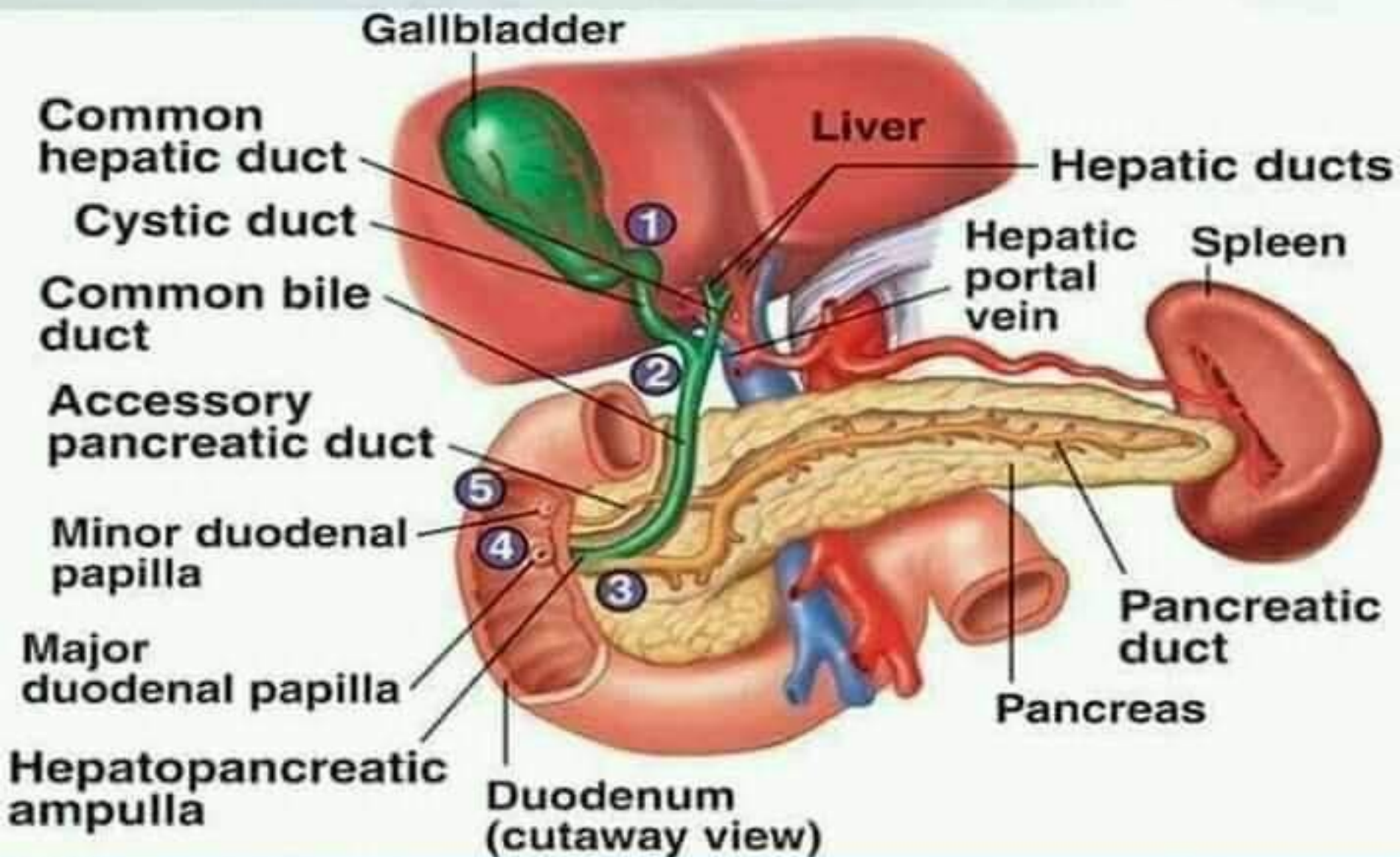


# ANATOMY OF LIVER



# Liver Functions

Removes potentially toxic byproducts of certain medications.

Prevents shortages of nutrients by storing vitamins, minerals and sugar.

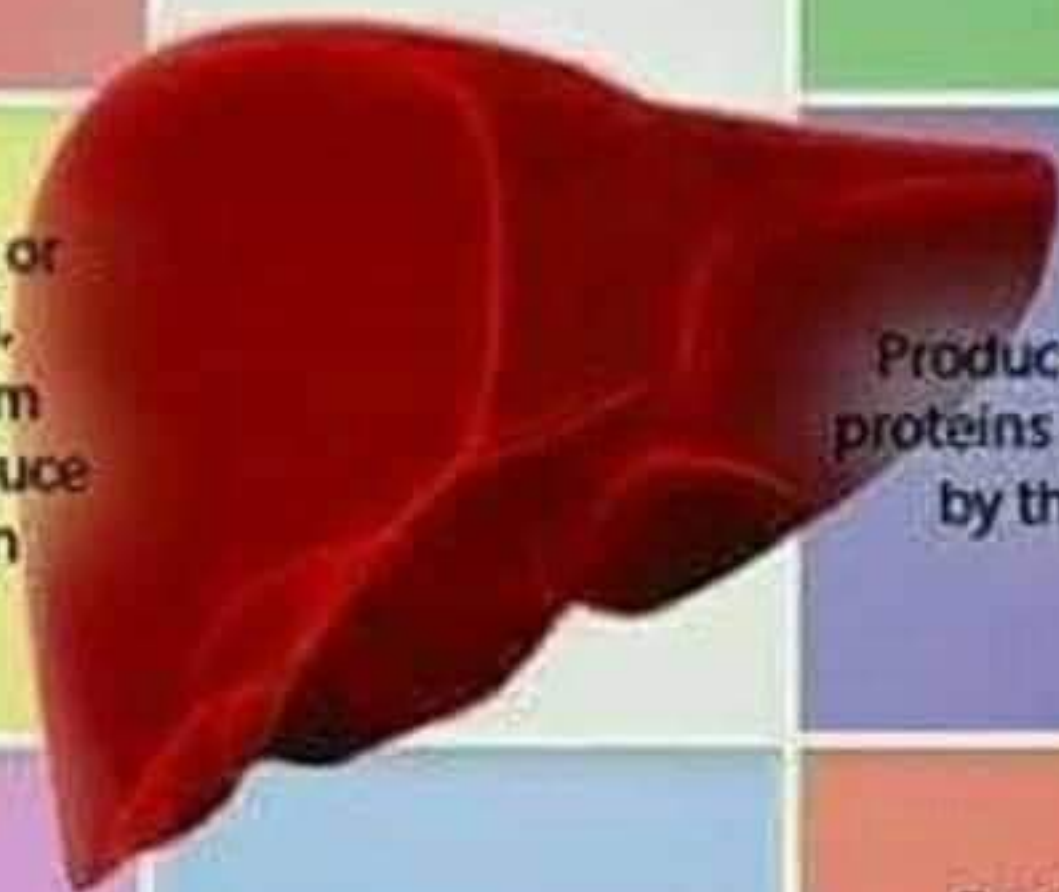
Metabolizes, or breaks down, nutrients from food to produce energy, when needed.

Produces most proteins needed by the body.

Helps your body fight infection by removing bacteria from the blood.

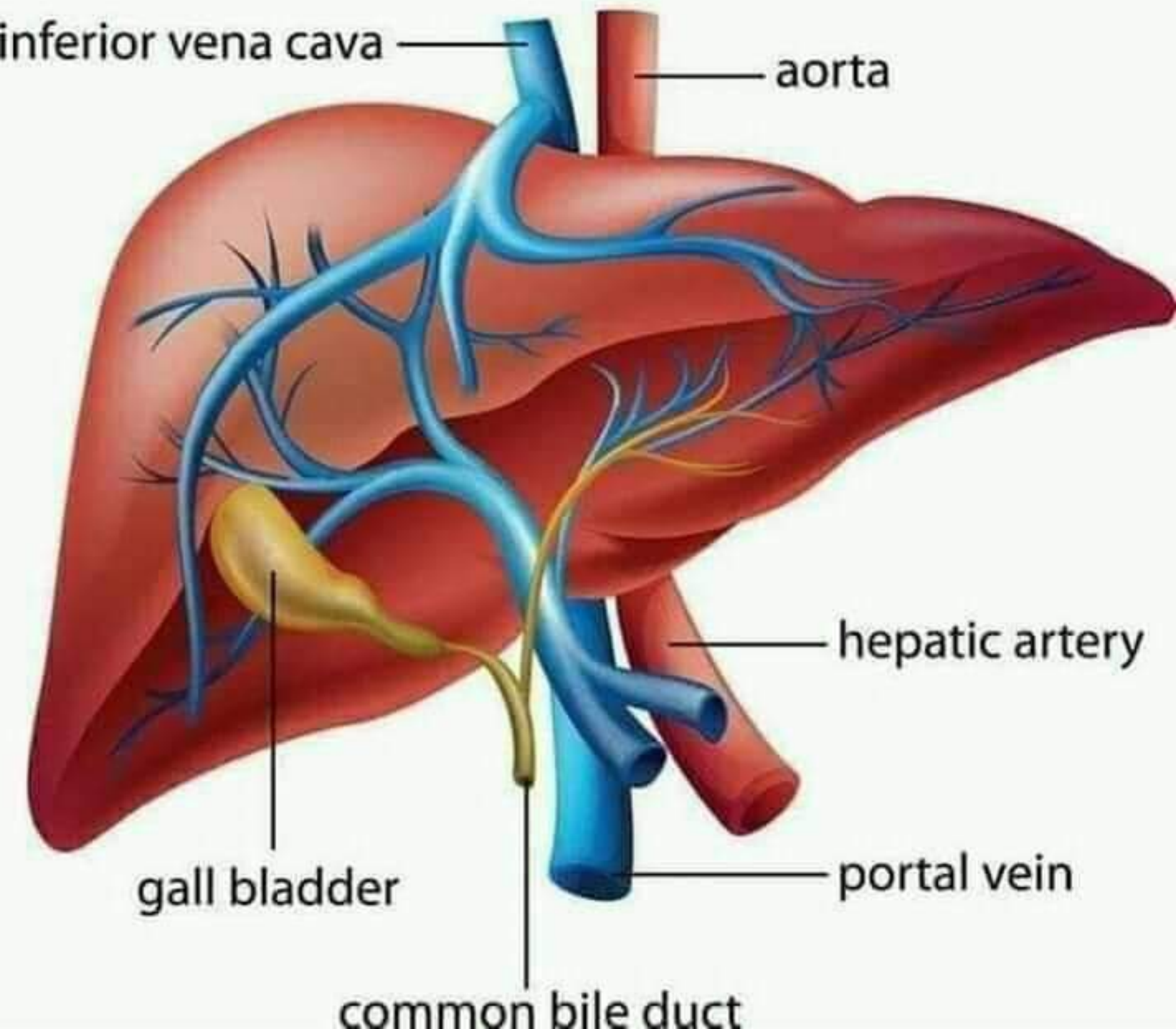
Produces most of the substances that regulate blood clotting.

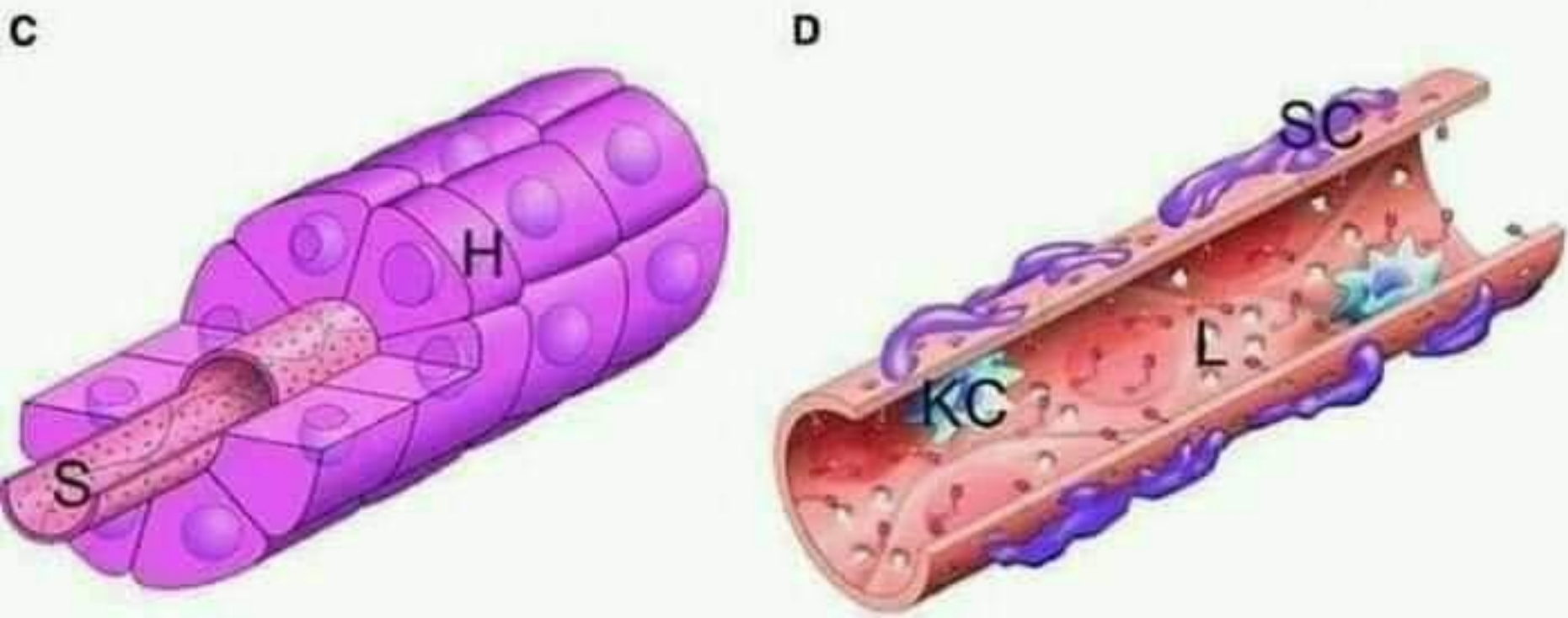
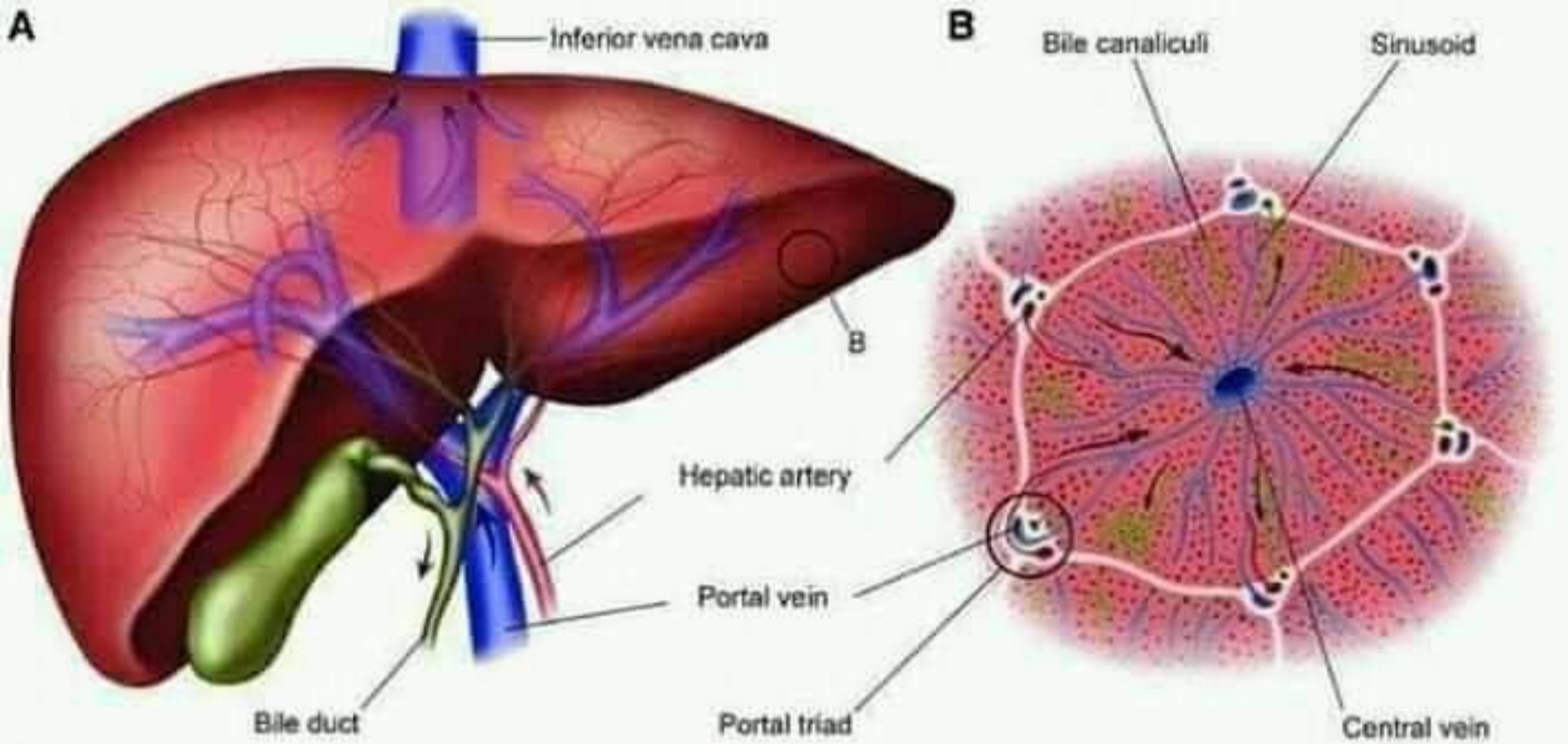
Produces bile, a compound needed to digest fat and to absorb vitamins A, D, E and K.



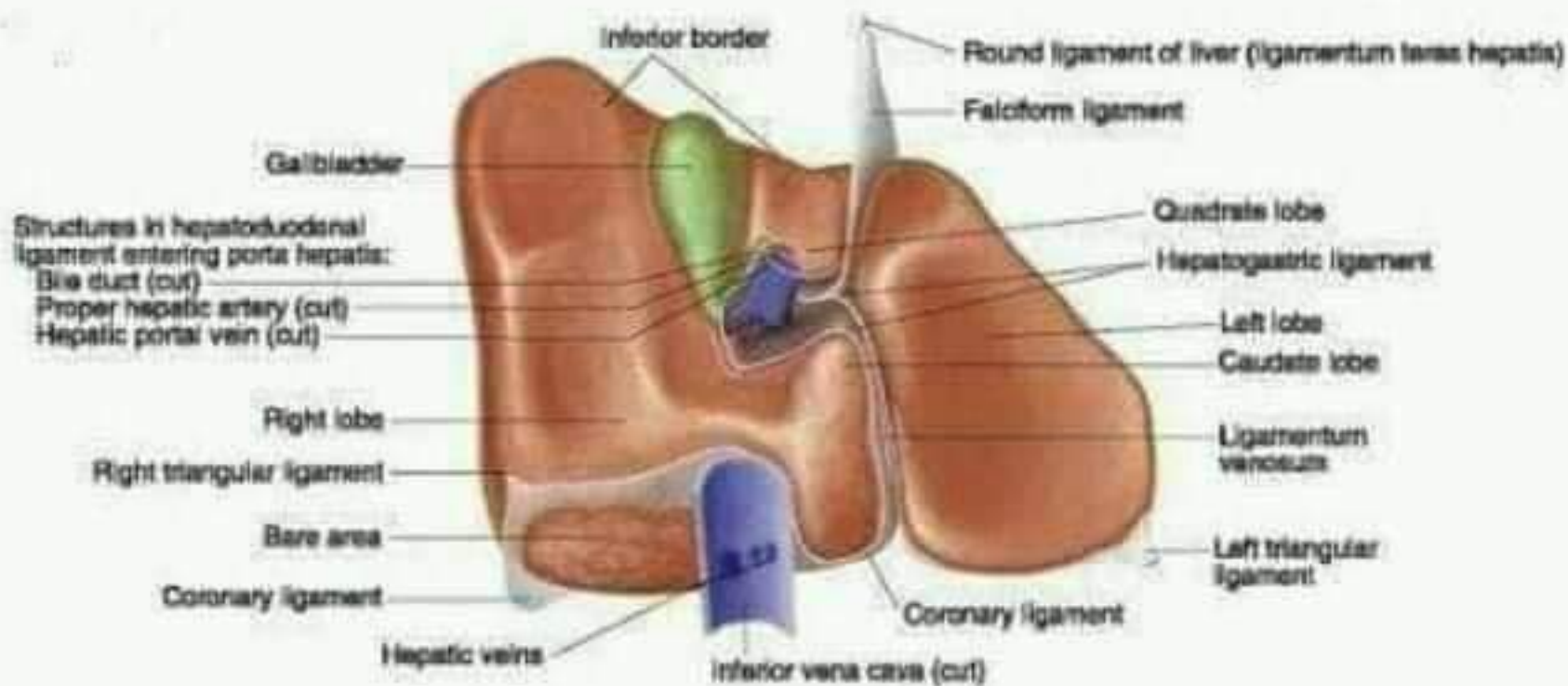
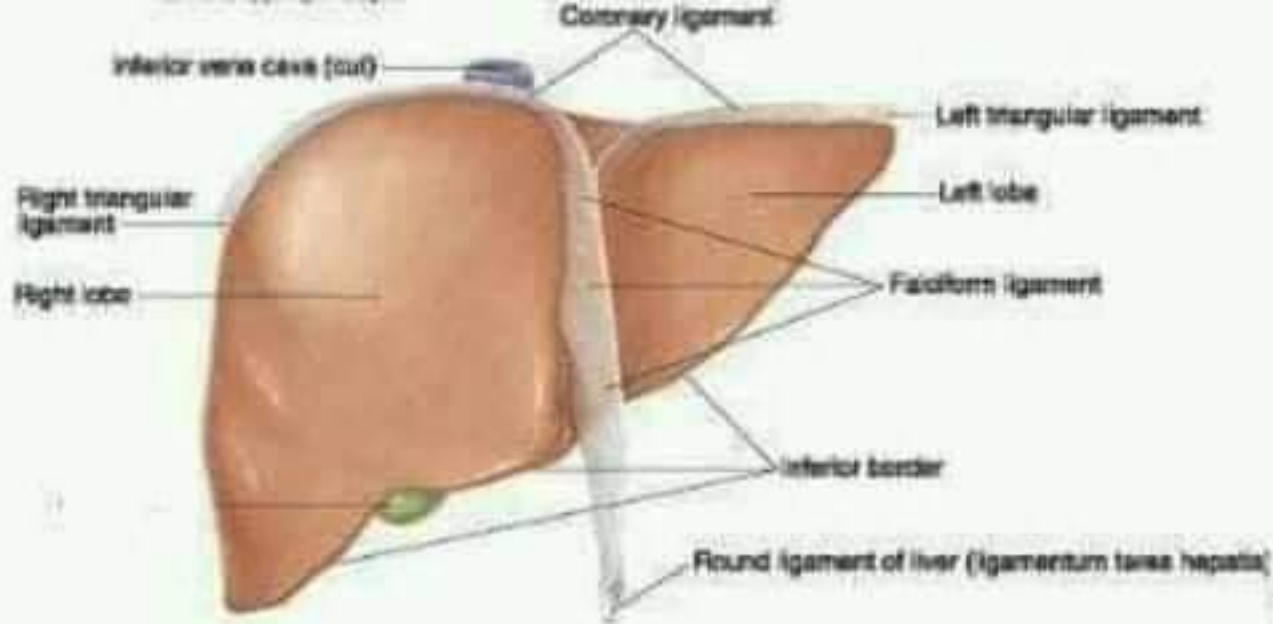


# Human Liver Anatomy









# Functions of the liver

## Storage

- Glucose (in form of glycogen)
- Vitamins (A, D, K and B12)
- Iron and copper

## Breakdown

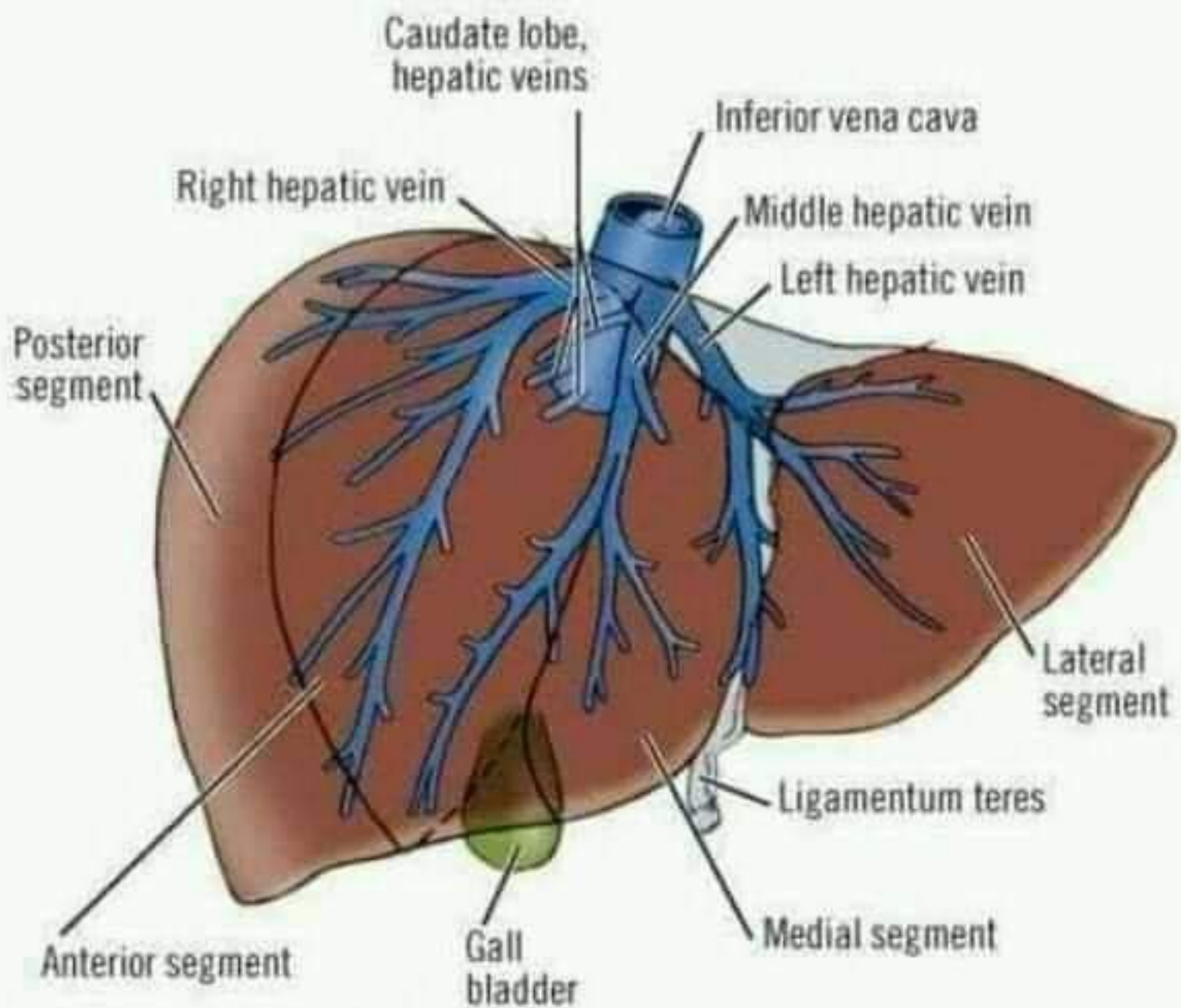
- Drug and toxin metabolism (glucuronidation, methylation)
- Ammonia (urea cycle)
- Bilirubin metabolism
- Glycogenolysis

## Synthesis

- Gluconeogenesis
- Glycogenesis
- Amino acid and protein synthesis
- Lipogenesis, cholesterol synthesis
- Coagulation factors
- Bile
- Growth factors e.g IGF-1

## Immunological effects

- Immunologically active cells, antigens carried to it through reticuloendothelial system



# Functions of Liver

## Secretory

- 1) Bile acid from cholesterol
- 2) Conjugation of Bilirubin (Both secreted in bile)

## Excretory

Excretion of exogenous dyes

- 1) BSP
- 2) Rose Bengal

## Metabolic

- 1) Carbohydrate Metabolism
- 2) Lipid metabolism
- 3) Amino acid metabolism
- 4) Cholesterol synthesis and Esterification
- 5) Ammonia formation
- 6) Mineral metabolism
- 7) Vitamin metabolism
- 8) Nucleic acid metabolism
- 9) Interconversion of sugars

## Synthetic

Synthesis of

- 1) Albumin
- 2) Alpha-1 and Gamma-2 globulins
- 3) Clotting factors
- 4) Binding proteins
- 5) Transport proteins

## Detoxification

of

- 1) Xenobiotics
- 2) Steroids
- 3) Thyroid hormone
- 4) Endogenous metabolites

## Storage

Storage of

- 1) Glycogen
- 2) B12
- 3) Vitamin A



# Why do we need liver protection?

Daily life overloads the liver leading to poor health and disease

