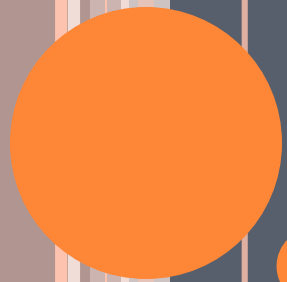


STRUCTURE & FUNCTIONS OF THE LIVER

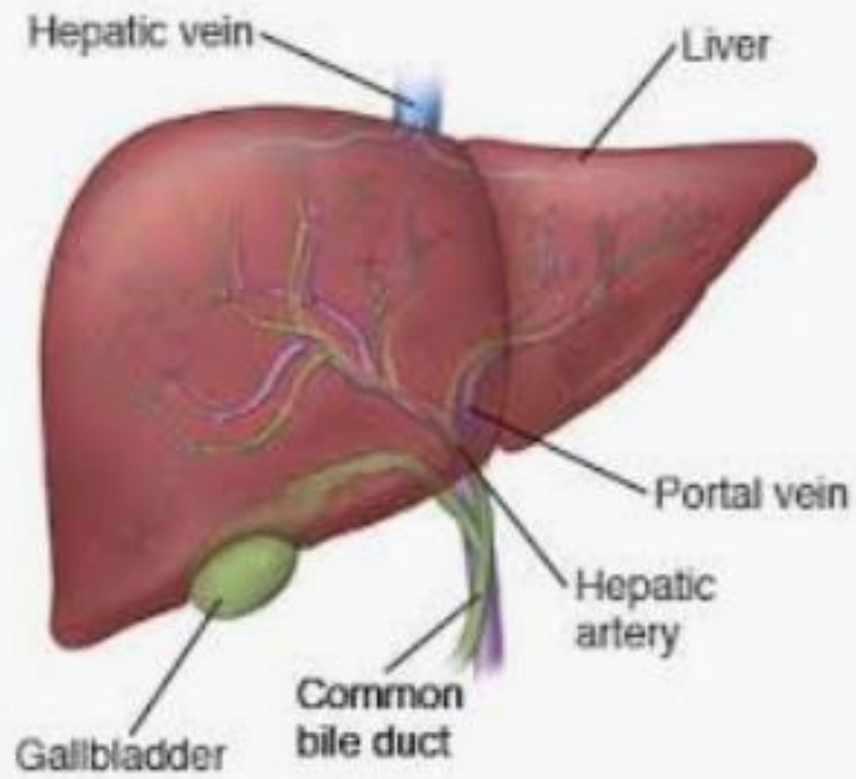
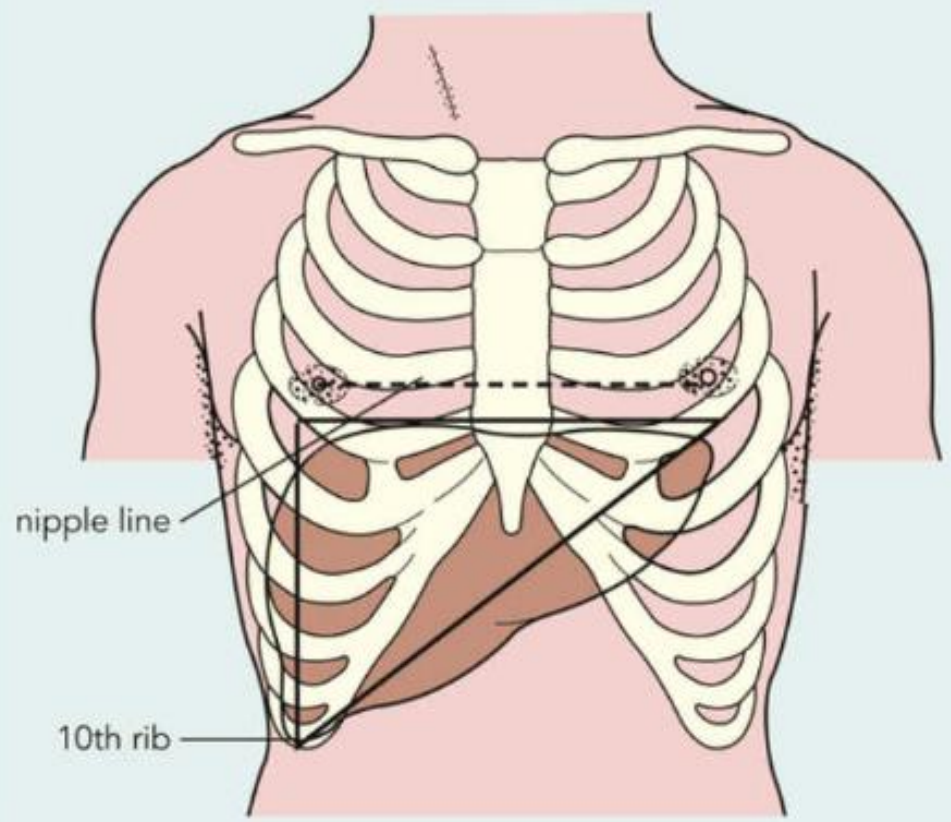
Dr Vikrant Sood, MD, DM

Associate Professor,

Department of Pediatric Hepatology & Liver Transplantation,
ILBS, New Delhi

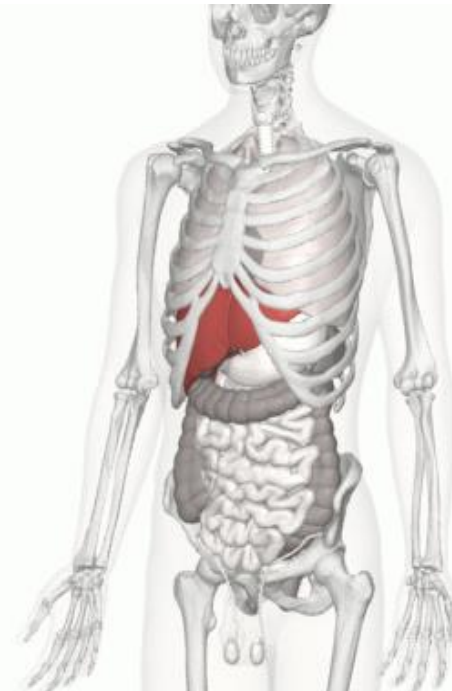


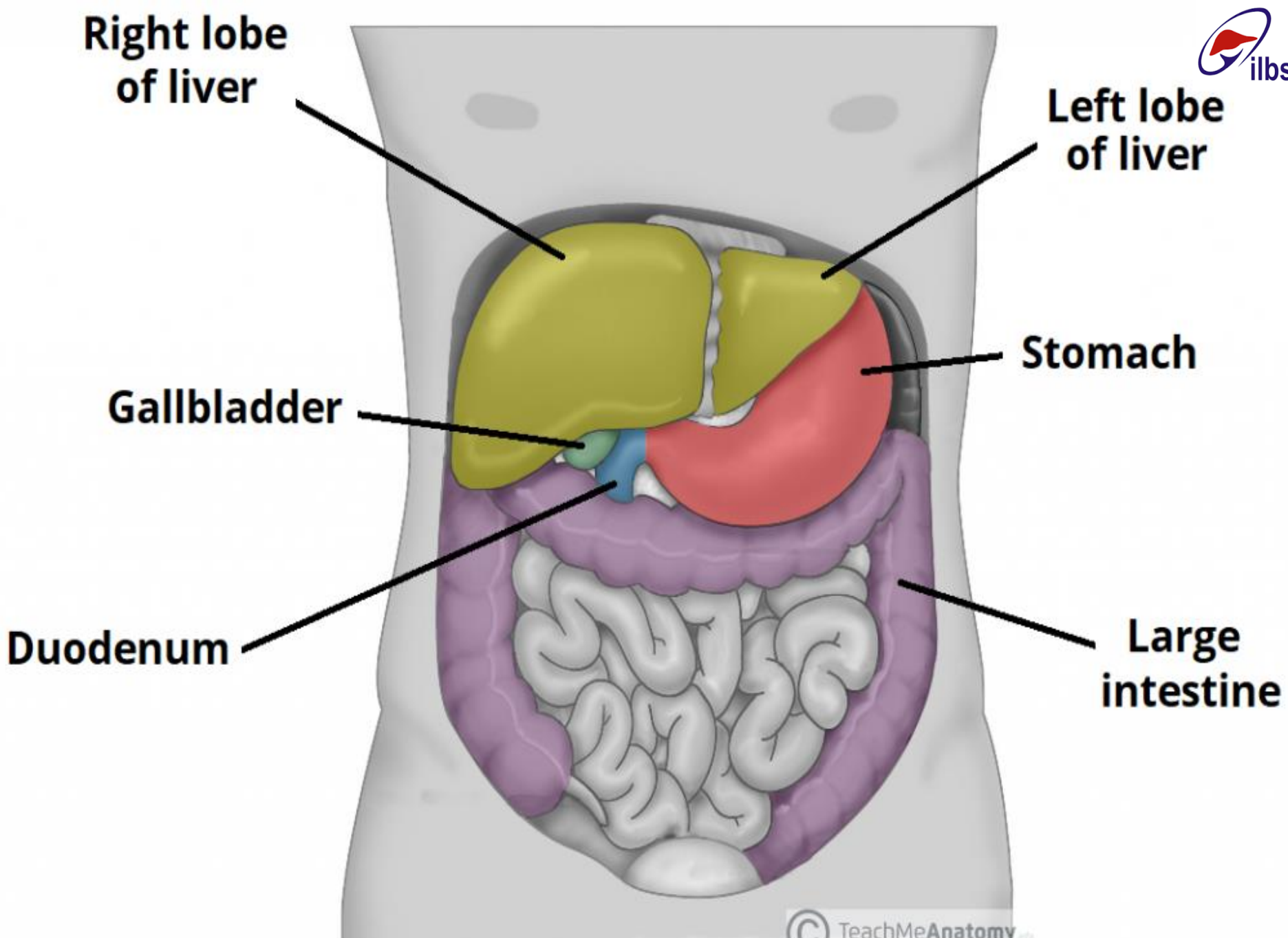
STRUCTURE



LOCATION

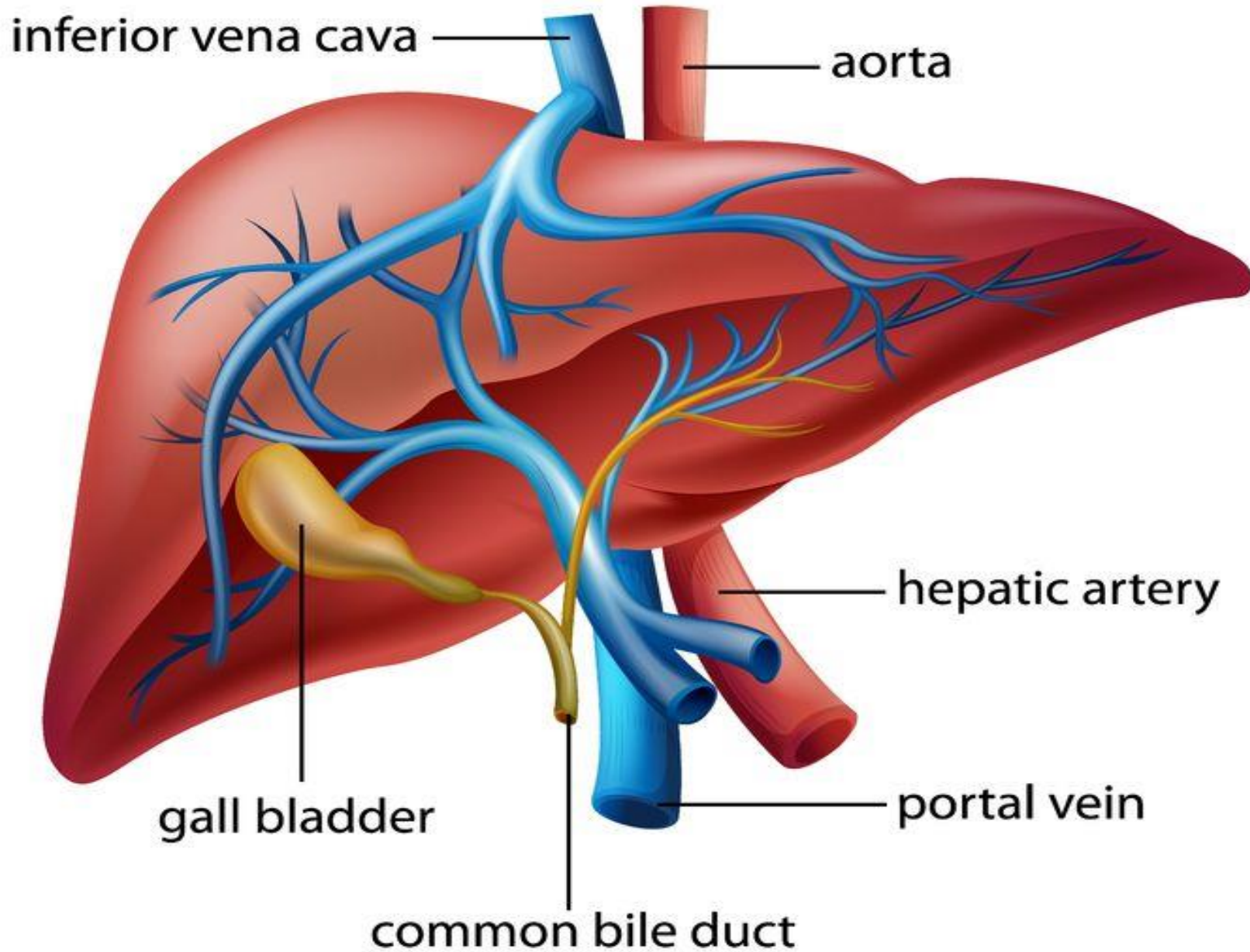
- Located in the upper right side of abdomen
- Largest organ in the body
- 1.2-1.5 kg in adults

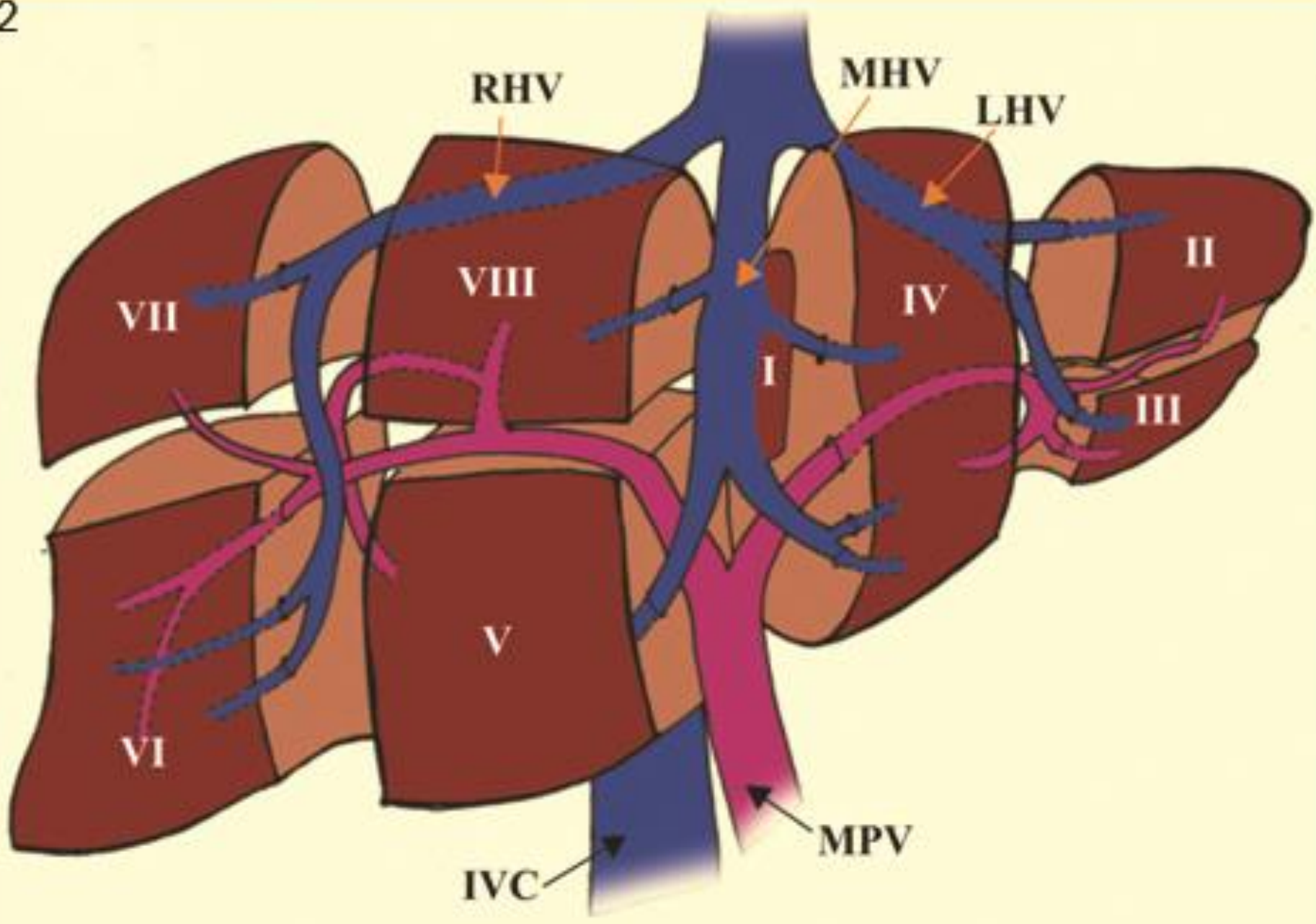




- Two lobes- the right lobe and the left lobe
- The liver is connected to large blood vessels and bile duct
 - Artery carries oxygen-rich blood from the aorta to the liver.
 - Portal vein carries blood rich in digested nutrients from the gastrointestinal tract to the liver.

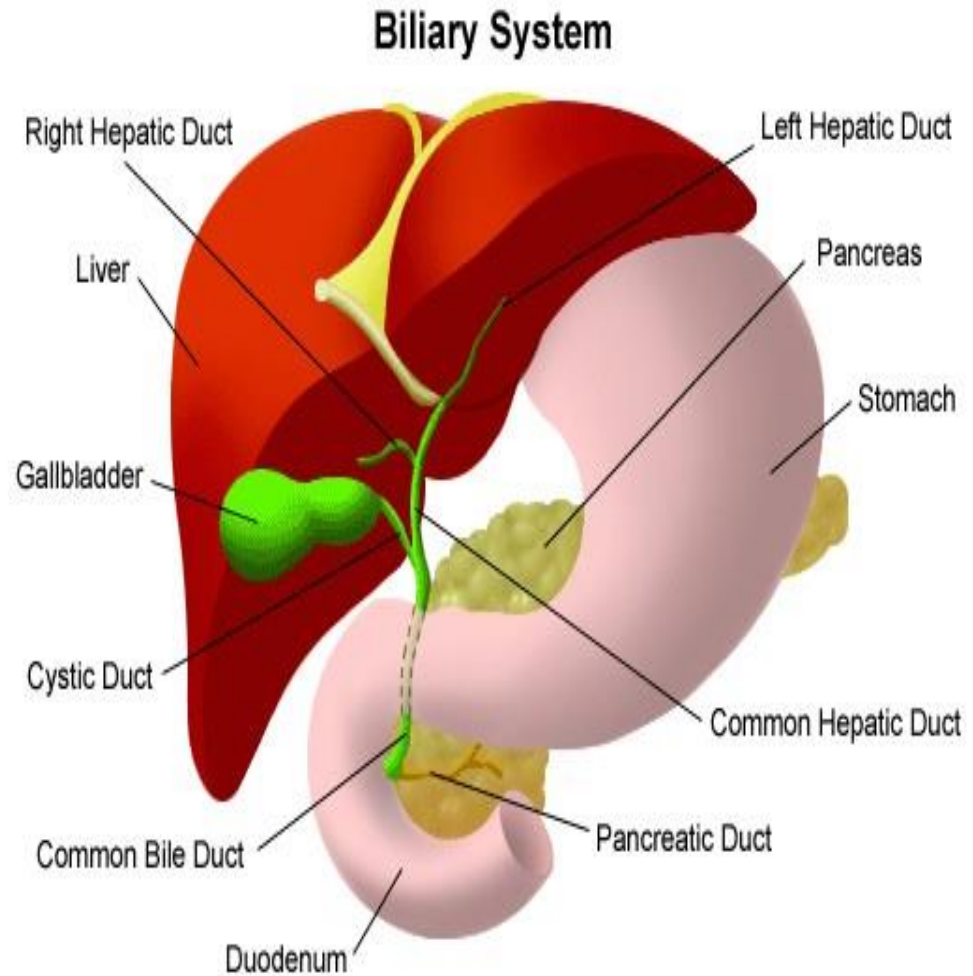
Human Liver Anatomy

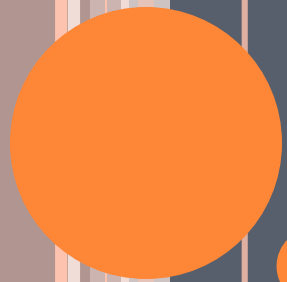




GALL BLADDER

- Bile duct transports the bile produced **by the liver cells to the gallbladder and duodenum**





FUNCTIONS

WIDE RANGE OF FUNCTIONS

- Metabolic Factory
- Detoxification
- Protein synthesis
- Storage
- Endocrine/Exocrine gland



PRIMARY SITE OF METABOLISM

- All absorbed food passes through liver & is processed:
 - **Carbohydrate:** Gluconeogenesis, glycogenesis, glycogenolysis
 - **Proteins:** synthesis as well as degradation
 - **Lipids:** Cholesterol synthesis, Lipogenesis, lipoproteins



PROTEIN SYNTHESIS

- Produces:
 - Plasma proteins (Eg Albumin)
 - Coagulation/Anticoagulation factors:
 - Factor I (fibrinogen), II (prothrombin), V, VII, IX, X and XI, as well as protein C, protein S and antithrombin



EXOCRINE GLAND

- It produces bile which aids in digestion via the digestion of fats



STORAGE ORGAN

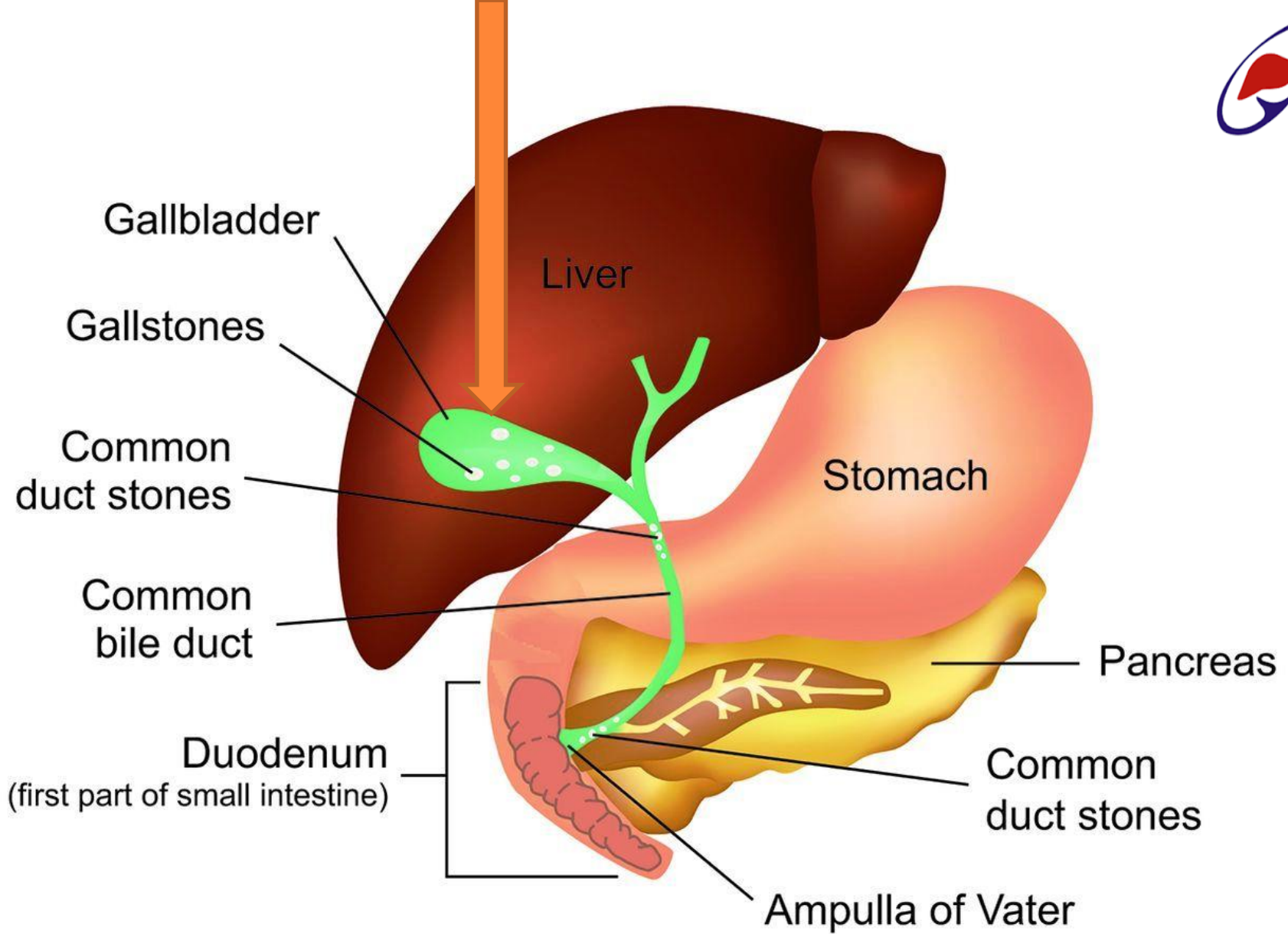
- The liver stores many substances:
 - Glucose (in the form of glycogen)
 - Vitamin A (1–2 years' supply)
 - Vitamin D (1–4 months' supply)
 - Vitamin B12 (1–3 years' supply)
 - Vitamin K
 - Iron
 - copper



ROLE OF GALL BLADDER

- **Bile: Critical for digestion and absorption of fats and fat-soluble vitamins in the small intestine.**
- **Many waste products eliminated from the body by secretion into bile and elimination in stool**





Thank
You!