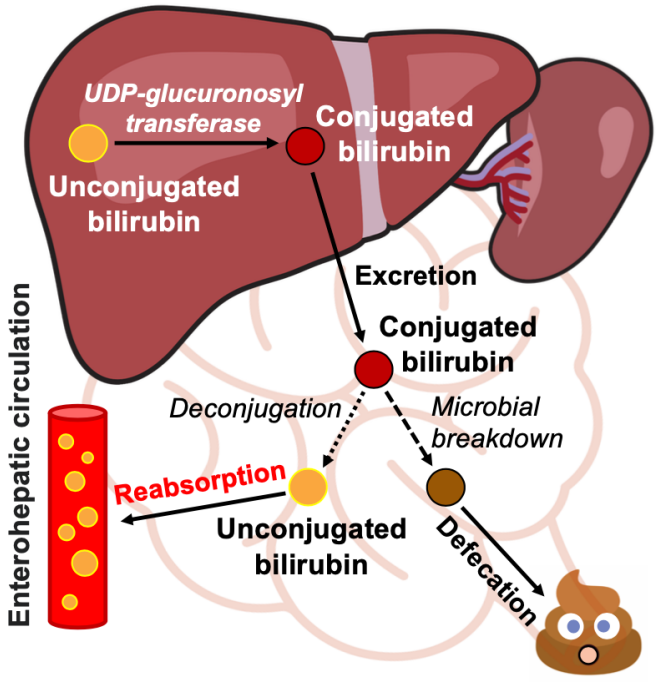
Neonatal Jaundice

Jaundice: yellowing of the skin, scleral, and mucous membranes from a build up of bilirubin.

60% of **term infants** and **80%** of **preterm infants** develop jaundice in the 1st week of life, typically an **unconjugated hyperbilirubinemia**.



SCREENING

All infants in the ***first 24 hours*** of life:
- **Total serum bilirubin (TSB)**
- **Transcutaneous bilirubin**

RISK FACTORS

- Prematurity
- Cephalohematoma
- Bruising
- Dehydration
- Male sex
- Maternal age ≥ 25
- Asian or European descent
- Visible jaundice ≤ 24 hours
- Visible jaundice before discharge at any age
- Exclusive and partial breastfeeding
- Sibling with severe hyperbilirubinemia

UNCONJUGATED HYPERBILIRUBINEMIA – PHYSIOLOGIC JAUNDICE

BREASTFEEDING JAUNDICE

- Early onset – **1st week** after birth
- **Insufficient milk intake** leads to dehydration resulting in **hemoconcentration of bilirubin**
- Fewer bowel movements **increases** the **enterohepatic circulation of bilirubin**

BREAST MILK JAUNDICE

- Later onset – **after 1st week of life**
- Bilirubin levels **peak during weeks 2-3 of life**
- Can persist for **3-12 weeks**
- Cause unknown
- It is thought that substances in breast milk interfere with the breakdown of bilirubin

PREMATURITY

- Occurs in **preterm** infants (< 37 weeks)
- More likely to require **phototherapy**

MANAGEMENT

- **Phototherapy** (use AAP normograms to determine the need for phototherapy – based on TSB and age in hours)
- **Continue breastfeeding**
- **Supplemental PO or IV fluids** (PO preferred over IV)
- Phototherapy makes bilirubin **water soluble** by inducing a **conformational change**
- Hyperbilirubinemia is treated to **prevent kernicterus/acute bilirubin encephalopathy**

PATHOLOGIC UNCONJUGATED HYPERBILIRUBINEMIA

HEMOLYTIC

INTRINSIC
- G6PD deficiency
- Hereditary spherocytosis
- Thalassemia

EXTRINSIC
- Drugs
- Iso-immune (ABO, Rh)
- Sepsis

NON-HEMOLYTIC

- Sepsis
- Hypothyroidism
- Cephalohematoma
- Gilbert
- Crigler-Najjar

Work-up: Coombs test, CBC with differential, blood smear, blood culture

CONJUGATED HYPERBILIRUBINEMIA

EXTRAHEPATIC

- **Biliary atresia**
- **Choledochal cysts**
- **Perforated bile ducts**
- **Tumour/mass**
- **Cystic fibrosis**
- **Galactosemia**

INTRAHEPATIC

- **Infections**: hepatitis, TORCH, UTI, etc.
- **Drugs**: eg. ceftriaxone, sulfonamides, etc.
- **Genetic/metabolic**: eg. Alagille syndrome, etc.

Must rule out biliary atresia!
Initial investigation: **abdominal ultrasound**

Published March 2021
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