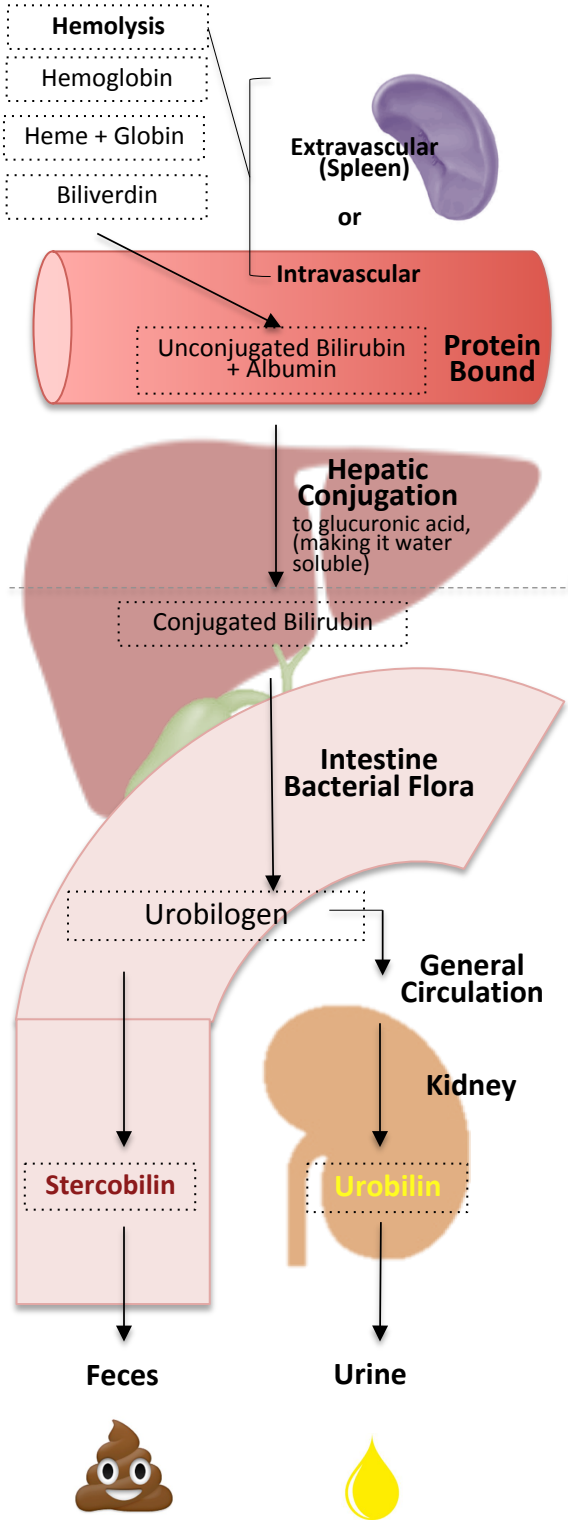
Jaundice



Unconjugated	**Overproduction**	• Hemolysis (eg. hemolytic Anemia, Extravasation) • Ineffective erythropoiesis
	Decreased Hepatic Uptake	Gilbert's syndrome Drugs (e.g. Rifampin)
	Decreased Conjugation	• Hepatocellular disease • Drug inhibition (e.g. chloramphenicol) • Neonatal jaundice • Crigler-Najjar syndrome • Gilbert's syndrome
Conjugated	**Impaired Hepatic Secretion**	• Familial disorders (Rotor's syndrome, Dubin-Johnson syndrome) • hepatocellular disease (Hepatitis) • primary biliary cirrhosis (Sepsis, post-operative) • drug-induced cholestasis (e.g. contraceptive pill) • cholestasis of pregnancy
	Biliary Obstruction/ Intraductal Obstruction	• gallstones • biliary stricture • infection (e.g. clonorchis) • malignancy (e.g. cholangiocarcinoma) • sclerosing cholangitis
	Extraductal Obstruction	• malignancy (e.g. pancreatic cancer) • inflammation (e.g. pancreatitis) • lymphadenopathy

Emergencies: massive hemolysis (eg, Clostridium perfringens or falciparum malaria sepsis), ascending cholangitis, fulminant hepatic failure

Laboratory Values:

Total Bilirubin = Measurement of Unconjugated + Conjugated

Direct Bilirubin = Measurement of only Conjugated (the water soluble conjugated bilirubin reacts with a chemical reagent in this test)

Indirect Bilirubin = Total Bilirubin - Direct Bilirubin
(In reality may slightly underestimate indirect bilirubin)