



Caring for young lives

Children's Liver Disease Foundation

Jaundice in the new born baby



This leaflet is written for parents and parents-to-be and forms part of the CLDF **Yellow Alert Campaign**.

The leaflet explains jaundice in the newly born baby and what you should do if your baby's jaundice does not go away two weeks after birth in a full term baby and three weeks in a premature baby.

Jaundice which continues after this time can be a sign of liver disease. **It is vital that liver disease is identified and treated as early as possible.**



What is jaundice?

Jaundice is the name given to the yellow appearance of the skin and the whites of the eyes. Jaundice is NOT a liver disease.

Is jaundice common in new born babies?

Yes. Jaundice is very common in newborn babies. About 90% of newborn babies will become jaundiced two or three days after birth. Jaundice reaches its peak at about four days of life and then gradually disappears in most babies by the time they are two weeks old. Jaundice does not necessarily mean your baby is ill.

Jaundice can occur within the first twenty-four hours after birth, but this is rare. If this happens it is important that a neonatologist or paediatrician (doctors who specialise in the care of babies and children) sees your baby. Normally this will not be a problem as you will still be in hospital. If your baby is at home it is important you tell your midwife or doctor.

What causes baby jaundice?

When your baby is in the womb the waste products are removed through the placenta. Once your baby is born their own body has to do this. It can take some time for a baby to be able to remove their waste products properly. Therefore, in the early days of your baby's life some waste products may build up in their body. One waste product is called bilirubin. If there is too much bilirubin your baby will be jaundiced.

What is bilirubin?

The body continuously makes new red blood cells and breaks down old ones. Bilirubin is made when the old red blood cells are broken down.

Why do babies become jaundiced?

In an adult the red blood cells last about 120 days but in a newborn baby they last for a shorter time. Newborn babies have a higher than normal number of red blood cells. Because your baby has more red blood cells which are being broken down more quickly there is more bilirubin being made. Your baby's liver removes the bilirubin from their blood. But the liver is a complicated organ and, despite a baby being full term, can take a few days to work properly. So, in the first few days of life bilirubin builds up in the blood and causes nine out of ten babies to be jaundiced.

Should jaundice go away?

Jaundice caused by a build-up of bilirubin, as described above, normally disappears by the time your baby is ten to fourteen days old. This may take a bit longer if the baby is premature, in which case it can take about three weeks to go away.

Can the level of jaundice be measured?

Yes. The level of bilirubin in your baby's blood can be measured quite simply. A heel prick blood sample can be taken. This is sometimes called an "SB" or a "bili" test. This will measure the serum bilirubin level and show whether the jaundice level is getting high or even, in some cases, whether your baby has jaundice. This is not as silly as it sounds as it can be difficult to see jaundice in some babies. Sometimes a small light meter may be used to measure the jaundice level.

Is there any treatment for jaundice?

Most babies will need no treatment at all and the jaundice will disappear by the time the baby is two weeks old. However, a small number of babies do need some treatment, depending on how much bilirubin there is in the blood. Your midwife or doctor will know from experience when this is necessary.

If the jaundice level gets too high there can be a concern that it could cause damage to your baby's brain so the normal treatment is phototherapy to reduce the bilirubin level. Your baby will be placed naked, except for some eye pads, in a cot under a special blue light. Alternatively, your baby may be wrapped in a bili-blanket. The light breaks down the bilirubin. You will be encouraged to feed your baby so that your baby produces plenty of urine. Phototherapy can usually be stopped within a few days.

In mild cases your midwife may suggest that you place your baby in the sunlight, by a window, for example. Do be careful that your baby does not overheat or become sunburned.



Will baby jaundice harm my baby?

Baby jaundice is not usually dangerous. If there is any doubt, a blood sample will be taken to measure the bilirubin to make certain there is no risk to your baby. Phototherapy is always started well before any dangerous level is reached.

Why do some babies remain jaundiced?

Baby jaundice normally clears by the time your baby is two weeks old. However, sometimes it lasts longer. There can be a number of reasons why jaundice continues:

- Your baby may have been born early. In premature babies jaundice may take three weeks to clear.
- Your baby may have a condition in which the blood cells break down more quickly than is normal for babies. This is often recognised very soon after the baby is born, or even during pregnancy, and further treatment may be necessary. Your baby will be seen by a blood specialist called a paediatric haematologist.
- Jaundice may continue occasionally in babies who are entirely well and are being breast fed. Breast feeding may safely continue and the jaundice will fade with time. There is more information on breast feeding jaundice later in this leaflet.
- Your baby may have an infection or other illness.
- Your baby may have a thyroid gland that is not working properly. This is usually tested as part of a blood test which is carried out on all babies between 5 and 8 days old, called the Guthrie Test.
- Your baby may have a problem with their liver. This is rare.

Jaundice in the new born baby

Is there anything else I can do?

Yes, you should check the colour of your baby's stools (poo) and urine:

- The urine of a newly born baby should be colourless.

If your baby's urine is persistently yellow then this can indicate liver disease and you should tell your doctor, midwife or health visitor, whether or not there is jaundice too.

- The stools of a breast fed baby should be green / daffodil yellow.
- The stools of a bottle fed baby should be green / English mustard yellow.

Check your baby's stool colour against the stool colour chart below. If the colour of the stools is the same as in B then you should tell your doctor, midwife or health visitor, whether or not there is jaundice too.

Always tell your doctor, midwife or health visitor if your baby's stool colour is the same as in B no matter the age of your baby.

A — Healthy Stools



B — Suspect Stools



Digital printing or photocopying of this stool chart will alter them.
Use only items supplied by CLDF.



Why is the stool and urine colour important?

Normal baby jaundice is caused by a build-up of unconjugated **bilirubin**. When red blood cells are broken down **unconjugated bilirubin** is made. The liver processes the **unconjugated bilirubin** by adding a “sugar” which changes the bilirubin to **conjugated bilirubin**.

Babies with liver disease can also have jaundice. This jaundice, however, is caused by a build-up of **conjugated bilirubin**. The conjugated bilirubin is picked up by the blood and is passed around the body causing jaundice. It also causes the urine to be yellow as the kidneys try to get rid of the conjugated bilirubin, which is water soluble. Yellow urine in a baby is not normal and the baby should be investigated for liver disease. That’s why it’s important to check the urine colour.

The stool colour may also give an indication of liver disease. If there is a blockage or inflammation in the liver or the biliary drainage system it may prevent the bile from draining from the liver. This will mean that the stool will not be as coloured as normal and appear pale or even the colour of putty. Any baby, at whatever age, with pale stools or stools which appear “fatty” in texture should be investigated for liver disease. That’s why it’s important to check the stool colour.

In some cases there can be an intermittent obstruction and the stools can be alternately paler and darker.

What should be done if my baby’s jaundice does not go?

The golden rules are:

- If jaundice continues beyond 14 days of age in a full-term baby or 21 days in a premature baby then this should be investigated.
- If your baby’s stools and urine are not the right colour then this should be investigated at whatever age — you don’t need to wait until the baby is two or three weeks old.

Jaundice in the new born baby

A **split bilirubin** blood test should be carried out. This test may need to be done at your local hospital.

This blood test measures the ratios of the conjugated and unconjugated bilirubin levels in your baby's blood. **If the conjugated fraction is greater than 20% of the total bilirubin your baby should be referred to a specialist unit as this indicates that the cause is a liver disease.**

Just to be clear — a serum bilirubin test (sometimes called SB or bili test) measures the total amount of the bilirubin and will show the level of jaundice but does not show whether the cause is liver disease or not. This is the point of having a split bilirubin test.

Note: A baby can have normal baby jaundice and jaundice caused by liver disease at the same time.

I've been told my baby is feeding well, growing and looks well so the jaundice can't be caused by liver disease. Is this true?

Sadly no, it's a common mistake that people make. In the early stages of liver disease a baby can look and seem entirely well and can be feeding exceptionally well. The best way to make sure is to look at the stools and urine and have a split bilirubin test.

I've been told my baby has breast milk jaundice. What does this mean?

Some babies who are breast fed may have jaundice which continues. In this case the blood levels will be normal except for a raised total bilirubin. The stools and urine colour will be normal too. Breast milk jaundice is harmless and will gradually disappear. In a small number of cases it can take a few months to totally disappear.

Quite frequently parents are reassured that the cause of prolonged jaundice is breast milk jaundice without testing. The vast majority of babies will have breast milk jaundice but a very few will have liver disease jaundice — or even both. However, it is important that a diagnosis of breast milk jaundice is made after a split bilirubin test is done.



My baby has been tested and given a diagnosis of breast milk jaundice. What should happen now?

CLDF's experience is that most parents want to be reassured that their baby's bilirubin level is returning to normal. We suggest that the serum bilirubin level is measured weekly until the bilirubin level returns to normal. In cases where the jaundice takes a long time to reduce, the tests can be carried out further apart, provided the trend is for the bilirubin level to be reducing.

My baby has been referred to a specialist unit. Is there any help for me and my family?

Yes. Children's Liver Disease Foundation will be pleased to help. The Foundation fights childhood liver disease in three ways:

- By funding pioneering research to give children with liver disease a future.
- By giving emotional support to families and young people affected childhood liver disease.
- By providing information and education on childhood liver disease.

We have a wide range of information available to families, friends and healthcare professionals. We also have a mailing list so that you can receive regular information and updates.

Children's Liver Disease Foundation has a family support service. A member of the Family Support team is available to listen to and help families, relatives, friends and young people.

Please do call CLDF on 0121 212 3839 if you wish to make contact or receive information.

You are not alone. Many families, friends, relatives and young people have found that the Children's Liver Disease Foundation has helped them.

Donations

ONE-OFF DONATION AND REGULAR GIFT FORM I would like to make a gift to the Children's Liver Disease foundation

£5 £10 £25 £50 £75 £100 Other £

I enclose a cheque made payable to Children's Liver Disease Foundation or debit/credit card:

MASTERCARD/VISA/DELTA/SWITCH (please delete as appropriate)

Credit Card No: Expiry Date /

Name on Card Issue No. (Switch only)

Please enter the last 3 digits
of the number on your
signature strip on the
back of your card

Start Date /

Please complete sections B and C overleaf

Or — I would like to make a regular gift to CLDF

I would like to make a direct debit of

£5 £10 £15 £20 £25 Other £ (please complete)

Monthly/Quarterly/Half Yearly/Annually (please circle)

To: The Manager	
Your Bank:	Branch Name:
Bank address:	
Postcode:	
Your bank sort code: / /	Your bank account No.:

Please pay to the **Children's Liver Disease Foundation**
Acc No. 00181442 **Sort Code:** 12-05-65

starting on (date)until further notice.

Please complete section B and section C overleaf



Donations

Please complete section B and section C

Section B — Your details

Title:	Your surname:
First names:	
Your address:	
	Postcode:
Signed:	Date:

Section C — If you are a UK taxpayer please would you complete the gift aid declaration below

Gift Aid Declaration

As part of the Gift Aid scheme it is now possible for charities to reclaim the tax you pay on your donation if you are a basic rate taxpayer. If you tick the box below it means that for every £1 you give, CLDF can claim an extra **28p** from the taxman at the current tax rates, provided you pay enough tax to cover the amount reclaimed. And it won't cost you a penny extra. If you pay tax at the higher rate, you can claim further tax relief on your self assessment tax return.

- Please treat all donations I have made to CLDF since 6 April 2000 and all donations I make from the date of this declaration as Gift Aid.

Signature: Date:

Notes: Gift Aid

- In order for CLDF to reclaim the tax on donations, the person making the donation must pay an amount of income tax or capital gains tax at least equal to the tax we reclaim from the Inland Revenue.
- Please ensure that the standing order/direct debit from a joint account and the declaration are signed by the taxpayer.
- If this declaration covers donations you may make in the future:
- You may cancel this declaration at any time (and must do so if you cease to be a UK taxpayer or no longer pay tax on your income or capital gains equal to the tax CLDF reclaims) by notifying CLDF.
- Please inform CLDF if you change address whilst this declaration is in force.
- If you are unsure whether your donations qualify for Gift Aid tax relief, please contact CLDF.

CLDF Privacy Statement

- CLDF uses every available measure to ensure all personal information provided by our users and supporters remains secure and confidential. A strict security procedure is in place under the Data Protection Act.
- You may contact CLDF at any time if you would like to stop hearing from us and CLDF recognises and respects your right to do so.



The team at CLDF would be pleased to help in any way that we can. Please contact:

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Tel: 0121 212 3839
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www.childliverdisease.org

If you have found this leaflet helpful, please help CLDF to continue the Yellow Alert programme by making a donation. The Yellow Alert programme costs £30,000 every year. This includes the cost of providing all the materials, CLDF On-Call and the CLDF study day programme. There is a donation form and regular gift form included in this leaflet. Thank you.

CLDF is grateful for grants from the following and other generous donors towards this project:

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This leaflet is for information purposes only. Of necessity it has been prepared for general application. In each individual case professional medical or other advice should be obtained before acting on anything contained herein as no responsibility can be accepted by the Children's Liver Disease Foundation.

Liver Disease in Children — Key Facts

- Children get liver disease — There is no group at risk. We have an equal chance of it being our child, our nephew or niece, our grandchild, our friend's child.
- At least two children are diagnosed every day with a liver disease — Most will face a lifetime of medical care and follow-up.
- Children of all ages get liver disease — Liver disease does not just affect babies. Around half of childhood liver disease will present as a baby but 20% of the liver diseases occur in childhood and another 30% occur in adolescence.
- For the vast majority of childhood liver diseases we simply do not know the cause.
- Every year at least 100 children will need a liver transplant.

The Children's Liver Disease Foundation is the only national registered children's charity fighting all children's liver diseases and helping affected families and young people.



Caring for young lives

Children's Liver Disease Foundation

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