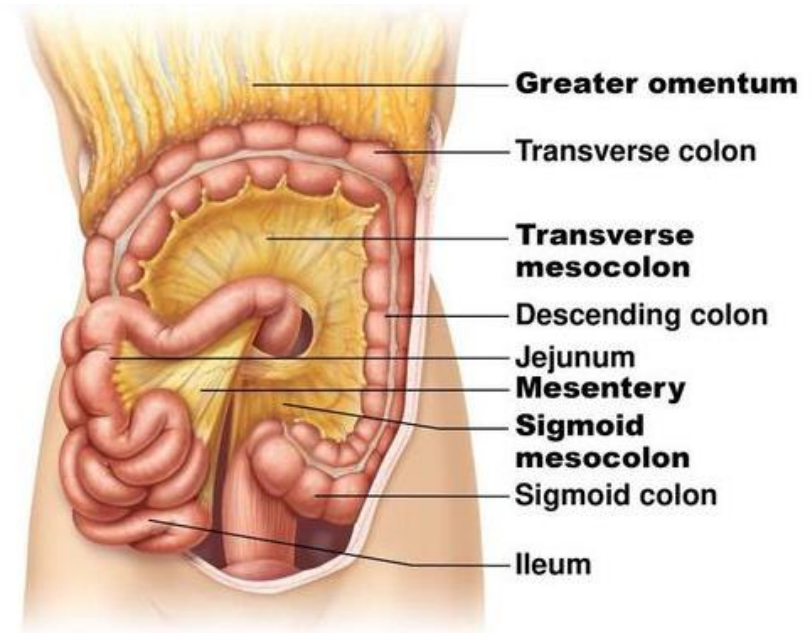
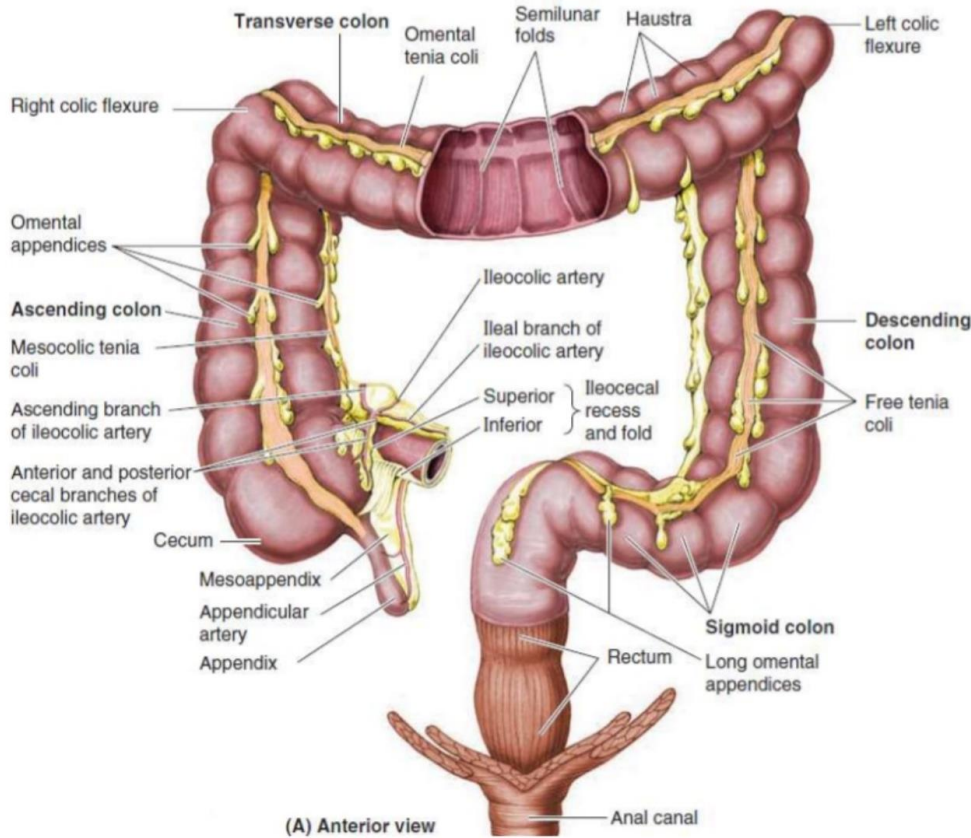


# Duodenum and Related Organs – Liver and Pancreas



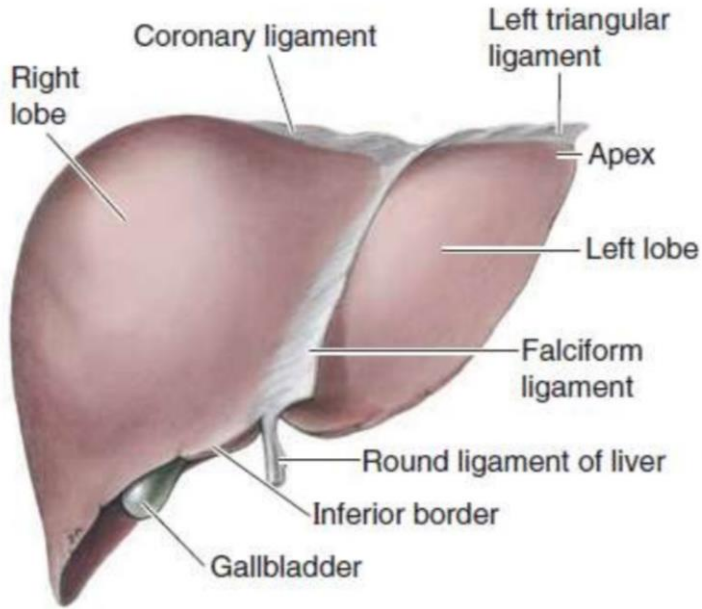


# Large Intestine and Mesocolon

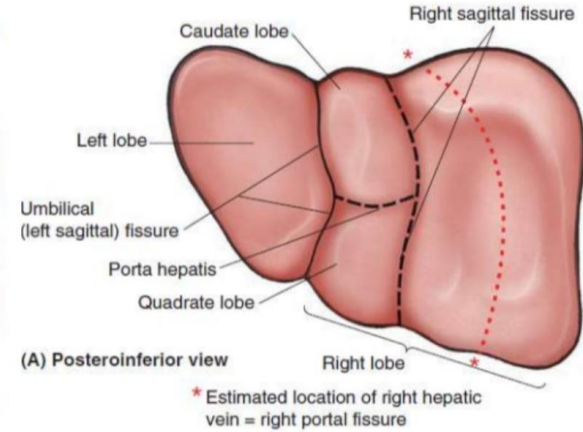
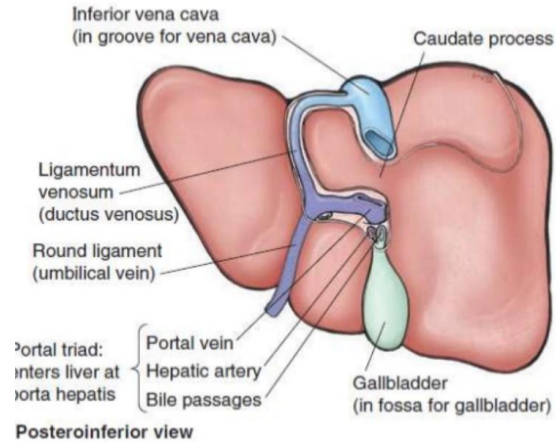




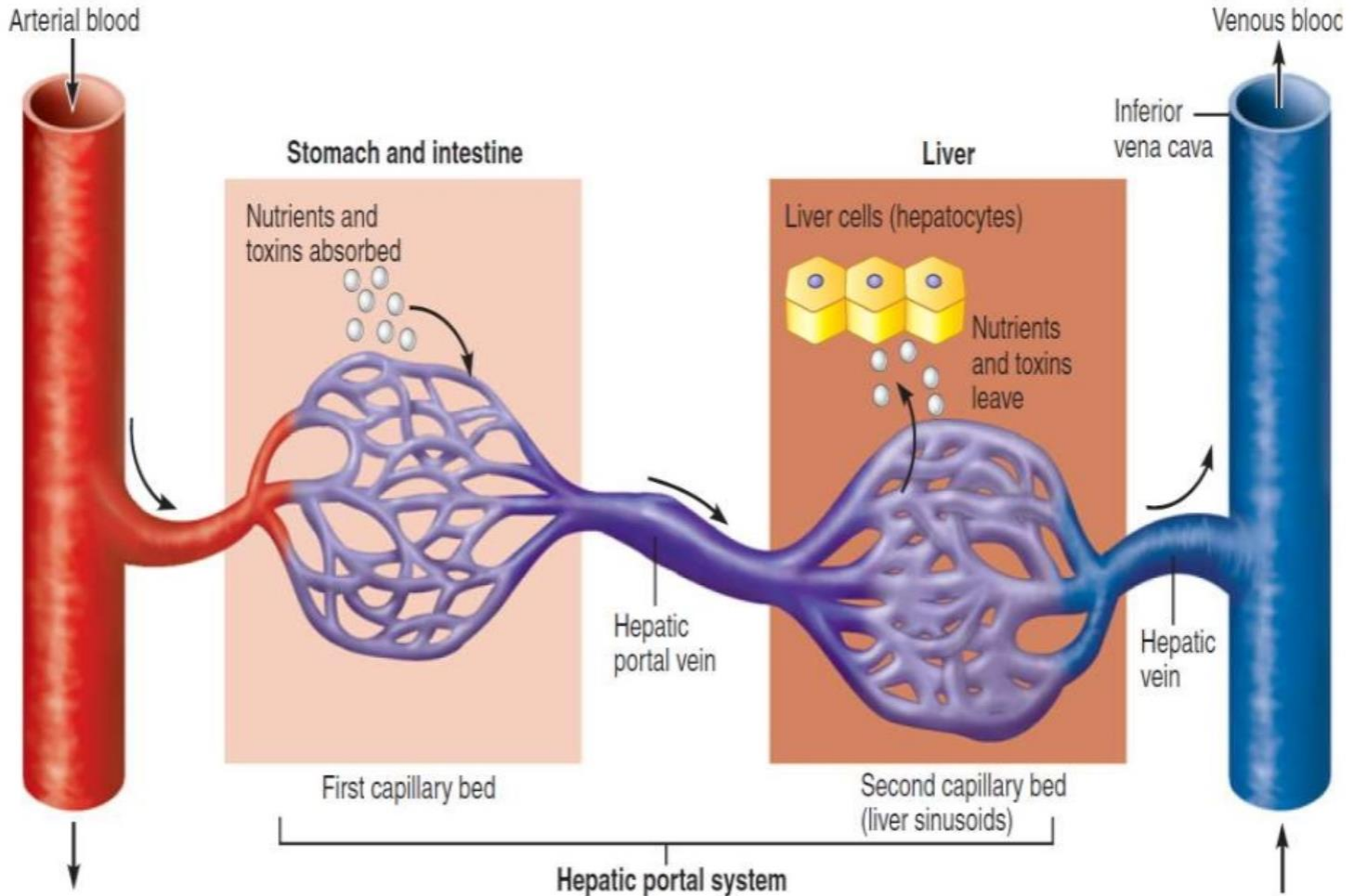
# Liver



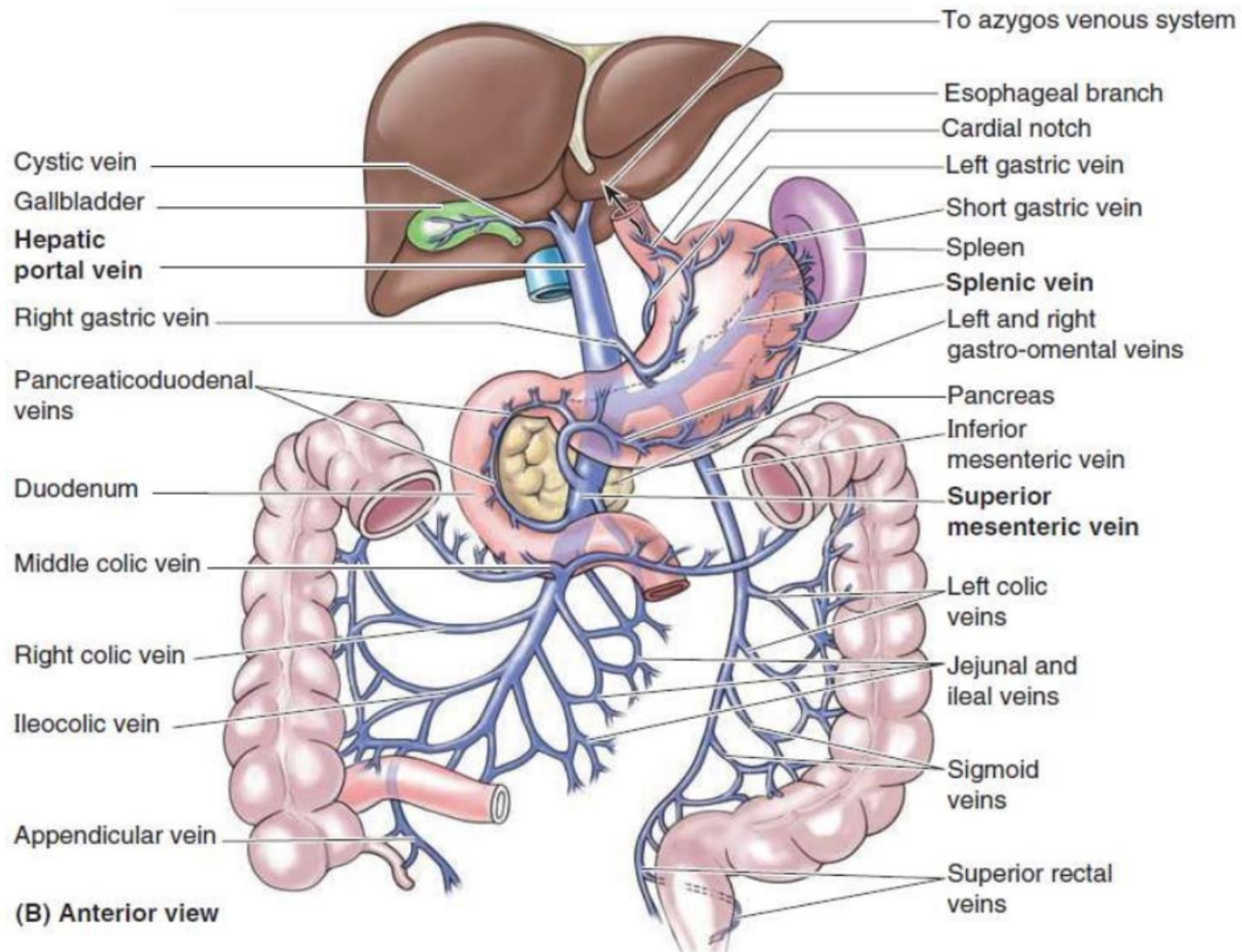
(A) Anterior view, diaphragmatic surface



# Hepatic Portal System

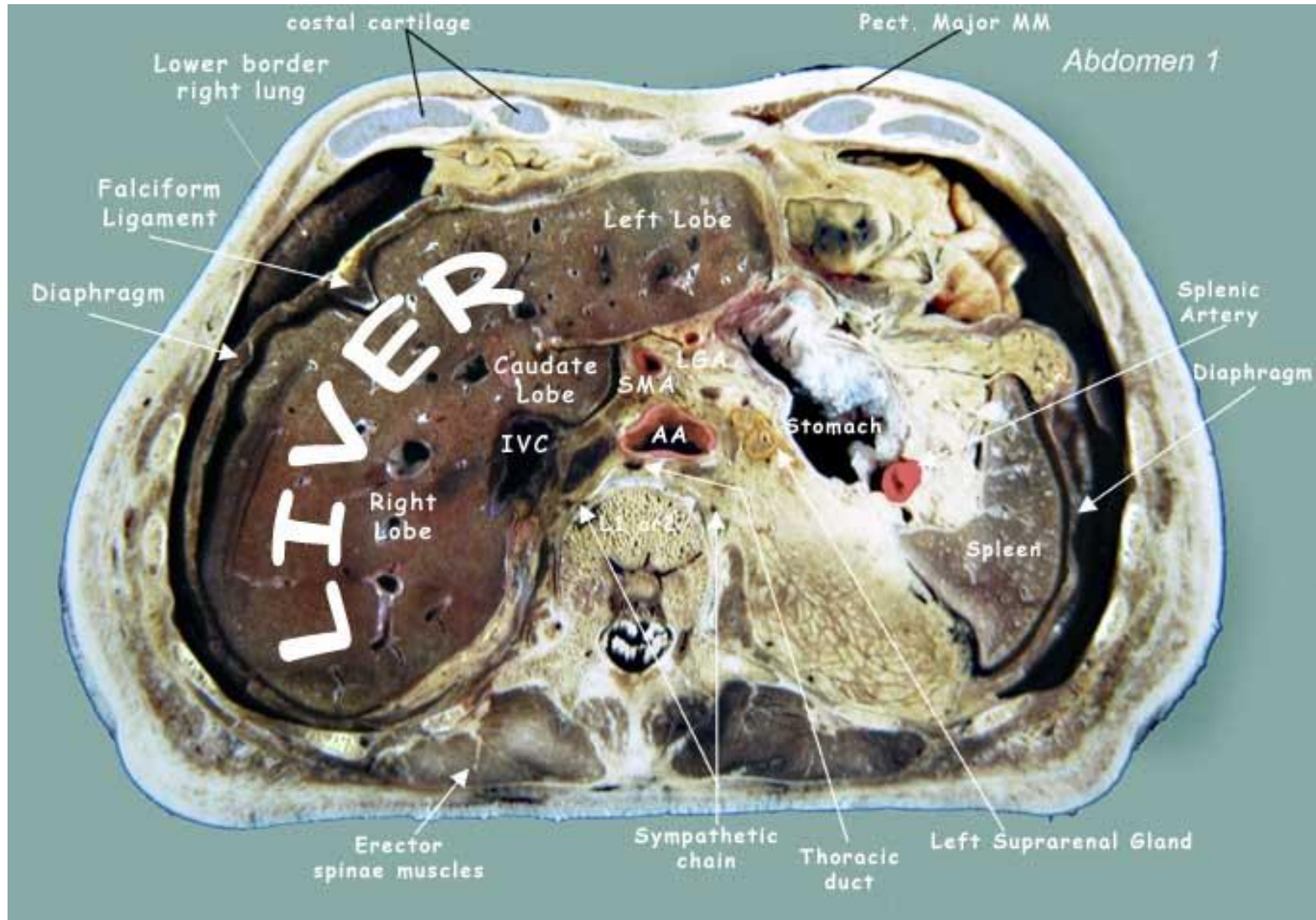


# Portal Circulation



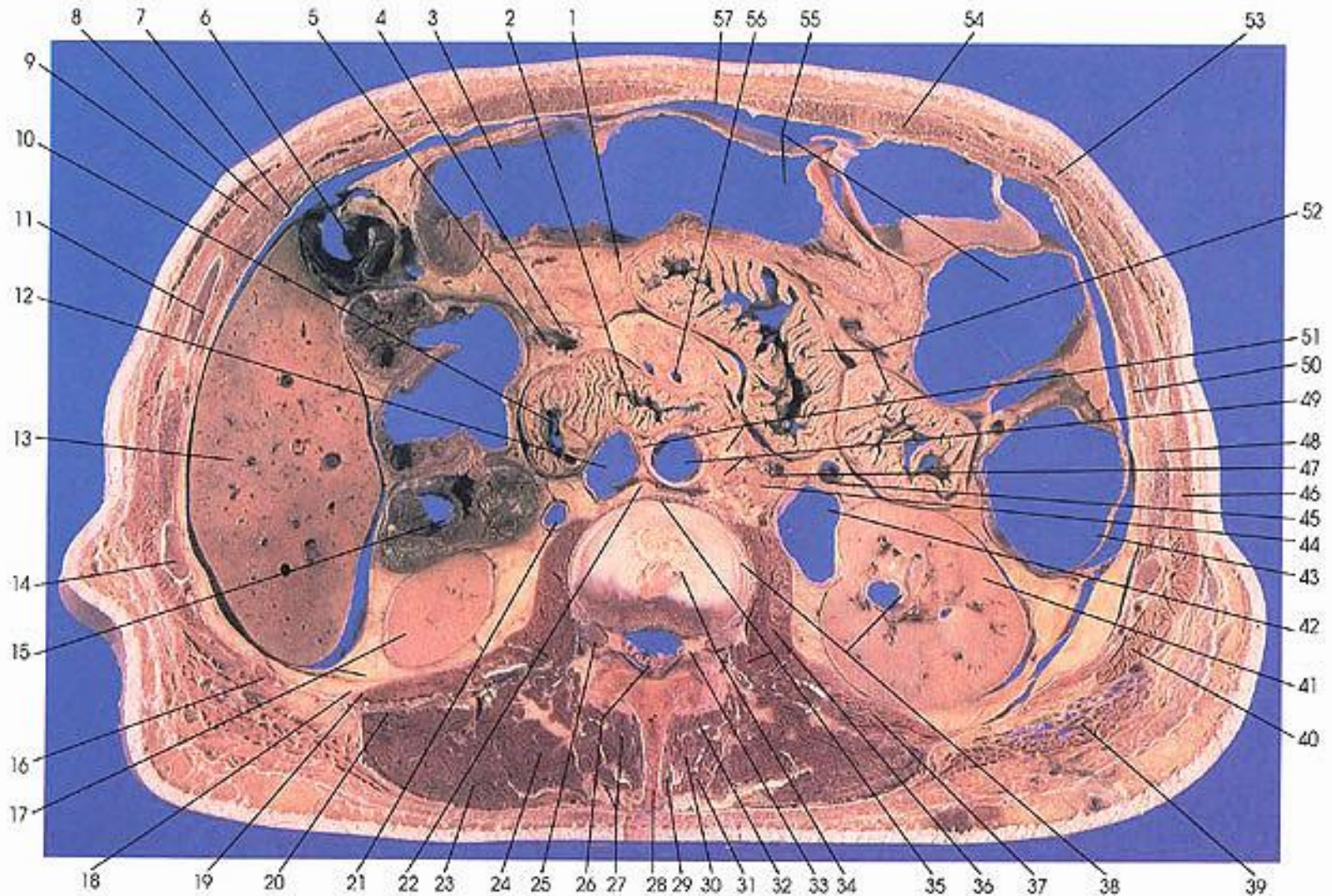


# Cross Section through the Abdominal Cavity





# Cross Section through the Abdominal Cavity





# Cross Section through the Abdominal Cavity Legend

1. Transverse mesocolon
2. Duodenum, horizontal part
3. Transverse colon
4. Middle colic a.
5. Middle colic v.
6. Gallbladder
7. Transversus abdominis m.
8. Internal oblique m.
9. External oblique m.
10. Duodenal-jejunal flexure
11. Rib 10
12. Inferior vena cava, termination left renal v.
13. Liver, right lobe
14. Rib 11
15. Ascending colon
16. Rib 12
17. Perirenal fat, right kidney lower pole
18. Pararenal fat
19. Lumbar or "quadratus" fascia
20. Thoracolumbar fascia, anterior layer
21. Ureter
22. Retroaortic left renal vein (var.)
23. Iliocostalis m.
24. Longissimus m.
25. Spinal nerve, L2, and dorsal root ganglion
26. Cauda equina
27. Spinalis m. and multifidus m.
28. Spinous process, L2
29. Interspinalis m.
30. Multifidus m.
31. Semispinalis.
32. Rotatores m.
33. Fat in intervertebral foramen, L2 L3
34. Dorsal root ganglion and disk, L2, and nucleus pulposus
35. Intertransversarium m. and anterior longitudinal ligament
36. Psoas major m.
37. Quadratus lumborum m.
38. Renal pelvis and disk, L2, and anulus fibrosus
39. Latissimus dorsi m.
40. Serratus posterior inferior m.
41. Left kidney
42. Renal pelvis
43. Descending colon
44. Mesenteric lymph nodes
45. Inferior mesenteric v.
46. External oblique m.
47. Left gonadal a. and v.
48. Intercostal mm.
49. Lymph node and abdominal aorta
50. Transversus abdominis m.
51. Aortic plexus of nerves
52. Jejunum
53. External oblique m.
54. Rectus abdominis m.
55. Transverse colon
56. Superior mesenteric a.
57. Linea alba