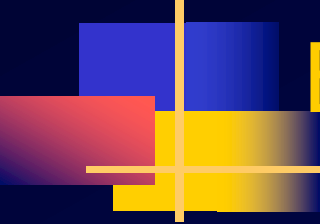


*Diseases of the liver and
biliary system*

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STRUCTURE OF THE LIVER AND BILIARY SYSTEM

- Largest internal organ in the body (1.2–1.5 kg), situated in the right hypochondrium.
- Functionally, it is divided into right and left lobes by the middle hepatic vein.
- The liver is further subdivided into a total of eight segments. Each segment receives its own portal pedicle, permitting individual segment resection at surgery.

STRUCTURE OF THE LIVER AND BILIARY SYSTEM

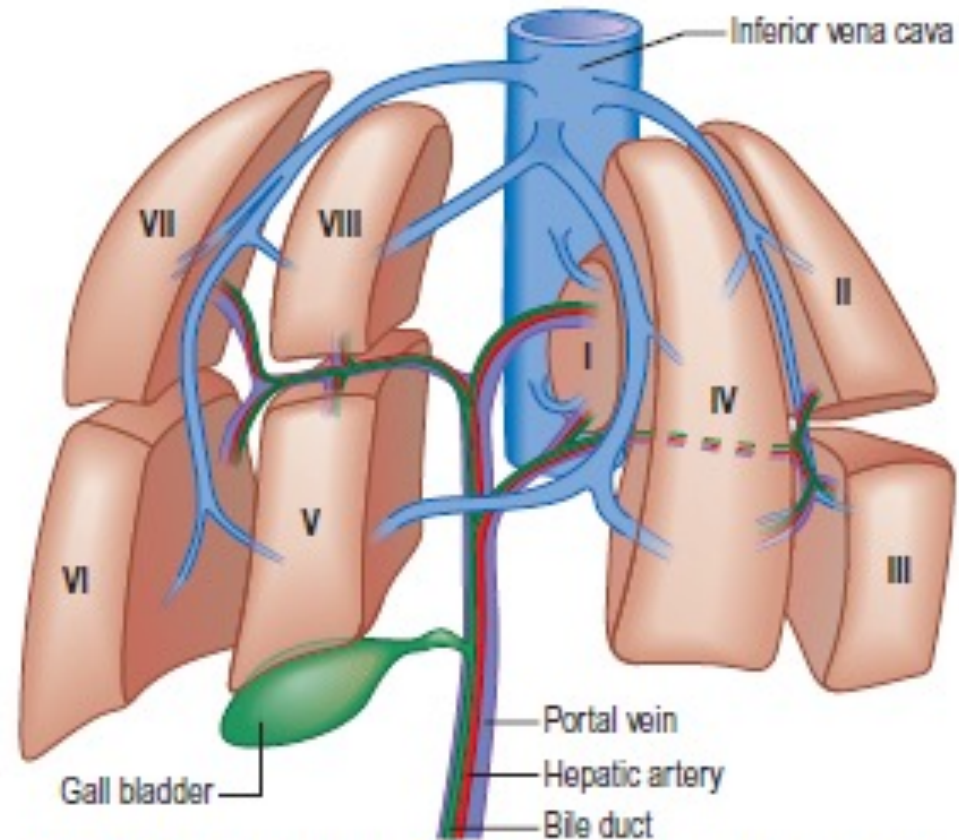
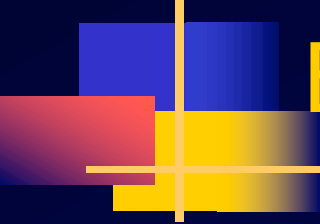
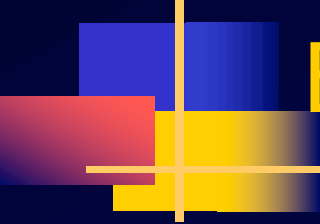


Fig. 7.1 Segmental anatomy of the liver showing the eight hepatic segments. I, caudate lobe; II-IV the left hemiliver; V-VIII the right hemiliver.



STRUCTURE OF THE LIVER AND BILIARY SYSTEM

- The blood supply to the liver constitutes 25% of the resting cardiac output and is via two main vessels:
 1. **The hepatic artery**; a branch of the coeliac axis, supplies 25% of the total blood flow.
 2. **The portal vein**; drains most of the gastrointestinal tract and the spleen. It supplies 75% of the blood flow.
- The normal portal pressure is 5–8 mmHg; flow increases after meals.



STRUCTURE OF THE LIVER AND BILIARY SYSTEM

- Both vessels enter the liver via the hilum (porta hepatis).
- Blood from these vessels is distributed to the segments and passes into the sinusoids via the portal tracts.
- Blood leaves the sinusoids, entering branches of the hepatic vein which join into three main branches before entering the inferior vena cava.

STRUCTURE OF THE LIVER AND BILIARY SYSTEM

- The acinus is the functional unit of the liver.
- This consists of parenchyma supplied by the smallest portal tracts (PT).
- The hepatocytes near this triad (zone 1) are well supplied with oxygenated blood and are more resistant to damage than the cells nearer the terminal hepatic (central) veins (zone 3).

