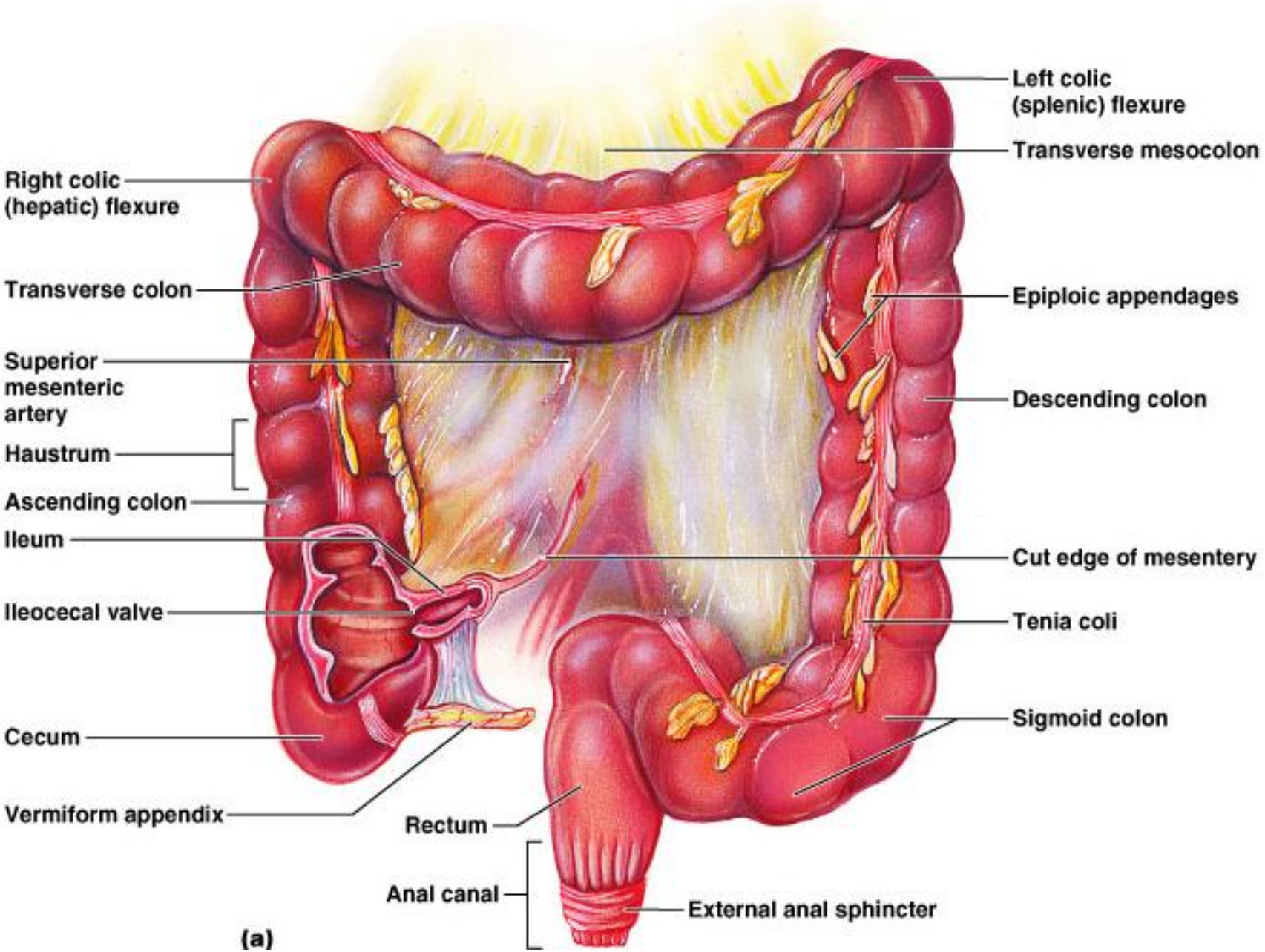
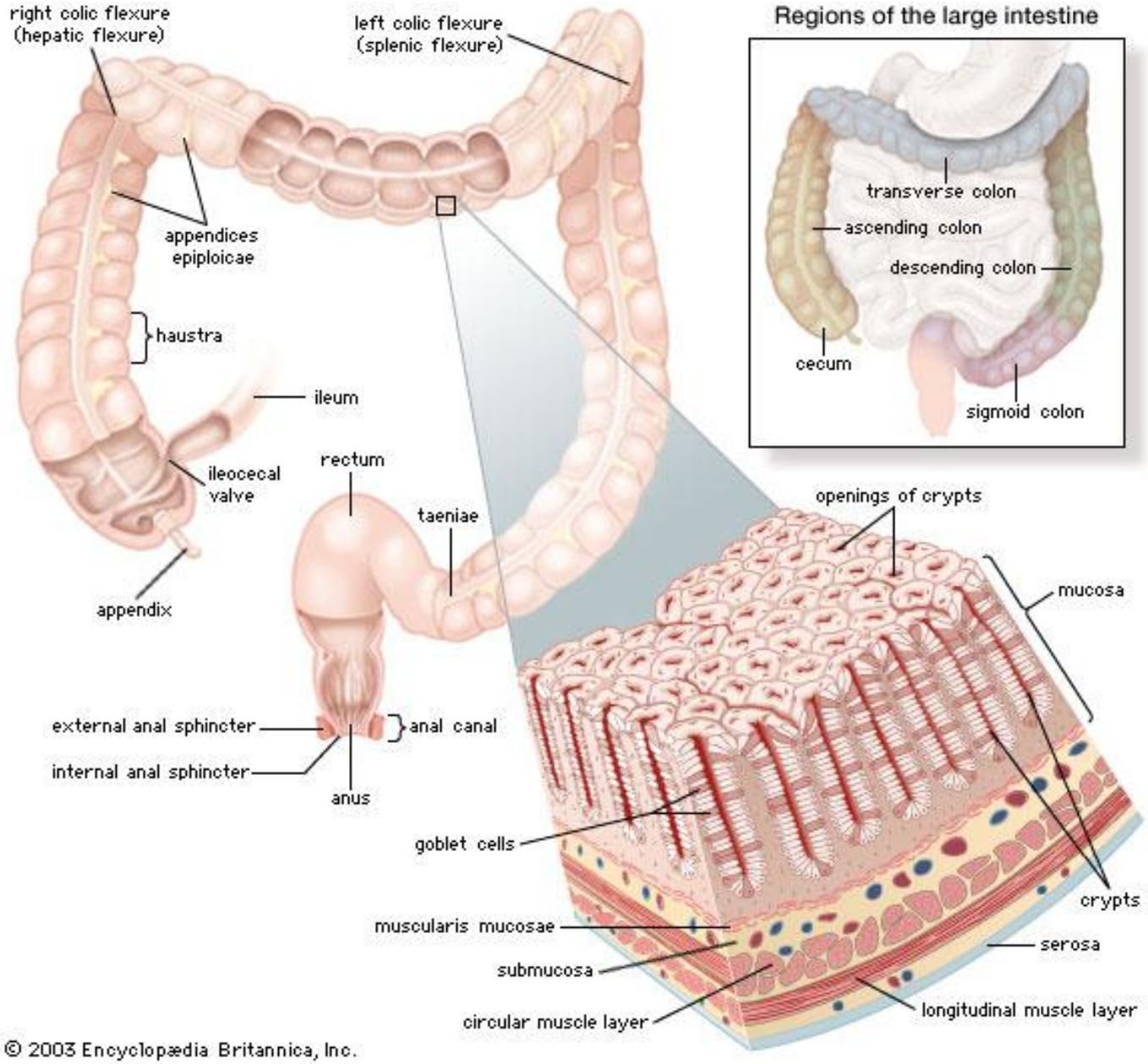
Large Intestine

Consist of

1. Cecum
2. Appendix
3. Colon
4. Rectum
5. Anal canal

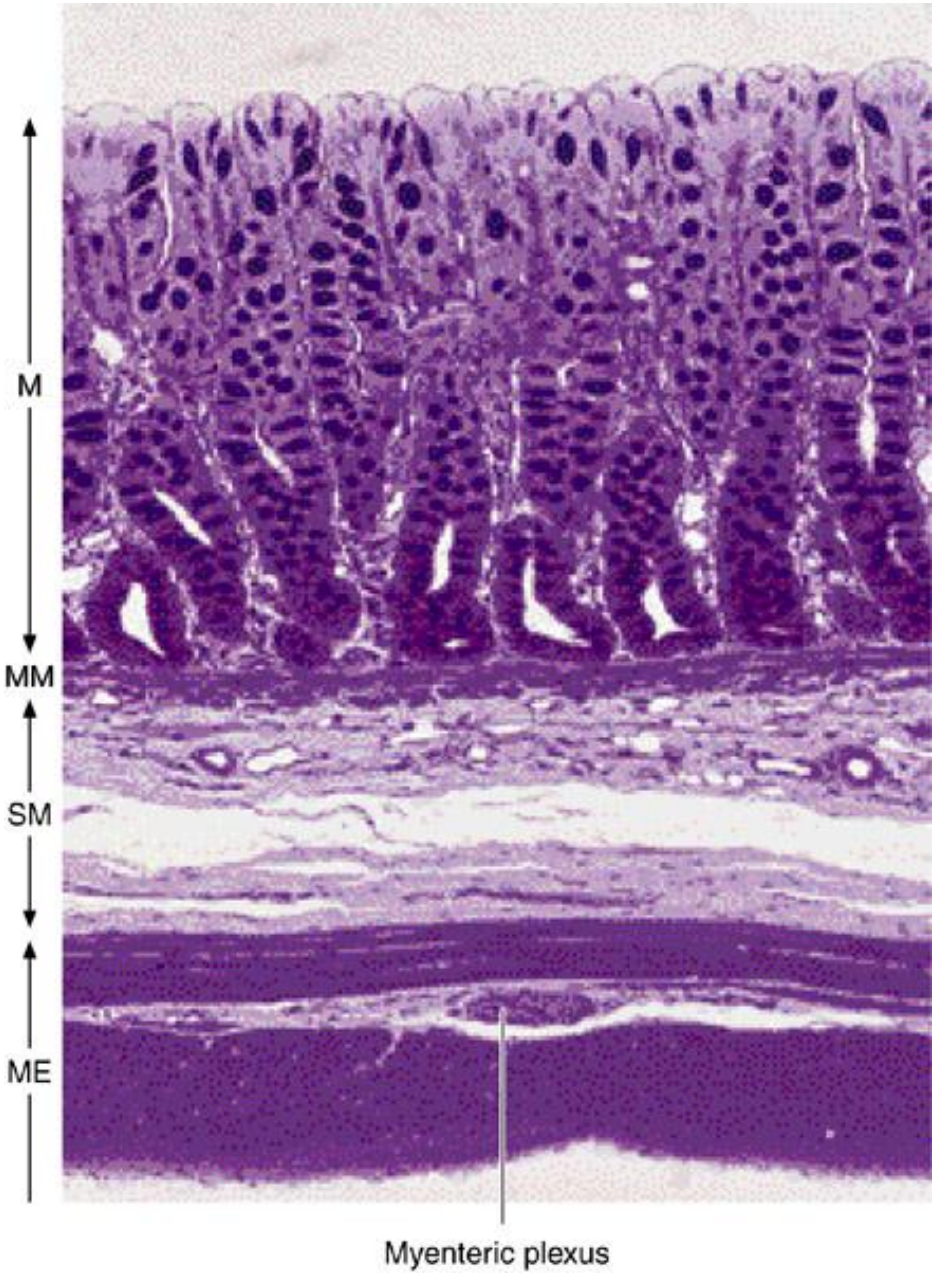
Main Function to absorb water and electrolytes


Left colic (splenic) flexure
Transverse mesocolon
Right colic (hepatic) flexure
Transverse colon
Epiploic appendages
Superior mesenteric artery
Descending colon
Haustrum
Ascending colon
Ileum
Cut edge of mesentery
Ileocecal valve
Tenia coli
Sigmoid colon
Cecum
Vermiform appendix
Rectum
Anal canal
External anal sphincter
(a)



Large Intestine

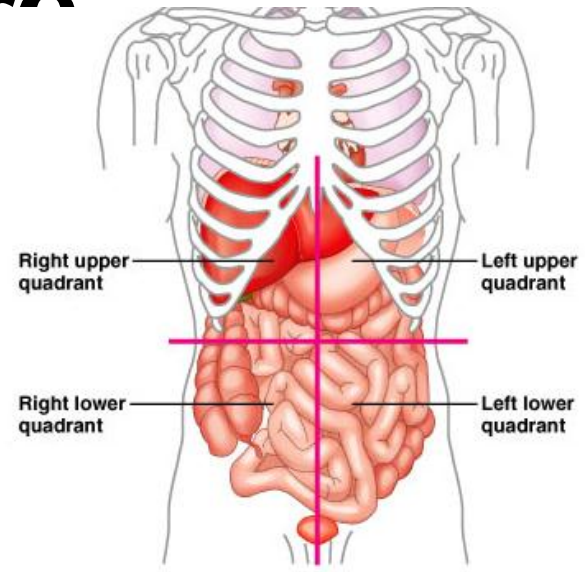
- No villi
  - Fewer nutrients absorbed
- “Columnar cells” = absorptive cells
  - Take in water and electrolytes
- A lot of goblet cells for mucus
  - Lubricates stool
- More lymphoid tissue
  - A lot of bacteria in stool

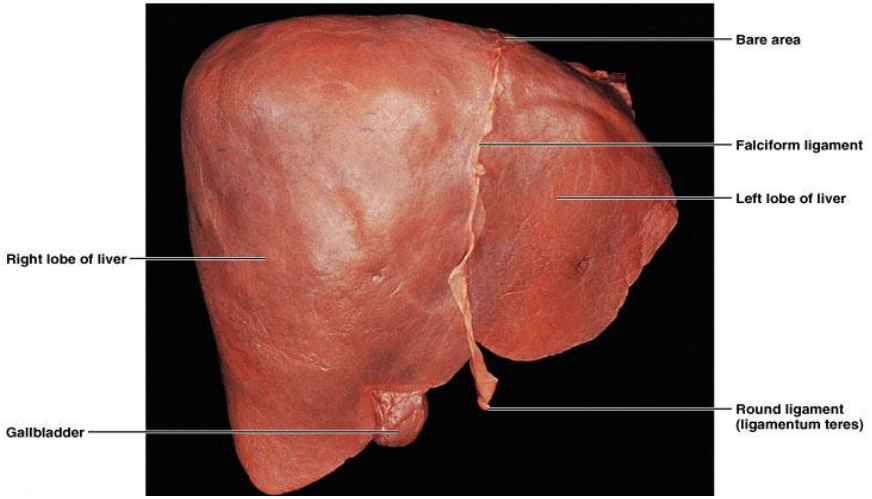


Section of large intestine with its various layers. Note the absence of villi. M, mucosa; MM, muscularis mucosae; SM, submucosa; ME, muscularis externa. PT stain. Low magnification.

Liver structure

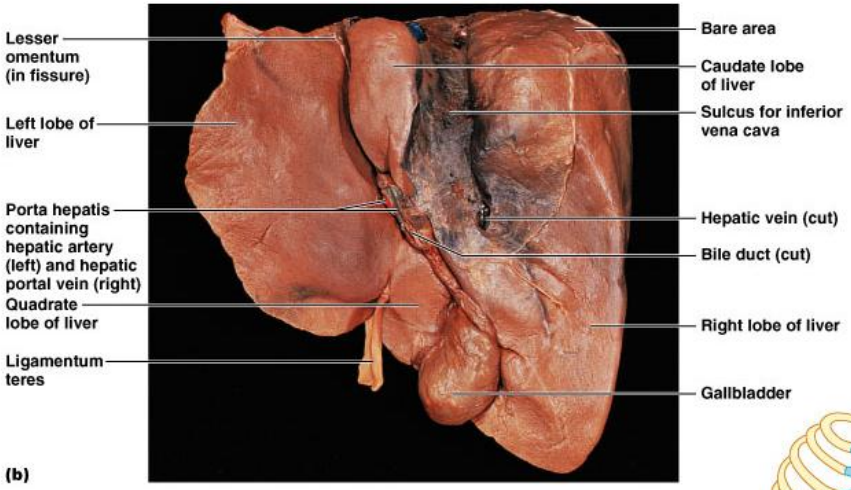
- Largest gland in the body (about 1.5 kg)
- Over 500 functions
- Inferior to diaphragm in RUQ and epigastric area protected by ribs
- R and L lobes
  - Plus 2 smaller lobes
- Falciform ligament
  - Mesentery binding liver to anterior abdominal wall
- 2 surfaces
  - Diaphragmatic
  - Visceral
- Covered by peritoneum
  - Except “bare area” fused to diap

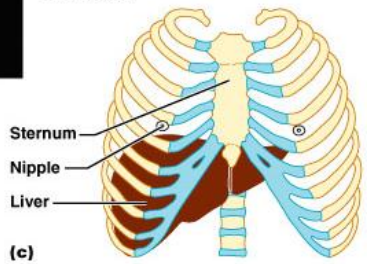


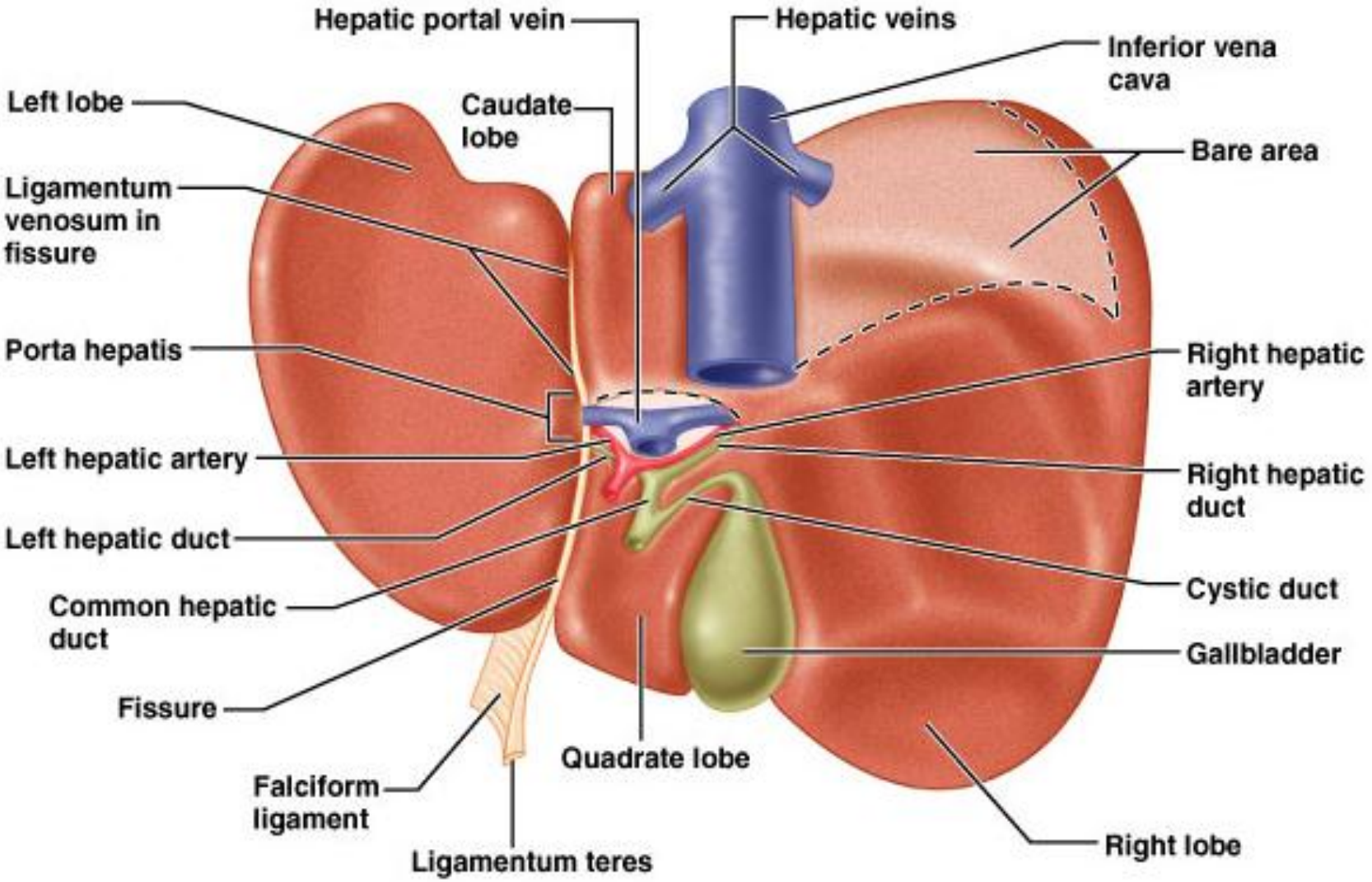


Liver structure con

- *Fissure* on visceral surface
- *Porta hepatis*: major vessels and nerves
  - enter and leave
  - *Ligamentum teres*: remnant of umbilical vein in fetus, attaches to navel

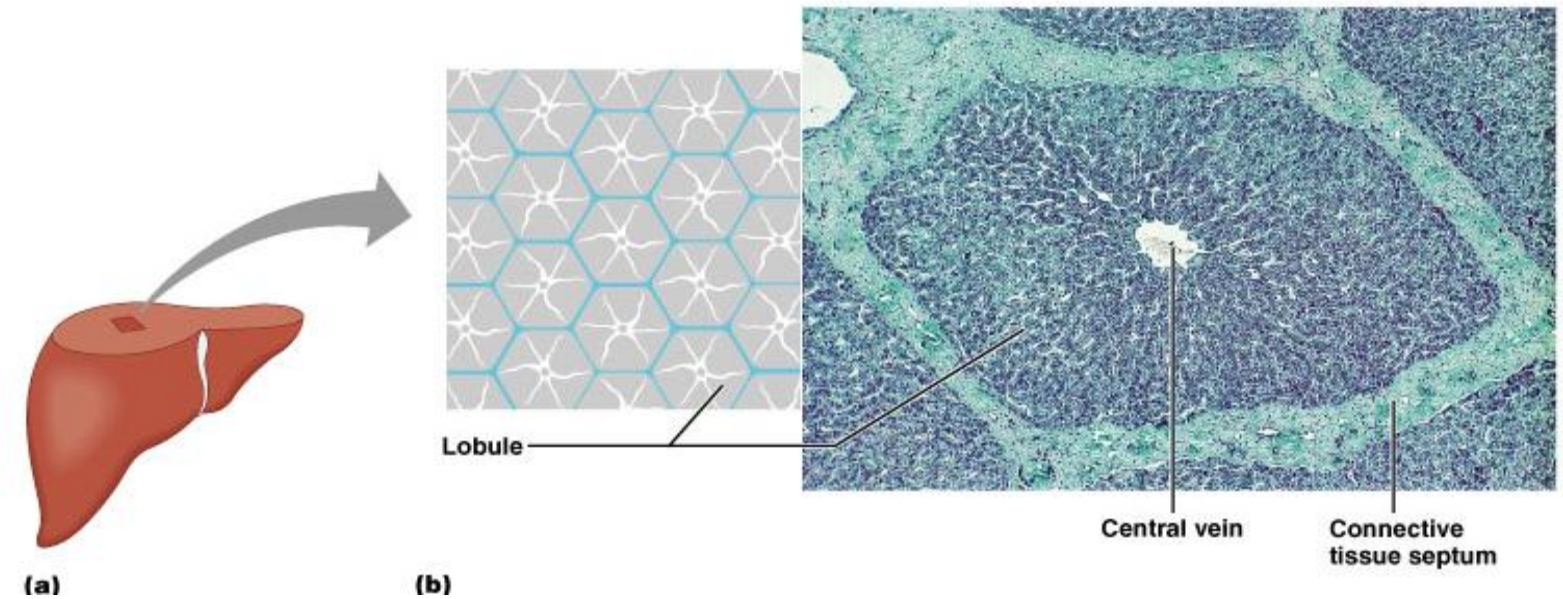





Hepatic portal vein
Hepatic veins
Inferior vena cava
Left lobe
Caudate lobe
Bare area
Ligamentum venosum in fissure
Porta hepatis
Right hepatic artery
Left hepatic artery
Right hepatic duct
Left hepatic duct
Cystic duct
Common hepatic duct
Gallbladder
Fissure
Quadrate lobe
Falciform ligament
Right lobe
Ligamentum teres

Liver Histology

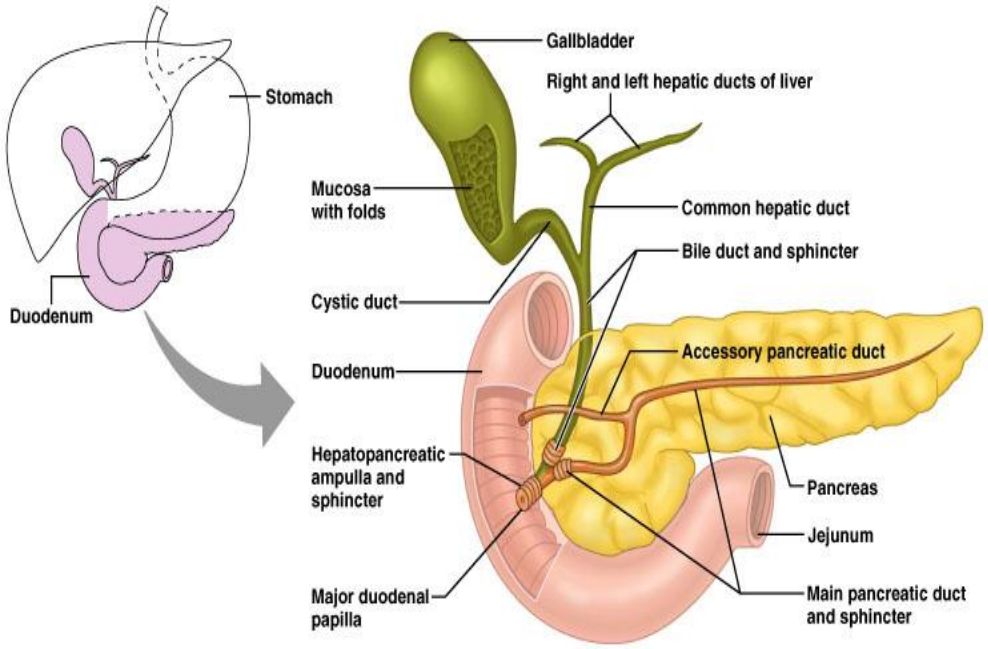
- Liver lobules (about one million of them)
  - Hexagonal solid made of sheets of ***hepatocytes*** (liver cells) around a central vein
  - Corners of lobules have ***"portal triads"***



Gallbladder

•Bile is produced in the liver and stored in the gallbladder then excreted into the duodenum when needed (fatty meal)

•If bile salts crystallize, gall stones are formed
•Intermittent pain: ball valve effect causing intermittent obstruction
•Or infection and a lot of pain, fever, vomiting, etc.



Extra reading

- http://instruction.cvhs.okstate.edu/histology/HistologyReference/hrd1.htm