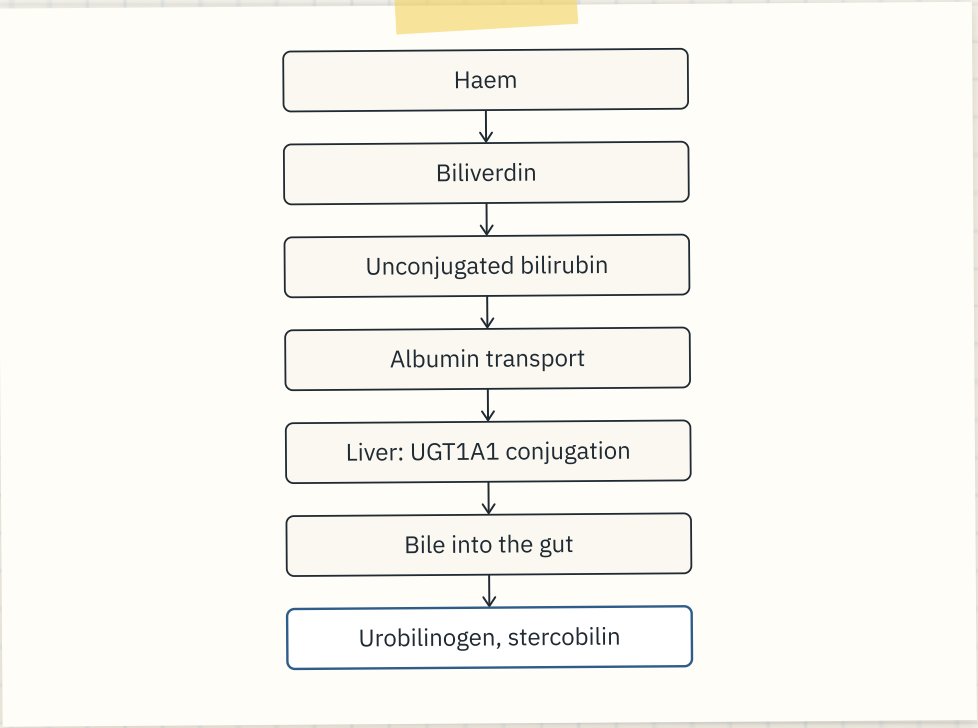
Bilirubin and jaundice

Where does the pathway fail?



Step by step

1. Is the bilirubin unconjugated or conjugated?
2. Are the liver enzymes normal or high?
3. Is there bilirubin in the urine?
4. Is the stool brown or pale?

Type	Bilirubin	Clues
Pre-hepatic	Unconjugated, usually < 3.5 mg/dL	Normal enzymes; no urine bilirubin
Hepatic	Either or both	Gilbert, Crigler-Najjar, hepatitis, Dubin-Johnson, Rotor
Post-hepatic	Conjugated	Pale stool, itching, high ALP

Three places to fail

Rule of thumb

Only conjugated bilirubin reaches the urine

No bilirubin in the gut means no urobilinogen

Visible jaundice from about 2 to 3 mg/dL

Exam traps

- ! Do not stop at the total bilirubin: the fraction, enzymes, urine and stool place it.
- ! Hepatic jaundice can raise either fraction or both.
- ! Complete obstruction: no urobilinogen forms.

Bilirubin metabolism and jaundice: pre-hepatic, hepatic, post-hepatic

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/gi-physiology-pathology/bilirubin-metabolism-jaundice

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