

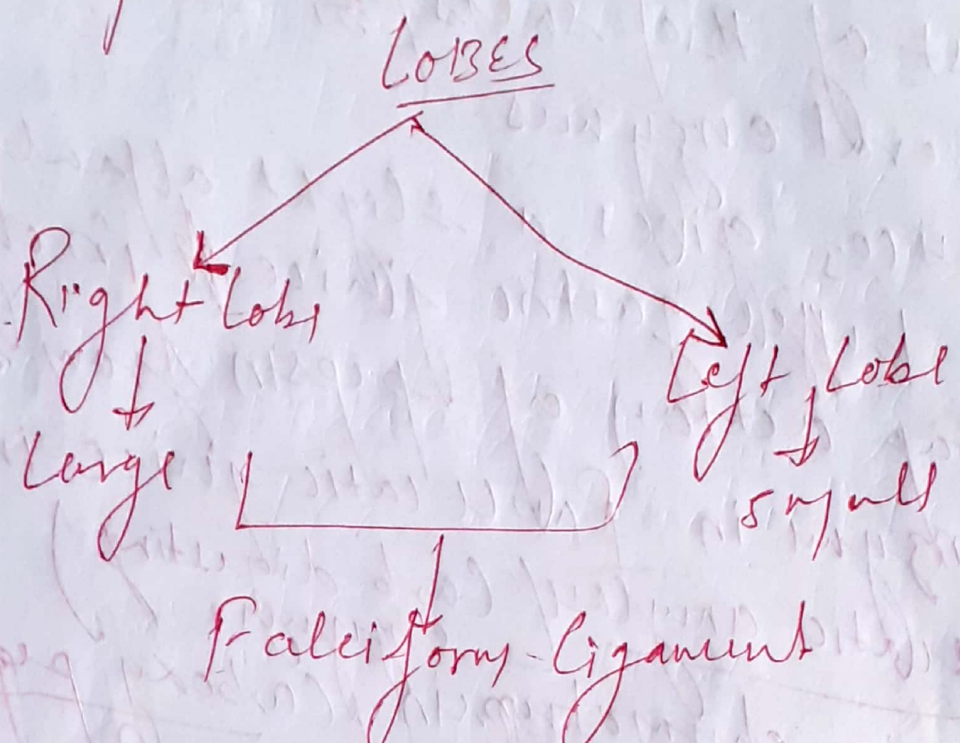
## LIVER

✓ SL is the heaviest gland of the body weighing abt 1.4 kg

- After skin, it is 2nd largest organ of body

# Anatomy

- ✓ Liver is completely covered by dense irregular connective tissue. & lies deep to peritoneum.



## Histology of liver

- ✓ Functional unit of lobes of liver is known as lobules.
- ✓ Lobules is a hexagonal structure consist of specialized epithelial cells called hepatocytes.
- ✓ Instead of capillary, liver has larger endothelium lined space called Sinusoids thr which blood passes.
- ✓ In sinusoids, phagocytic cells are also present i.e. KUPFER cells. (destroy worm, out R. blood wibe, bacteria)



Bile secreted from hepatocytes, enters bile canaliculi then into bile ductules

They pass into bile duct.

↳ Bile duct merges from Right & left hepatic duct. Right & Left of common hepatic duct.

↳ Common hepatic duct joins the gastrointestinal duct (pancreatic) to form common bile duct.

### functions of liver

↳ Carbohydrate metabolism

Liver plays an imp. function in regulation of blood glucose level.

↳ When blood glucose is low then glycogen gets converted into glucose

Liver also converts Amino acids / Lactic acid to glucose.

↳ When blood glucose is high then liver converts glucose to glycogen for storage.



## ✓ Lipid metabolism:

✓ Hepatocytes store TG's & break down fatty acid to generate ATP & synthesize lipoprotein.

## ✓ Protein metabolism:

✓ Hepatocytes deaminate amino acid ~~to~~ ~~that~~ to produce ATP, or convert into carbohydrate and fat.

✓ Toxic ammonia is converted to less toxic urea which is excreted in urine.

✓ Hepatocytes also synthesize plasma prot. (α-globulin, β-globulin, Albumin, Prothrombin & fibrinogen).

## ✓ Processing of drugs & hormones:

✓ Liver can detoxify sus. such as alcohol, excrete drugs i.e. penicillin, erythromycin, sulfonamides into bile.

## ✓ Excretion of Bilirubin:

Bilirubin derived from lysis of aged RBCs is absorbed by the liver from blood & secreted into bile.



Synthesis of bile salt:-

Bile salt are used in small intestine for emulsification & absorption of lipids, cholesterol, phospholipid & lipoprotein.

Storage:- In addition to glycogen, liver is primary storage site for certain vit - A/B<sub>12</sub>/D/E/K, mineral copper & iron

Phagocytes:- Kupfer cells act as phagocyte cells for aged R.B.C/W.B.Cs

Action - Activation of vit-D:-  
Spleen | Liver | Kidney  
or active form of vit D participate in syn