

Newborn jaundice

A plain-English guide for you and your family

WHAT IS HAPPENING

When your baby is born, their red blood cells break down faster than they did in the womb. Each broken cell releases a yellow waste called bilirubin. The liver grabs that bilirubin, wraps it up so it can dissolve in water, and sends it out through the bile into the gut. Then bacteria in the gut help finish breaking it down so it leaves in the stool. A newborn's liver is still learning this job, and the gut bacteria are just starting to arrive, so almost every baby gets a little yellow in the skin — that's normal. But if too much bilirubin piles up too fast, or if the liver or gut can't clear it, the level in the blood climbs. When it gets high enough, bilirubin — which is greasy and loves fat — can cross into the brain. Once there, it poisons the movement and breathing centers, causing permanent brain damage called kernicterus. The first signs are quiet: your baby gets sleepy, feeds poorly, and seems floppy. Then the baby can become stiff, arching backward with tight muscles. If it goes further, breathing and temperature control fail. That's why we check bilirubin levels and sometimes use light therapy or other treatments — to stop the number from climbing into the danger zone before any brain damage happens.

What you might feel

- Yellow color in the skin and the whites of the eyes (jaundice)
- Yellowing that starts in the first 24 hours of life
- Yellow color that spreads down below the chest and belly, reaching the legs and arms
- Baby is feeding poorly or skipping feeds
- Baby is much more sleepy than usual, hard to wake up, or very floppy
- High-pitched cry that sounds different from the usual newborn cry
- Arching of the head and neck backward (opisthotonus)
- Pale or clay-colored stool and dark urine that lasts beyond the first few days

Call the doctor right away if...

- Yellowing of the skin and eyes (Jaundice) appears in the first 24 hours of life — always needs urgent lab work and close watch because it usually means red cells are breaking down too fast.
- Yellow color spreads to the arms, legs, palms, or soles — sign that bilirubin is climbing to dangerous levels and the baby needs treatment right away.
- Baby is hard to wake, refuses to eat, has a shrill cry, or arches the head and neck backward — these mean bilirubin may be hurting the brain (kernicterus) and the baby needs emergency care.
- Pale, clay-colored stool and dark urine that continue past the first week — may mean bile cannot leave the liver (biliary atresia or other liver problem) and needs urgent evaluation.
- Yellowing of the skin and eyes (Jaundice) lasts longer than two weeks in a full-term baby or three weeks in a premature baby — requires blood tests to check for thyroid problems, liver disease, or infection.

What the care team will do

- Assess the baby for acute bilirubin encephalopathy signs every 2 to 4 hours: lethargy, high-pitched cry, arching of the neck and back (opisthotonus), poor feeding, and decreased tone.
- Position the baby naked except for diapers and eye shields under phototherapy lights, and turn the baby every 2 to 3 hours to expose maximum skin surface area.
- Monitor the baby's temperature every 3 to 4 hours and watch for signs of overheating or excessive fluid loss during phototherapy.
- Support and optimize breastfeeding by ensuring 8 to 12 feeds per 24 hours, or supplement with expressed milk or formula if intake is inadequate.
- Check transcutaneous bilirubin (TcB) or serum bilirubin levels at the times ordered by the provider, and plot results on the Bhutani nomogram (hour-specific bilirubin chart) to guide treatment decisions.
- Inspect every stool for color and document whether it is yellow, green, or acholic (pale white or clay-colored).
- Monitor for rebound hyperbilirubinemia by checking bilirubin 12 to 24 hours after stopping phototherapy, especially in babies with ABO incompatibility, Rh disease, or G6PD deficiency.
- Educate parents to recognize danger signs at home: increased yellowing, poor feeding, extreme sleepiness, fever, high-pitched cry, or arching, and ensure follow-up within 24 to 48 hours of discharge.

Medicines you may be given — and why

Phototherapy (blue light treatment)

Bright blue light (wavelength 460–490 nanometers) shines through the baby's skin and changes the shape of bilirubin (the yellow pigment) into a form called lumirubin, which the kidneys can wash out in urine without needing the liver. This skips the normal liver pathway and lowers the level of bilirubin in the blood before it can climb high enough to hurt the brain.

Intravenous immune globulin (IVIG)

IVIG is a mix of antibodies collected from thousands of healthy donors. When a mother's antibodies are attacking the baby's red blood cells (immune red blood cell destruction (hemolysis), like in ABO or Rh incompatibility), IVIG floods the baby's system with neutral antibodies that block the mother's attack antibodies from sticking to and destroying more red cells. This slows the breakage of red cells, so less bilirubin is released and the yellowing of the skin and eyes (jaundice) does not climb as fast.

Exchange transfusion

A doctor takes out small portions of the baby's blood (which is full of bilirubin and sometimes the mother's attacking antibodies) through an umbilical vein catheter and replaces it with fresh donor blood. This physically removes bilirubin, washes out the antibodies causing red blood cell destruction (hemolysis), and gives the baby healthy red cells that will not be attacked. It is the fastest way to drop bilirubin when levels are so high that kernicterus (brain damage) is imminent, or when phototherapy and IVIG cannot keep up.

Where this information comes from

- AAP Clinical Practice Guideline: Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation (2022)
- American Academy of Pediatrics (AAP)
- CDC: Jaundice and Kernicterus
- Cochrane Database: Interventions for neonatal jaundice

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