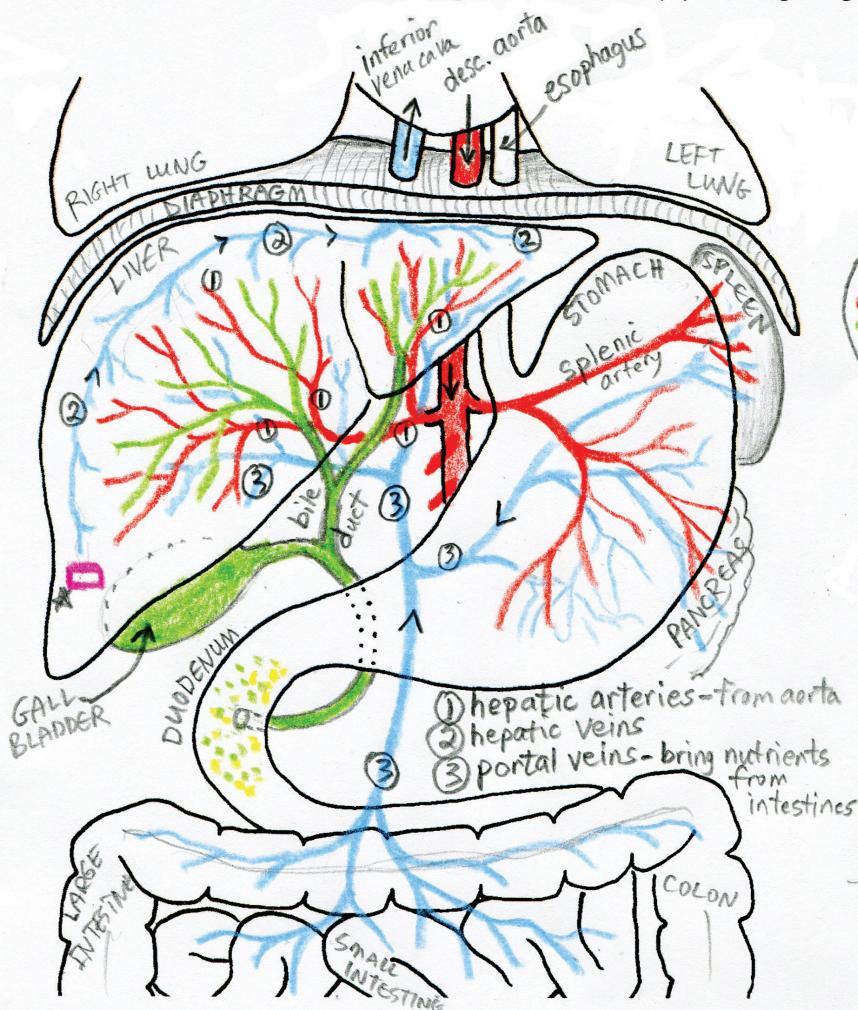


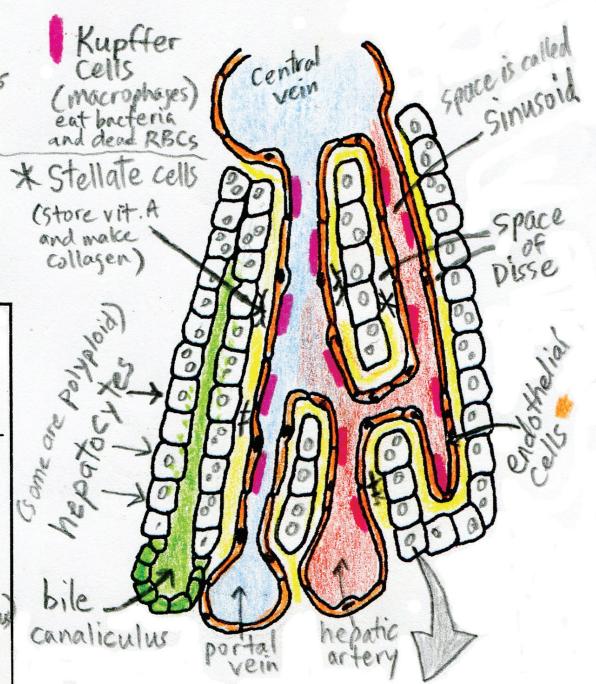
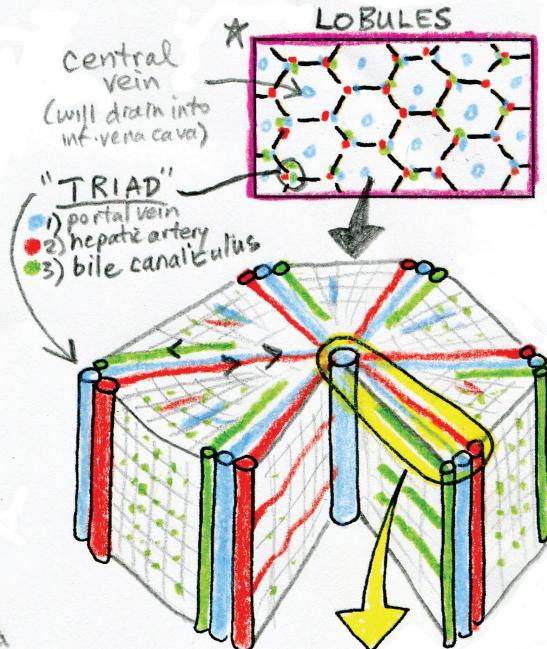
# THE LIVER and GALL BLADDER

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The liver is the largest gland in the body. It weighs about 3 lbs (1.5 kg). It is the ultimate "mult-tasker" and by some counts does as many as 500 jobs! The gall bladder is simply a storage bag for one of the products that the liver makes.



## MICROSCOPIC VIEWS:



## MAJOR FUNCTIONS of the LIVER:

- A: Amino acids : Can make 14 of them, and can transform them. Albumin (blood protein) and Angiotensin (blood pressure)
- B: Bile : Emulsifies fats (like dish soap) for digestion. Made of water, bile acids/salts, cholesterol, phospholipids
- C: Cholesterol : Liver makes it, also proteins for transport, HDL (high density lipoprotein), LDL (low), VLDL (very low)
- C: Clotting factors: Fibrinogen, prothrombin, V, VI, VII, IX, X etc. (lesson 38)
- C: C-reactive protein : CRP (indicates inflammation) C complexes of immune system C3, C5, etc.
- D: Detox : Breaks down yucky stuff - alcohol, drugs, insulin, NH<sub>3</sub> (lesson 48)
- E: Erythrocytes recycled : Kupffer cells recycle hemoglobin into Heme + globin (lesson 39)
- F: Fe (iron) and Fat-soluble vitamins stored (A, D, E, K, B-12) Cu
- G: Glucose/glycogen : Liver stores glucose as glycogen

