Obstetric cholestasis

In association with

BRITISH LIVER TRUST

Fighting liver disease

OC SUPPORT

In association with
Obstetric cholestasis

The British Liver Trust works to:

- support people with all kinds of liver disease
- improve knowledge and understanding of the liver and related health issues
- encourage and fund research into new treatments
- lobby for better services.

All our publications are reviewed by medical specialists and people living with liver disease. Our website provides information on all forms of adult liver disease and our Helpline gives advice and support on enquiries about liver health. Call us on 0800 652 7330 or visit www.britishlivertrust.org.uk

Please refer to our website www.britishlivertrust.org.uk for the latest updates to this information.

A list of reference sources for this information is available on our website or by contacting info@britishlivertrust.org.uk
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This publication is for women diagnosed with, or experiencing symptoms of, obstetric cholestasis and those who would like to better understand the condition.
The liver

Your liver is your body’s ‘factory’ carrying out hundreds of jobs that are vital to life. It is very tough and able to continue to function when most of it is damaged. It can also repair itself – even renewing large sections.

Your liver has around 500 different functions. Importantly it:

- fights infections and disease
- destroys and deals with poisons and drugs
- filters and cleans the blood
- controls the amount of cholesterol
- produces and maintains the balance of hormones
- produces chemicals – enzymes and other proteins – responsible for most of the chemical reactions in the body, for example, blood clotting and repairing tissue
- processes food once it has been digested
- produces bile to help break down food in the gut
- stores energy that can be used rapidly when the body needs it most
- stores sugars, vitamins and minerals, including iron
- repairs damage and renews itself.
Fighting liver disease

Right hepatic duct
Left hepatic duct
Inferior vena cava
Liver
Spleen
Pancreas
Pancreatic duct
Cystic duct
Gallbladder
Portal vein
Common bile duct
Pancreatic ducts emptying into duodenum
What is obstetric cholestasis (OC)?

Obstetric cholestasis (OC) is a liver disorder that occurs in around one in 140 pregnancies in the UK. Also referred to as intrahepatic cholestasis of pregnancy (ICP), it is a condition in which the normal flow of bile out of the liver is reduced. Chemicals in the bile called bile salts (also often referred to as bile acids) can then build up and ‘leak’ into the bloodstream. This causes affected women to have increased levels of bile salts in their blood.

OC is also characterised by itching, known as pruritus. The itching generally appears in the last three months of pregnancy but can appear sooner. It is of variable severity and can be extremely distressing for the mother. Both the raised bile salts and pruritus completely disappear soon after the birth and do not appear to cause long-term health problems for mothers.

Several fetal complications have been reported in OC pregnancies. There is an increased risk of preterm delivery (both spontaneous and induced) and fetal distress. Some case studies have also reported stillbirth occurring near the end of pregnancy in women with OC. Therefore it is essential that the condition is recognised and treated in time.

At present, most obstetricians in the UK managing OC pregnancies deliver babies early, at around 37 or 38 weeks. This is done because it is thought that it may help prevent the possibility of stillbirth. A clinical trial is being performed in the UK with the aim of finding out whether this is the case.

There have been no reports of any harmful effects to babies from OC pregnancies once they have been delivered.
What are the causes of OC?
We do not yet know what causes the restriction of the flow of bile from the liver in OC. Evidence suggests that it is caused by a combination of hormonal, genetic and environmental factors.

**Hormonal factors**
All hormones are metabolised (broken down) in the liver. One theory is that the liver cannot cope with the high levels of hormones during pregnancy (oestrogen and progesterone). This affects the liver’s ability to remove bile salts efficiently and causes a build up of bile salts in the blood. This is supported by observations that:

<table>
<thead>
<tr>
<th>What is bile?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bile is a yellow-green fluid produced by your liver which contains:</td>
</tr>
<tr>
<td>• chemicals to aid digestion</td>
</tr>
<tr>
<td>• waste products for excretion via the bowel.</td>
</tr>
<tr>
<td>Bile passes from the liver cells via small ducts to the common bile duct and on into the duodenum (part of your gut). It plays a central role in helping the body digest fat. It acts as a detergent, breaking the fat into very small droplets so that it can be absorbed from food in your gut. It also makes it possible for your body to take up the fat-soluble vitamins A, D, E and K from the food passing through the gut.</td>
</tr>
</tbody>
</table>
• OC is more common in twin and triplet pregnancies, which are associated with higher levels of hormones.

• OC has been triggered in women taking high-dose oral contraceptives (which contain forms of oestrogen and progesterone) and also in women being treated with progesterone.

Genetic factors
OC may also have a genetic cause. This means it may be linked to an abnormality or ‘mutation’ in a gene or genes. Genetic factors could explain cases where OC occurs within families and also why it is more common in some ethnic groups. Although OC affects one in 140 (0.7%) pregnancies in the UK overall, it is more common in women of Indian or Pakistani origin, affecting around one in 70 to 80 (1.2 – 1.5%) pregnancies. In other countries, such as South America and Scandinavia, the number of women affected is higher still.

Some gene mutations have been identified in women with OC and it is likely that they make some women more susceptible to the disease. However this does not explain all the causes of the disorder and other factors such as diet and hormones may play a part. Further research is being carried out to investigate these areas.

Environmental factors
Some characteristics of OC suggest that environmental factors may also have a role.

• OC does not always recur in following pregnancies.
• OC can be more common in certain seasons (in the winter months in Chile and Scandinavia).

• Cases of OC have decreased in countries where nutrition has improved.

Other factors
Women with hepatitis C more commonly develop OC than those who do not have the virus.

What role do bile salts play in OC?
Although raised bile salts have previously been thought to be the cause of the itch associated with OC, research has so far not confirmed this link. A recent study suggests that the itch may be caused by another chemical in the blood (lysophosphatidic acid) which is raised in women with OC compared to pregnant women without complications.

What is known is that the bile salts can cross the placenta and may be linked to the reason why some babies suffer complications or are stillborn. There is evidence from human and animal studies that bile salts cause structural damage to the placenta. Further research is required to better understand this.

There have been no reports of any harmful effects to babies from OC pregnancies once they have been delivered. Large follow-up studies have not yet been carried out.
What are the symptoms of OC?

Itching is often the only symptom of OC. The itching typically begins on the arms, legs, hands and soles of the feet. It may also occur on other parts of the body such as the face, back and breasts. It is usually worse at night, leading to sleeplessness and exhaustion.

Some women scratch themselves so frantically that they make themselves bleed. A few lose their appetite and feel generally unwell. A number of women (thought to be around one in ten) will develop jaundice in pregnancy. However, most women with OC do not have jaundice.

Itching is not uncommon in normal pregnancy. However, some women may not be aware that they have OC because they are told that itching is normal in pregnancy. This can be misleading.

It is important that if you are pregnant and itching, you should check with your doctor or midwife. A simple blood test (see below) is required to diagnose OC. It may be helpful to take a copy of this leaflet with you.
Diagnosis

Medical and family history
Your doctor should ask about your medical and family history to aid diagnosis. If close female family members have been affected by OC, you may be at increased risk.

It is also important to exclude all other possible causes of your itching, such as allergies or eczema (but it is possible to have a skin condition and OC) and liver diseases such as primary biliary cirrhosis (PBC) or hepatitis C.

Other signs such as pale stools or dark urine may indicate a problem with your liver, including OC.

Blood tests
Your doctor can diagnose OC from blood tests called liver function tests (LFTs) and a serum bile salt test.

Liver function tests are performed to gain an idea of how your liver is functioning. A number of separate properties of your blood will be examined. Your doctor should use pregnancy-specific reference ranges to interpret your blood test results.

In OC, doctors will be looking for abnormal levels of the liver enzymes alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Sometimes levels of another enzyme, gamma-glutamyl transferase (GGT), will also be raised.
The most specific test involves measuring serum bile salts. In most UK hospitals, raised levels would be a measurement of greater than 14µmol/L. However, some hospitals may ask you to fast before the test. In this case, a fasting level of greater than 10µmol/L would support the diagnosis of OC.

In most women with OC, both ALT and bile salt levels will be raised, but just one may be raised at the first test.

If the tests are within normal limits and you carry on itching, it is important that the tests are repeated.

Unfortunately the serum bile salt test is not available in all hospitals. Your doctor may need to send a sample to another hospital for diagnosis.

**Excluding other liver conditions**

If LFTs are abnormal, doctors will carry out screening to eliminate other causes, such as viral hepatitis and autoimmune disease, before diagnosing OC.

This may involve an ultrasound scan to look for any sign of liver abnormality. Doctors may also use ultrasound to check for gallstones (see ‘Useful words’ section), as research suggests these occur more often with OC.

Women with hepatitis C are at increased risk of developing OC during pregnancy. A small number of women with OC may therefore have undiagnosed hepatitis C. If your test results do show that you have viral hepatitis, or another liver condition, you will then be able to be referred to a specialist in liver disease (hepatologist) and receive treatment.
The presence of itching helps to distinguish OC from other liver diseases of pregnancy, such as HELLP syndrome, acute fatty liver of pregnancy or pre-eclampsia (see ‘Useful words’ section).

OC is only completely confirmed when symptoms disappear and liver tests go back to normal after delivery.

Treatment

There is no cure for OC. Doctors will monitor your condition, treat symptoms and may advise delivering your baby early.

Monitoring your liver function
Following diagnosis of OC, doctors may carry out liver function tests on a weekly basis to monitor your condition. This may involve more trips to hospital which can be either reassuring or unsettling at this time. If your itching persists, doctors are advised to run these tests every one or two weeks.

If measured levels return to normal, doctors may consider that you do not have OC and revise their diagnosis. A very rapid increase in levels can occur in OC but may also indicate other conditions that your doctor will wish to investigate.

Relieving the itch and lowering your bile salts
Topical creams such as calamine lotion and aqueous cream with menthol, are safe and may provide some temporary relief from itching for some women.
A number of medications may be used in your treatment. As yet, a specific medication to manage OC is not available, although clinical studies are in progress. Medication is currently aimed at reducing the build-up of bile salts in your blood, to relieve the itching and to protect your baby. Some of the medications listed below are primarily used for other conditions and agreement about their effectiveness in OC is still being discussed and investigated.

- **Ursodeoxycholic acid** (URSO or UDCA) is a naturally occurring bile acid which accounts for 1% of circulating bile acids in your body. It provides protection for the liver by displacing more harmful bile acids, improving the flow of bile and decreasing the delivery of bile acids to the baby.

  URSO is the most commonly prescribed medication to relieve itching caused by OC. It is still being evaluated for use in pregnancy and is prescribed with ‘informed consent’ (that is, taken with the knowledge that it is not licensed).

  One study has shown that URSO is particularly effective in OC cases with higher levels of bile salts (greater than 40µmol/L). URSO has been used for many years and although there have been no reports of adverse effects for the unborn baby when the mother takes URSO, there have been no studies to look into this and wider research studies need to be carried out.

- **Dexamethasone** (Decadron) is a steroid sometimes prescribed for a few days to increase the maturity of the baby’s lungs so the baby can be delivered earlier. It has also been previously used to attempt to reduce the mother’s level of
hormone production and to help relieve itching. However, continuous use of steroids in pregnancy is now thought not to be good for the baby and very few clinicians will treat OC with this drug.

- **Chlorpheniramine** (Piriton) is an antihistamine that may be prescribed to help you sleep at night by making you drowsy but is not considered to have any effect on your itching.

- **Cholestyramine** has been proven to reduce itching in some women but does not improve liver function or bile salt levels and may lead to vitamin K deficiency. It also binds bile acids and so should not be taken at the same time as URSO. For these reasons it is not in clinical use.

Other drugs are currently being investigated for use in OC including heparin, rifampicin and nor-UDCA. Results of these investigations are due to be completed in 2011.

**The role of vitamin K**

Vitamin K is a fat-soluble vitamin, absorbed in your diet, that is essential for blood coagulation (clotting).

Absorption of fats can be reduced in OC and this could affect the uptake of vitamin K.

A lack of vitamin K can affect your blood’s clotting mechanism and could result in increased blood loss during delivery. Many doctors will check how your blood is clotting and if necessary prescribe a daily supplement of vitamin K, in the form of an oral water-soluble tablet, to try and reduce the risk of a severe bleed after delivery. However, there is no research at present to confirm that taking oral
vitamin K will do this, but neither is it thought to harm your baby.

Following the birth, it is recommended that your baby be given vitamin K, usually in the form of an injection. This is standard practice for all newborns (whether from an OC pregnancy or not) as many are deficient in vitamin K.

**Deciding whether to deliver early**

If you have OC, the practice in most obstetric units is to monitor you closely (checking your liver enzymes and bile salt levels) and for your baby to be delivered between 37-38 weeks of pregnancy. At the moment it is not known for certain whether early delivery is the best way to manage your pregnancy.

It is not possible to predict stillbirth based on your liver enzyme and bile salt levels. Research has shown that mothers with fasting bile salt levels greater than 40µmol/L are at most risk of going into premature labour and their babies showing symptoms of distress. However, complications for the baby have occurred in mothers whose bile salts are below 40µmol/L.

Bile salt levels usually rise as the pregnancy continues. The weekly monitoring of your blood tests will help your doctor to see if levels are rising and make decisions about any increased risks.

Your obstetrician should discuss fully the possible risks and benefits of early delivery with you. Some premature babies may need to be admitted to a special care baby unit.

Other monitoring may include having regular tests to monitor your baby’s heartbeat (cardiotocography
or CTG) and scans (to look at oxygen flow and the growth of your baby). Neither of these procedures have been shown to be able to predict a baby that may be at risk from OC, however, many women find it reassuring to have them.

With ‘active’ management (such as monitoring, symptom treatment and early delivery) the risk of stillbirth for women with OC is thought to be the same as that for normal pregnancy (around 1%). It is not currently known which aspects of ‘active’ management are of most benefit. A UK trial is currently trying to establish whether ursodeoxycholic acid and/or delivery between 37-38 weeks of pregnancy contribute to improving outcomes for the baby.

**Aftercare**
You and your baby should receive the standard health checks after birth. After the delivery the itching should disappear relatively quickly. There are no known developmental problems for the baby. The risk of developing neonatal jaundice is the same as for other babies. It is thought that there is no major damage caused to the liver of either mother or baby.

Women with a previous history of OC are more likely to have gallstones and some other forms of liver impairment in later life. Specifically a small proportion of women who have had OC may develop autoimmune forms of liver disease, such as autoimmune hepatitis or primary biliary cirrhosis (see our disease specific publications for more information on these conditions).
Some women who have had OC also develop cholestasis outside of pregnancy when taking some medications such as antibiotics or the contraceptive pill (see the ‘Looking after yourself’ section for advice).

You should have a blood test before you are discharged from hospital to check your LFTs and bile salts are reducing, however, LFTs can be raised for the first 10 days after birth in normal pregnancy.

You should have a follow-up post natal check related to your OC at around six to twelve weeks to confirm that symptoms have resolved and the diagnosis was correct. At your appointment your doctor will be keen to establish that the itching has gone away and carry out an LFT and serum bile salt test to see if these have returned to normal. Levels should improve over time but it may take up to 12 weeks for LFTs to go back to normal.

If there are any abnormal results you will need to have further tests. These are to determine whether your liver is taking extra time to settle down or, more rarely, whether you have an underlying liver problem.

If the latter is the case, you may be referred to a hepatologist (liver specialist), or perhaps a gastroenterologist (specialist in disorders of the digestive tract) with knowledge of liver problems.

In general, if you continue to itch after six months, a referral to a liver specialist should be sought.
Should I change my diet?
There are no special foods to eat or to avoid. As with all pregnant women, it is important that you eat a well-balanced diet which includes lots of vegetables, fruit and whole wheat cereals, including bread. As the flow of bile into the gut is reduced, you may find you cannot tolerate the same amount of fat as normal. You may therefore find that it helps to lower your fat intake.

What can I do to relieve itching?
To help with itching you may find the following suggestions from other mothers helpful.

- Have frequent tepid baths.
- Try not to get too hot.
- Use lotions such as calamine and aqueous cream with menthol.
- Wear loose cotton clothing.
- Gently scratch your skin with a baby’s hairbrush.

Can I drink alcohol?
OC is not caused or made worse by alcohol. However, the Department of Health recommends that if you are pregnant or are planning a pregnancy, you should avoid drinking alcohol to minimise harm to your baby.

When you drink, the alcohol passes across the placenta to the baby. A baby cannot process alcohol in the same way that you can and this can seriously affect the baby’s development.
If you do choose to drink, in order to minimise the risk to your baby you should limit this to no more than one or two units of alcohol once or twice a week. You should avoid getting drunk. Additionally, it is recommended to avoid alcohol completely in the first three months of pregnancy as it increases the risk of miscarriage.

**Will OC damage my liver?**
OC is not thought to cause any lasting liver damage in the majority of cases. However, it may leave your liver more sensitive to normal changes in the level of your hormones, and a few women report what is known as ‘cyclical itching’ during the menstrual cycle. This can happen just before ovulation or just prior to a period.

This type of itching is usually only mild and stops either when ovulation has taken place or your period has started.

**Can I breast feed?**
OC should not influence your ability to breastfeed.

**What about future pregnancies?**
It is highly possible that you may have OC in future pregnancies. The risk is generally estimated to be greater than one in two (50%). If OC does recur, it may not necessarily follow the same pattern.

It is important that any future pregnancies are carefully managed by a consultant obstetrician who is familiar with the condition. This may involve checking your bile salt levels and LFTs early in pregnancy and then at 28 weeks. If itching occurs, blood tests should be checked sooner.
If you are worried that you may have OC, you must contact your doctor or midwife.

As OC can run in families, it is important to make family members aware of the increased risk.

**Can I use the contraceptive pill?**

Until it is proven that the hormones oestrogen and progesterone do not have an effect on the liver in OC, it would seem sensible to approach hormonal contraception (the ‘pill’) with caution or avoid it completely.

However, this may not be realistic or practical for all women and it may be best to discuss the options with your doctor or a suitable healthcare professional. Use of contraception after OC is still a new area and may involve some trial and error in choosing what is right for you.

There is anecdotal evidence that a number of women can tolerate the mini pill and that others are also able to use a low dose combined oral contraceptive pill.

You might also consider intrauterine contraceptive devices (IUCDs). Some IUDs release a lower dose of hormones which avoid the liver by going directly into the womb, rather than into the bloodstream. Some women are unable to tolerate even low doses of localised hormones from the IUD.

If you do proceed with hormonal contraception, an LFT should be undertaken beforehand to establish that your liver function is normal. You should have the test repeated six weeks later.

If you have any concerns, there are other forms of contraception available.
Can I take antibiotics?
Because they have the potential to cause cholestasis, it may be advisable to avoid the antibiotics erythromycin and augmentin following an OC pregnancy. Other antibiotic treatments are likely to prove just as effective and should be used if possible. Your doctor should be able to determine which antibiotics the organism causing your infection is sensitive to and prescribe accordingly.

How can friends and family help?
It goes without saying that the anxiety of an OC pregnancy can be extreme. It is important that concerns are acknowledged by both healthcare professionals and friends and family. Being told everything will be okay can be counter productive and can often make women feel more anxious.

Family and partners can reduce anxiety by reading up on the condition so that they understand concerns and provide support during hospital appointments and GP visits (further copies of this leaflet are available from the Trust).

Some women experience bouts of severe itching which could be dangerous while driving, so support with transport may be valuable.

Partners need to be aware that the effects of sleep deprivation can add to an already delicate emotional state and be sympathetic to the resultant fatigue. They need to be prepared for being woken up a lot in the night when itching is often at its worst. Offering to get up and make a hot drink in the middle of the night can be very helpful. It is not helpful to tell someone to ‘stop scratching’. It is impossible!
You may wish to participate in a research project into the condition. This may require family members to be involved and to provide blood samples or mouth swabs.

**Where else can I get emotional support?**

Many women say that they often feel very isolated with OC. It is important not to push friends and family away. Let people know how you are feeling and ask for support.

You may find it helpful to get in touch with others who have experience of OC via online support groups, so that you can discuss your fears and worries in a safe and confidential environment. You may also access counselling services through your GP or via the British Association for Counselling & Psychotherapy (BACP), see the ‘Who else can help?’ section.

You may find that you need to try a few different sources of support to find the right type for you, as everyone is affected differently. However, try not to remain isolated with any worries or concerns you have, and talk to your midwife or GP.

It is also important that your partner has someone to talk to. This can be an anxious time for everyone. Remember that the support sites are for them to use too!
Useful words

**Acute fatty liver in pregnancy** – a rare but serious condition which can occur in the last three months of pregnancy, causing rapid liver and kidney failure. Hospitalisation and immediate delivery of the baby is usually required.

**ALT** – alanine aminotransferase, a liver enzyme that enters the blood following liver damage. An ALT test is used to monitor and assess the degree of liver damage in patients with hepatitis of any cause including, for example, toxins and viruses.

**AST** – aspartate aminotransferase, a liver enzyme but less specific to the liver than ALT (see above). A raised AST level may also indicate muscle damage elsewhere in the body.

**Cholestasis** – a condition where the flow of bile from the liver is reduced.

**Enzyme** – a substance, usually a protein, produced by the body to help speed up a chemical reaction (which can be measured with liver function tests).

**Fetal** – relating to the unborn baby.

**Gallstones** – stones formed from bile that solidifies and hardens. Most gallstones are now known to be cholesterol gallstones, formed when the liver secretes bile that is abnormally saturated with cholesterol. Other stones can be formed from bile pigment (bilirubin). Gallstones become stored in the gallbladder or can find their way to the common bile duct.
Gene – a segment of a chromosome (or unit of DNA) that carries the instructions or code for making a specific protein or set of proteins responsible for, or contributing to, a specific physical trait or action.

GGT – gamma-glutamyl transferase, a liver enzyme in your blood that is measured to check for liver damage.

HELLP syndrome – hemolysis, elevated liver enzymes and low platelets, a group of symptoms that occur in pregnant women who have pre-eclampsia or eclampsia.

Hepatic – anything relating to the liver.

Hepatocyte – a liver cell.

Inferior vena cava – the large vein that carries blood back to the heart from the lower part of the body.

Intrahepatic – within the liver.

Jaundice – a condition in which the whites of the eyes go yellow and in more severe cases the skin also turns yellow. This is caused by accumulation in the blood of bilirubin, a yellow pigment and a waste product normally disposed of by the liver in bile.

Mutation – an occurrence where a gene undergoes a change or variation in the base sequence of its DNA. Some mutations result in the gene no longer coding for the correct protein, or producing a reduced amount of the protein.
Pre-eclampsia – a condition in which a woman develops high blood pressure, excessive fluid retention and sometimes protein in her urine during pregnancy.

Serum – normally clear or yellowish, serum is the liquid that separates from blood when clotting occurs. Many chemical tests are carried out using serum.
Who else can help?

**British Association for Counselling & Psychotherapy (BACP)**
BACP House  
15 St John’s Business Park  
Lutterworth  
LE17 4HB  
Tel: 01455 883300  
Fax: 01455 550243  
Email: enquiries@bacp.co.uk  
Web: www.bacp.co.uk

BACP can provide advice on a range of services to help meet the needs of anyone seeking information about counselling and psychotherapy.

**OC Support UK**
Email: jennychambersoc@aol.com  
Web: www.ocsupport.org.uk

A support resource for people in the UK affected by OC and those wanting to find out more about the disorder. OC Support provides general information and the latest research on OC, with testimonies from people with OC, a discussion forum and helpline.

**Royal College of Obstetric Gynaecologists (RCOG)**
27 Sussex Place  
Regent’s Park  
London NW1 4RG  
Tel: 020 7772 6200  
Web: www.rcog.org.uk

The RCOG encourages the study and advancement of the science and practice of obstetrics and gynaecology and publishes a clinical guideline on OC.
Sands (Stillbirth and Neonatal Death Society)
28 Portland Place
London W1B 1LY
National Helpline: 020 7436 5881 Monday to Friday
9.30am to 5.30pm and Tuesday & Thursday
6pm to 10pm
Email: helpline@uk-sands.org
Web: www.uk-sands.org
A charity established by bereaved parents to support anyone affected by the death of a baby.

The Miscarriage Association
c/o Clayton Hospital
Northgate
Wakefield
West Yorks WF1 3JS
Helpline: 01924 200 799 Monday to Friday
9am to 4pm
Fax: 01924 298 834
Email: info@miscarriageassociation.org.uk
Web: www.miscarriageassociation.org.uk
A charity providing information and support form anyone affected by the loss of a baby during pregnancy.

Tommy’s, the baby charity
Nicholas House
3 Laurence Pountney Hill
London EC4R 0BB
Tel: 0207 398 3400
Fax: 0207 398 3479
Email: mailbox@tommys.org
Web: www.tommys.org
A charity funding research into and providing information on the causes and prevention of miscarriage, premature birth and miscarriage.
Further information

The British Liver Trust publishes a large range of leaflets about the liver and liver problems written for the general public.

Leaflets that you may find particularly helpful include:

- *Autoimmune hepatitis*
- *Diet and liver disease*
- *Hepatitis C*
- *Liver disease tests explained*
- *Primary biliary cirrhosis*

Information on OC is also available in Bengali, which can be downloaded from the Trust website.

**Contact us for more information:**
Tel: 01425 481320
Email: info@britishlivertrust.org.uk
Web: www.britishlivertrust.org.uk

This leaflet is for information only. Professional, medical or other advice should be obtained before acting on anything contained in the leaflet as no responsibility can be accepted by the British Liver Trust as a result of action taken or not taken because of the contents.
Special thanks

Professor Catherine Williamson, Professor in Obstetric Medicine, Imperial College, London

Jenny Chambers, OC Support UK
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□ fundraising for the Trust
□ reviewing updates to this publication
□ a list of all Trust patient information guides

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Email: info@britishlivertrust.org.uk
The need to do more for people with liver disease is greater than ever before.

The British Liver Trust is Britain’s only national charity for adults with all forms of liver disease. We rely on the generosity of others so that we can continue to improve the lives of people affected by liver disease.

A donation of just £3 a month can help us to plan and maintain our core services with confidence for the future. By filling in your contact details below, and the form on the reverse, you can set up your regular gift to the British Liver Trust.

Your contact information (BLOCK CAPITALS)

Title ............................................................
First name ......................................................
Surname ........................................................
Address ..........................................................
............................................................... Postcode ................................

Email ................................................................

Telephone ......................................................

By giving the British Liver Trust your contact details (postal address, email address, phone number) you agree the Trust may contact you periodically with updates about its work.

Please tick the box if you do not wish to receive any further information from the British Liver Trust.

The British Liver Trust does not give your information to other organisations for marketing purposes.

Please return this form to: British Liver Trust,
2 Southampton Road, Ringwood BH24 1HY
Tel: 01425 481320 Fax: 01425 481335
Email: info@britishlivertrust.org.uk
Yes! I wish to make a monthly donation to reduce the impact of liver disease.

Please fill in your contact details on the reverse of this form

To: The Manager  Bank/ Building society:

Address: ................................................................. ................................................................. Postcode .................................................................

Name(s) of account holder(s):

Account no: _______ _______ _______ _______ _______ Sort code: _______ _______ _______ _______ _______

Instruction to your bank or building society:
Please set up this standing order and pay the sum below to CAF Bank Ltd, 25 Kings Hill Avenue, Kings Hill, West Mailing, Kent ME19 4JQ. Account name: British Liver Trust
Sort code: 405240 Account no: 00017972

Start date: _______ _______ _______ _______ _______ (Please allow one month from today)

☐ £5  ☐ £3  Other amount £ __________________________

By donating £2 or more a month you can become a Friend of the Trust, please tick here if you wish to sign up ☐

By donating £100 or more a month you can become a member of the 100 Club, please tick here if you wish to sign up ☐

Signature(s): _______________ Date: _______________

On receipt of this standing order form the British Liver Trust will send it to your bank or building society and the standing order will be set up. You will remain in control of your payments and will be able to alter or cancel your donations at any point. This standing order form cancels any previous standing orders to the Trust.

To qualify for Gift Aid you must pay an amount of Income Tax and/or Capital Gains Tax for this tax year at least equal to the tax that we will claim from HM Revenue & Customs on your Gift Aid donations. This is currently 28p for each £1 that you give.

☐  (Please tick) I authorise the British Liver Trust to treat all gifts of money that I have made in the past 4 years and all future gifts of money that I make from the date of this declaration as Gift Aid donations, until I notify you otherwise.
The British Liver Trust acknowledges the contribution of The James Tudor Foundation towards the development of this booklet.

The sponsor has no editorial involvement in the publication.

**British Liver Trust**  
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