

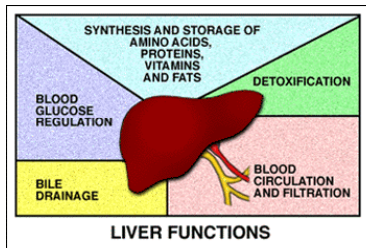
Liver Functions

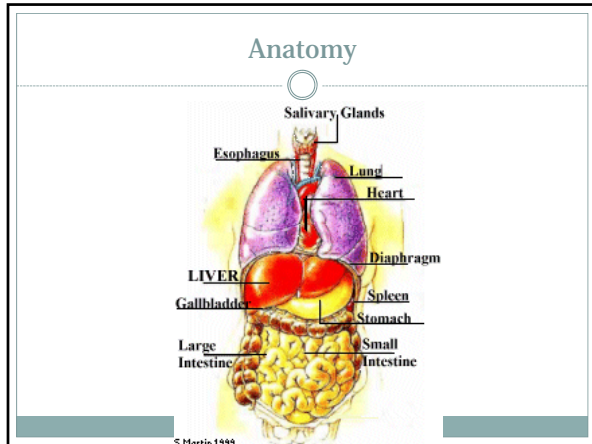
OPTION H

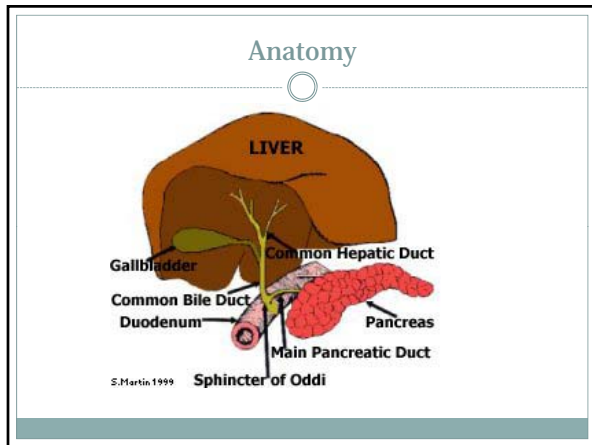
H4 Functions of Liver

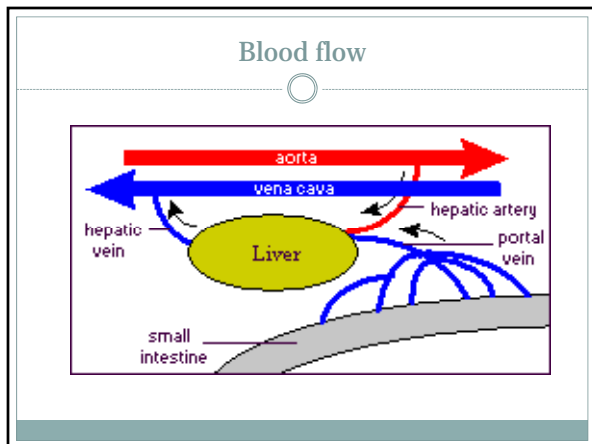
- Outline the circulation of blood through the liver tissue including hepatic artery, hepatic portal vein, sinusoids, and hepatic vein.

Overall Functions



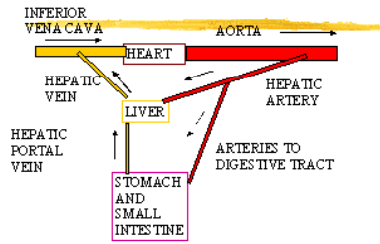




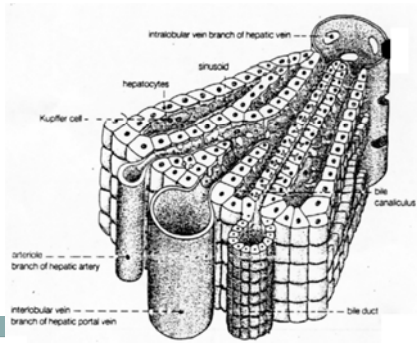


Blood flow

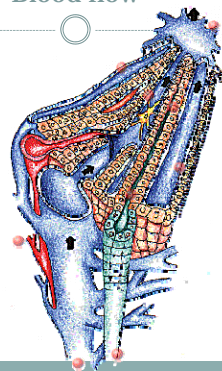
LIVER BLOOD FLOW



Blood flow



Blood flow



Bile Secretion

- Secreted via Canaliculi via ducts to the Gall Bladder and then CCK stimulates it's release when food is present through the bile duct.
- Contents:
 - HCO₃⁻ ions, bile salts, bile pigments (bilirubin)
 - Neutralize pH from stomach
 - Emmulsify fats

Storage of Nutrients

- Glycogen storage
- Iron and Kupffer cells
- Vitamin Storage (Fat Soluable)
 - Retinol (Vitamin A) transported to liver via chylomicrons and then stored in liver cells.
 - Calciferol (Vitamin D) is absorbed in the intestine and bound to a protein that is then absorbed and stored in liver cells and when released into blood helps cells uptake calcium.

Erythrocyte and Hemoglobin Breakdown

- Old RBC's are engulfed by **phagocytic Kupffer cells** in the liver. The hemoglobin is broken down into iron and proteins. The iron is transported to red bone marrow and the proteins are digested to amino acids. The remaining parts of the hemoglobin molecule are converted to **bilirubin** and secreted in bile and give the feces their yellow/brown color. **Jaundice** results when too much RBC's are broken down.

Other

- Cholesterol synthesis
- Glycogen storage and breakdown
- Glucose production from aminoacids etc...
- Plasma proteins
 - Albumin
- Ammonia to Urea
- Detoxify drugs etc..
 - Alcohol causes swelling of the liver
 - Fatty Deposits (Cirrhosis)
