
Jaundice in babies

Summary

- Jaundice shows up in babies as a yellowish tinge to the skin and eyes.
 - Jaundice is very common in newborn babies – about six out of 10 newborns have jaundice to varying degrees.
 - Jaundice is caused by an excess of a chemical called bilirubin.
 - Most jaundice is 'physiological jaundice'.
 - Physiological jaundice will resolve by itself once the baby's liver is functioning at full speed.
 - In babies where jaundice levels are very high in the days after birth, treatment using blue lights (phototherapy) may be required.
 - Other less common causes of jaundice include blood group differences between mother and baby, haemolytic anaemia, hepatitis and galactosaemia.
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Newborn babies are often affected by jaundice, which makes their skin and eyes have a yellowish tinge. Jaundice is caused by a build-up of a chemical called bilirubin in the baby's blood and tissues. Bilirubin is normally processed by the liver, but a newborn's liver takes a few days to process it, so about six out of 10 newborns have some degree of jaundice. The condition is more common among premature babies. This normal process results in what we call 'physiological jaundice'.

Jaundice usually appears on the second or third day. If your baby is full-term and healthy, mild jaundice is nothing to worry about and will resolve by itself within a week or so. However, a premature or sick baby or a baby with very high levels of bilirubin will need close monitoring and medical treatments.

Occasionally, underlying blood and liver conditions can also cause jaundice in babies. These conditions include blood group antibodies, haemolytic anaemia, hepatitis and galactosaemia.

Symptoms of jaundice in babies

The symptoms of jaundice in babies depend on the cause and severity, but may include:

- a yellow tinge to the skin, usually appearing first on the face and scalp
- a yellow tinge to the white parts of the eyes (sclera)
- a yellow tinge spreading to the skin of the body (in moderate jaundice)
- palms of the hands and soles of the feet turning yellow (in severe jaundice)
- unusual drowsiness
- feeding difficulties
- in some cases, light-coloured faeces (poo) and dark urine.

Talk to the maternity staff if you have any concerns about your baby showing any of these symptoms.

Physiological jaundice

Bilirubin is a waste product of the body's break-down of old and damaged red blood cells. The liver helps to eliminate bilirubin as waste.

In the mother's uterus, the baby's bilirubin is sent down the umbilical cord and eliminated by the mother's body. After birth, the baby's liver has to eliminate the bilirubin itself, and it can take a few days for the liver to function at full speed. In the meantime, the excess bilirubin in the baby's body causes symptoms of jaundice.

Every newborn has elevated bilirubin levels, and around 60 per cent of full-term babies will have noticeable

symptoms. Treatment isn't usually necessary, unless the baby has very high bilirubin levels, or is premature or sick. Dehydration (loss of water) or poor weight gain can make jaundice worse.

Other causes of jaundice in babies

Jaundice can also be caused by a range of other things including:

- **breastmilk** – the mother's breasts produce small amounts of colostrum in the first few days after childbirth. Until the milk 'comes in', the limited amounts of fluid received from breastfeeding may affect the functioning of the baby's liver. Certain enzymes in breast milk are also thought to contribute to 'breast milk jaundice', a harmless type of jaundice that can last for several weeks. Continue breastfeeding as usual if you have breast milk jaundice
- **Rhesus (Rh) and ABO blood group incompatibilities** – when the mother and the baby have different blood groups to each other the mother may produce antibodies that can attack the baby's red blood cells during the later stages of pregnancy. This means that higher than normal levels of damaged red blood cells have to be eliminated from the body, which in turn triggers high bilirubin levels. The baby may be born anaemic and develop severe jaundice within hours of birth
- **haemolytic anaemia** – this can be an inherited disorder of the immune system (autoimmune disease), where the baby's immune system destroys red blood cells. It can also be a complication of other disorders, such as serious infection (sepsis).

More rarely, jaundice may be caused by the following conditions:

- **neonatal hepatitis (liver inflammation)** – some of the viruses that can trigger hepatitis in babies include cytomegalovirus, rubella, and hepatitis A, B and C. It is common to not be able to identify a specific virus causing neonatal hepatitis. Babies with neonatal hepatitis may have been exposed to the viral infection before birth, in the womb, or within the first month or so of life
- **galactosaemia** – galactose is a milk sugar. This rare disorder occurs when a baby lacks the enzyme needed to break down galactose. The high levels of milk sugar can damage the liver (causing inflammation and scarring). This initially shows up as jaundice
- **biliary atresia** – bilirubin from the liver normally flows into 'bile ducts', allowing bilirubin and other products to collect in the gall bladder before reaching the gut and being eliminated. In biliary atresia these ducts are blocked, destroyed or have not developed, for reasons unknown. Without bile ducts, bilirubin builds up in the liver and causes symptoms of jaundice. The baby's faeces (poo) are always very pale.

Diagnosis of the cause of jaundice in babies

The underlying cause of jaundice in babies must be found. Some of the diagnostic tests may include:

- physical examination (always)
- skin reading of jaundice levels (often)
- blood tests (sometimes)
- ultrasound scan, liver biopsy or exploratory surgery (rarely).

Treatment for jaundice in babies

Treatment for jaundice in babies depends on the cause, but may include:

- **mild jaundice** – if the baby is otherwise healthy and well, no treatment is necessary. The baby's liver will take only a few days to process bilirubin properly
- **moderate jaundice** – phototherapy is the most common treatment. Phototherapy transforms the bilirubin in the baby's skin into a less harmful chemical. Your baby may be undressed and placed in a warm incubator under blue lights. To maximise exposure to the lights, your baby will wear only a nappy and eye protection. Alternatively, a 'biliblanket' may be used. A biliblanket is a pad placed directly against the baby that bathes the baby in light. Again, baby wears only a nappy and is wrapped in a flexible blue light mat. Treatment usually lasts one or two days and may occur at home, or in the hospital ward with the mother. To prevent dehydration and increase the bilirubin excretion, your baby will require regular feeding every three to four hours
- **severe jaundice** – sometimes babies need treatment with more than one blue light at a time (multiple phototherapy). When this happens, babies are usually admitted to a newborn nursery. Rarely, and only in very

severe cases where an underlying condition is causing the jaundice, a blood transfusion may be needed.

Treatment for common conditions that cause jaundice may include:

- **physiological jaundice** – often no treatment required, occasionally phototherapy is needed
- **breastmilk jaundice** – breastfeeding should be continued. Phototherapy is occasionally required in the first few days and typically no treatment is required after that
- **blood group differences** – the antibodies made by the mother can remain active in the baby's system for a few weeks. A longer course of phototherapy is sometimes required.

Treatments for rare conditions that cause jaundice may include:

- **haemolytic anaemia** – treatment depends on the cause. For example, the treatment for haemolytic anaemia caused by malaria infection includes anti-malarial medications
- neonatal hepatitis – there is no specific medical treatment. Options may include vitamin and mineral supplements, or medication to improve the flow of bilirubin through the bile ducts
- **galactosaemia** – the principal treatment is to make sure the baby's diet contains no galactose or lactose (another milk sugar). Typically, this means stopping breastfeeding and using special formulas
- **biliary atresia** – treatment involves surgery to connect a section of the liver to the gut (small intestine) to allow the bilirubin and other products to drain effectively.

Where to get help

- Your **GP (doctor)**
- Your visiting midwife
- Maternal and child health nurse
- **Maternal and Child Health Line** (24 hours) Tel. **13 22 29**
- Paediatrician

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