

Liver cancer



BRITISH
LIVER
TRUST

Pioneering Liver Health

Primary liver cancer (HCC)

This publication is for people concerned about or living with the most common type of primary liver cancer, known as hepatoma, hepatocellular carcinoma, or HCC. This leaflet will help you to better understand the condition and associated risk factors.

The British Liver Trust works to:

- support people with, and affected by, liver disease
- improve knowledge and understanding of the liver and related health issues
- encourage and fund research into new treatments
- campaign for better services and improved patient care
- increase awareness of the risk factors of liver disease and promote earlier diagnosis.

All our publications are reviewed by medical specialists and people living with liver disease. Our website provides information and our Helpline gives advice and support on enquiries about liver health. Call the Helpline on **0800 652 7330**, general enquiries on **01425 481320**, or visit **britishlivertrust.org.uk**.

A list of reference sources is available on our website, or by contacting us at **info@britishlivertrust.org.uk**.

For the latest updates to this information, please refer to our website **britishlivertrust.org.uk**.

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The liver

Your liver is your body's 'factory', carrying out hundreds of jobs that are vital to life. It is able to repair itself, even renewing large sections. **However, the liver's ability to repair itself is limited and continuous harm can lead to permanent scarring.** Your liver is very tough and able to function even when some of it is damaged, which means you may not notice any symptoms until your disease is quite advanced and noticeably affecting your health.

Your liver performs hundreds of functions. Importantly it:

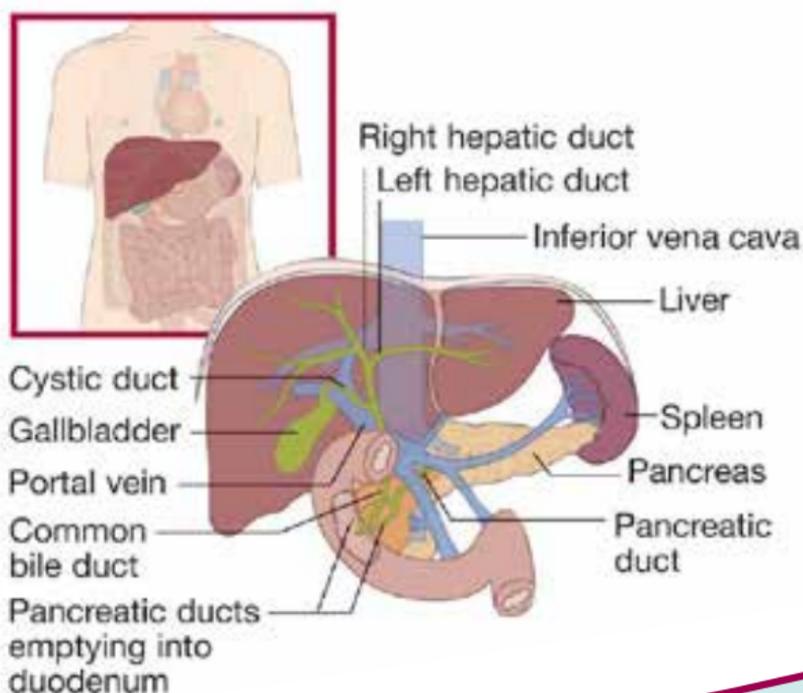
- filters and cleans the blood
- fights infections and disease
- deals with and destroys poisons and drugs
- makes vital proteins which make your blood clot when you cut yourself
- produces bile to help break down food in the gut
- processes food once it has been digested
- stores energy that can be used rapidly when the body needs it most
- regulates fat breakdown and distribution in the bloodstream
- stores sugars, vitamins and minerals, including iron
- gets rid of waste substances from the body
- produces and maintains the balance of some hormones
- produces chemicals – enzymes and other proteins – responsible for most of the chemical reactions in the body (for example, repairing tissue)
- repairs damage and renews itself (up to a point).

How liver disease develops

Your liver responds to harm by becoming inflamed. Any inflammation of the liver is known as hepatitis, whatever its cause. Sudden inflammation of the liver is known as acute hepatitis. When inflammation of the liver lasts longer than six months, it is known as chronic hepatitis.

Inflammation is part of the process of repairing damaged tissue. In a similar way to a scab forming over a skin wound, a temporary fibrous 'scaffold' forms while new liver cells regenerate. If your liver is repeatedly harmed, new liver cells cannot regenerate fast enough and the fibrous scaffold remains as a scar. This is called fibrosis, and can take a variable amount of time to develop.

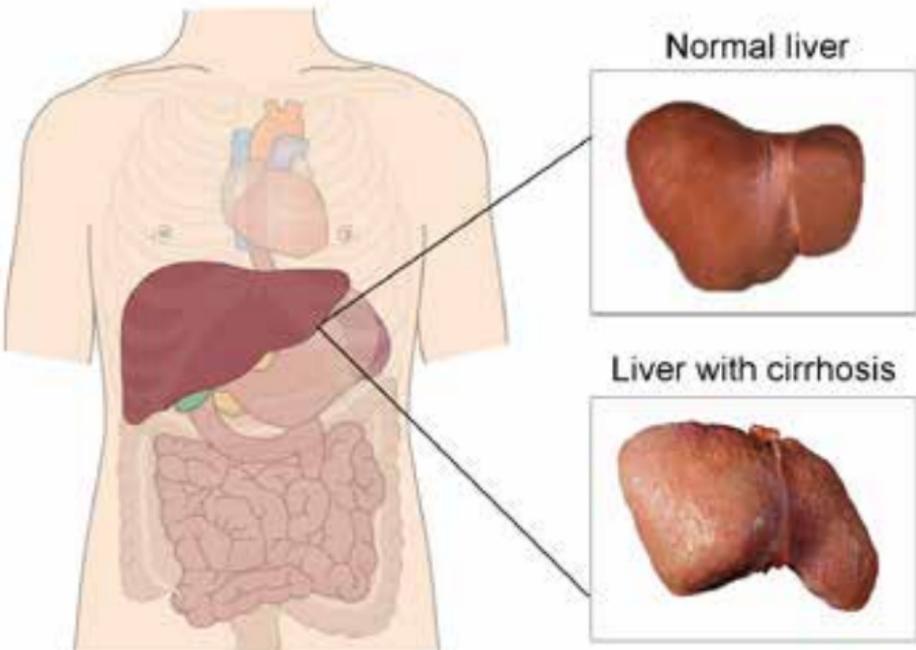
When fibrosis is present, your liver may be able to keep functioning quite well. Removing or treating the cause of the inflammation may reverse some, or all, of the fibrosis and prevent further liver damage.



If the harm to your liver continues, the inflammation and fibrosis can spread throughout your liver, changing its shape and affecting how well your liver cells work. This is known as **compensated** cirrhosis. Even at this stage, people can have no obvious signs or symptoms.

The scar tissue in cirrhosis interrupts the blood flow through the liver. As a result, the blood pressure in the veins in your abdomen is increased and may result in bleeding. Scar tissue in cirrhosis may be permanent. However, further progression can be halted and your cirrhosis stabilised, if the cause of the liver damage is removed.

Cirrhosis can lead to liver failure and increases your risk of liver cancer. If damage to your liver continues, it will become unable to function sufficiently (**decompensated** cirrhosis) and start to fail; this is sometimes referred to as 'end stage liver disease'. At this stage chemicals and waste products can build up in the body, commonly causing jaundice, ascites (a build-up of fluid in the abdomen) and hepatic encephalopathy (confusion and memory loss). In the final stages of liver disease the build-up of waste products may lead to multiple organ failure and loss of life.



Liver cancer

There are two broad categories of liver cancer: primary and secondary.

Primary liver cancer

Primary liver cancers are cancers that start in the liver. The main types are:

- Hepatoma, also called hepatocellular carcinoma, or HCC – this is the most common type, seen in nine out of 10 cases
- Biliary tree cancer, which includes cholangiocarcinoma (bile duct cancer) and gallbladder cancer
- Fibrolamellar, a rare form of primary liver cancer that affects adolescents and young adults who have no history of liver disease
- Angiosarcoma, a cancer of the inner lining of blood vessels, which may occur in the liver.

This publication focuses on hepatoma, hepatocellular carcinoma, or HCC. Please see the British Liver Trust website to download fact sheets about other types of liver cancer.

Secondary liver cancer

Secondary liver cancer is a cancer that first develops elsewhere in the body and then spreads (metastasises) to the liver. It is sometimes called metastatic cancer.

How common is primary liver cancer?

HCC is the most common type of primary liver cancer. In the UK, there are over 5,500 new cases of primary liver cancer diagnosed each year, which is around 15 patients each day.

It's more common in men than in women for reasons that are not fully understood, but may be because liver disease in general is more common in men. It's more likely to affect people over the age of 65 and is rare below the age of 45.

Causes of hepatoma

The main cause of HCC is cirrhosis of the liver, where the liver has become scarred as a result of damage over a long period of time. Having cirrhosis does not mean you will definitely get HCC but certain causes of cirrhosis do have a particularly strong link. These are:

- Viral infections hepatitis B and C
- Excessive alcohol consumption
- Haemochromatosis: a hereditary disease caused by an overload of iron in the body
- Non-alcohol related fatty liver disease.

Other causes of cirrhosis that are less frequently associated with hepatoma, or HCC, are:

- Primary biliary cirrhosis (PBC): nine out of 10 people with PBC are women. This carries a relatively low risk of developing HCC. However, the risk is greater for men with PBC, whose risk of developing HCC is similar to those with alcohol-related cirrhosis
- Autoimmune hepatitis: people with this condition have only a very low risk of developing HCC, even when cirrhosis is present.

Having cirrhosis does not mean you will develop hepatoma. Only three to four per cent of people with cirrhosis will go on to develop HCC each year.

As well as cirrhosis, other factors can also increase your risk of developing HCC. These include:

- Infection with two or more viruses such as hepatitis B, hepatitis C or HIV leads to a greater risk than a single infection

- Both obesity and type 2 diabetes, the risk being greater if both are present
- Heavy smoking, particularly in association with excessive alcohol consumption or infection with viral hepatitis
- Using anabolic steroids over a long period can lead to liver tumours, which in rare circumstances progress to HCC.

Symptoms of HCC

Often there are no symptoms in the early stages of liver cancer because the liver can function very well even when only a portion of it is working. If you do notice any symptoms, they are usually vague and similar to symptoms for other liver conditions, and often exactly the same as those in cirrhosis. Possible symptoms include:

- fatigue and weakness
- a general feeling of poor health
- loss of appetite
- nausea and vomiting
- loss of weight
- pain or discomfort over the liver area (place your right hand over the lower right hand side of your ribs and it will just about cover the area of your liver)
- itchy skin
- fine blood vessels visible on the skin in a radial pattern resembling the legs of a spider (known as spider naevi) and which go white if you press the centre
- dark urine/grey pale stools (faeces)
- loss of libido.

Some symptoms need medical attention straight away. If you have any of these you should always seek medical advice at once:

- skin and eyes turning yellow (jaundice) – often the first and sometimes the only sign of liver disease and often associated with very dark urine even if you are drinking plenty of fluid
- swelling of the abdomen, which can be due to the growing cancer itself or a build-up of fluid within the abdomen (ascites)
- fever with shivers
- vomiting blood
- dark black tarry, often smelly stools (faeces).

How is HCC diagnosed?

Primary liver cancer is usually diagnosed in the following way:

- Your GP will take your medical history – finding out about your symptoms – and perform a detailed clinical examination
- Your GP will then take some blood samples and may arrange an abdominal ultrasound
- If blood tests and ultrasound indicate a tumour may be present, you will be sent to see a specialist doctor (surgeon or gastroenterologist/hepatologist) who may take more blood tests and arrange for special imaging of your liver to examine it more closely
- You may be sent for a biopsy if the imaging is not conclusive.
- Many patients known to have cirrhosis will have regular blood tests and liver ultrasounds with the hospital consultant and these may also detect an abnormality in the liver.

Tests and investigations for liver cancer

Blood tests

A blood test provides information on the general health of your liver. In addition, if HCC is suspected, a protein found in blood called alpha-fetoprotein (AFP) will also be measured. In around five to seven out of 10 people with HCC, AFP levels will rise as the disease progresses. However, a negative AFP blood test does not guarantee that someone does not have HCC.

Likewise, AFP levels can be elevated for reasons other than HCC. AFP levels usually come down if a treatment is working, so it is a useful tool to measure how effective treatment is.

Ultrasound

Ultrasound is a painless test that sends sound waves into the body. The echoes are picked up and used to build a picture of the condition of the liver, bile ducts and gallbladder. If the ultrasound highlights any areas of tissue that are concerning, you should be referred to a specialist liver unit for a CT or MRI scan. You should be seen by a specialist within two weeks.

Computed tomography (CT) scan

A CT scanner gives detailed images of the inside of the body, including soft tissues such as muscles, organs and nerves, which an ordinary X-ray cannot. Images of the body from different angles are fed into a computer, which processes them as a series of cross sections (or 'slices'). This provides a 3D image of the inside of your body and can show the size of the tumour, and if it has spread and is present in other organs.

Magnetic resonance imaging (MRI) scan

An MRI scan uses strong magnetic fields and radio waves to create detailed images of the inside of the body. MRIs are commonly used where more detailed examination is required.

Hepatic angiography

Hepatic angiography is an X-ray study of the blood vessels that supply the liver and may be needed if the diagnosis is still doubtful after a CT and MRI scan. It may also be used as part of some treatment techniques such as chemoembolisation. The procedure uses a catheter (a thin, flexible tube) that is placed into a blood vessel through a small cut in the groin. A dye is then injected through the catheter, which highlights the blood vessels in the tumour as well as those feeding the tumour.

A hepatic angiogram is usually done under local anaesthetic and you are also likely to be given sedation. Because of this, you may be asked to stay in hospital overnight.

Laparoscopy

A laparoscopy may be performed to assess damage to your liver and bile ducts and also to look for tumours in the abdominal cavity. In this procedure a tiny camera (endoscope) with a light on the end of a flexible fibre optic tube is inserted into your side through a small cut in your skin ('keyhole') to take pictures of your liver. If needed, a biopsy of your liver can be taken at the same time. A laparoscopy is performed under a general anaesthetic so you might need to stay in hospital overnight.

Liver biopsy

Usually, a diagnosis can be made using imaging techniques but occasionally a biopsy may be required. During a liver biopsy, a tiny piece of the liver is taken for study. Liver biopsies are often needed in trial patients whose tissue needs to be studied and in patients who are to be considered for sorafenib, a drug used to treat primary liver cancer.

Test results

When all the tests have been completed your consultant will review your test results with a medical team that will include specialists in surgery, liver disease (hepatologist), digestive diseases (gastroenterologist) and cancer (oncologist) as well as other professionals who may be involved in your care. That team may be at another hospital in the region.

As well as diagnosing the presence of cancer, the tests will provide information on how advanced the cancer is (size, number of tumours, location). This is referred to as 'staging' the cancer and is often measured using the TNM classification:

Tumour (T) – the extent of the primary tumour

Node (N) – whether the tumour has spread to your lymph glands

Metastases (M) – whether the tumour has spread to other organs.

Another type of staging that is often used is the Barcelona Clinic Liver Cancer (BCLC) staging system, which looks at other aspects including liver function and the size and number of tumours.

The health of your liver will also be classified, most often using a scoring system called Child-Pugh (class A, B, C) which takes into consideration blood test results, the presence of fluid in the abdomen (ascites) and brain function (encephalopathy). A Child-Pugh class A indicates the liver is working well, whereas class C indicates more severe liver damage.

No two patients are the same and all this information will help your medical team to decide on the most appropriate treatment options to discuss with you.

Surveillance

If you have been diagnosed with cirrhosis, particularly related to hepatitis B, C, alcohol or haemochromatosis, you should receive regular ultrasound scans and blood tests (every six to 12 months) to monitor your liver. Early detection of any tumours will give the best opportunities for successful treatment. Surveillance may not be offered if you have alcohol-related cirrhosis and continue to drink, as the continued damage from alcohol would reduce the chances of any successful treatment.

Treatment

A number of treatment options are available for primary liver cancer. The aim of some treatments (surgery or liver transplant) is to remove the cancer completely. If this is not possible then treatment will aim to shrink the size of the cancer to relieve symptoms, delay progression or to make surgery possible. Treatments may be used on their own or in combination. Unfortunately, liver cancer can be hard to treat because there are often very few symptoms. This means that by the time a diagnosis is made, it may be well-advanced.

How treatment is planned

Surgical treatments

Generally, surgery is the most effective treatment, but may not always be possible. Whether you will be suitable for surgery will depend on a number of different factors, including:

- the size and position of the cancer, whether it's contained in one part of the liver and whether major blood vessels are involved
- if the cancer has spread beyond the liver
- whether the rest of your liver would be able to cope after an operation
- other health conditions that could hinder the operation or your recovery.

Resection surgery

The most common form of liver surgery is known as resection, where the part of the liver affected by the cancer is cut away and removed. The liver will then regrow to the volume required by the body.

Resection surgery is only suitable for those who have very good liver function (Child Pugh class A). If you have a hepatoma (HCC) caused by damage to the liver through cirrhosis, then resection may not be possible, especially in those with more advanced cirrhosis. This is because your liver may be too damaged to recover after the operation. A liver transplant may be considered, but only a few people are suitable for this. Alternatively, surgery may not be possible if the tumour is in a position that makes it difficult for the surgeon to access it.

Liver surgery is a major operation and there are some risks such as infection, bleeding or bile leakage.

There is also a risk that a number of undetected cancer cells will have escaped. This means there is a risk the cancer may recur despite excellent treatment and advanced medical techniques.

It is also important to be aware that if liver cancer has developed because of cirrhosis, there is a risk that a new liver cancer may develop.

Liver transplantation

A liver transplant may be considered if you have:

- a single tumour less than 5cm in diameter or
- up to five tumours, but all less than 3cm in diameter or
- a single tumour greater than 5cm but less than 7cm if there has been no tumour progression for six months
- AFP less than <1000iu/mL.

If you meet the criteria your consultant may recommend that you are put on the transplant waiting list. You will need to be assessed by a transplant team to check that you are well enough to go through this major operation. Unfortunately, there is a shortage of donor livers. It may be some time before a suitable liver becomes available and you may need other treatments to slow the growth of the tumour in the meantime. Liver transplantation is not recommended for those with cholangiocarcinoma as the cancer often returns very quickly.

Some people can have liver tissue donated from a living person, but this treatment may cause some risk to the donating person and it is not suitable for everyone.

For more information see our Liver Transplantation leaflet.

Non-surgical treatments

There are a number of treatments aimed at reducing the growth of the cancer if surgery is not an option. In some circumstances these may be effective at halting the cancer for several years and the various approaches may be used at different times in the same patient.

Ablative therapies

These therapies work by targeting the cancer with micro or radio waves placed directly into the tumour by needle-like electrodes. These destroy the cancerous cells. A similar procedure involves freezing the tumour (cryogenics). There are three common techniques used: where the needle is passed through the skin (percutaneously), via keyhole surgery (laparoscopy) or a large single incision made in the abdomen ('open' surgery). An ultrasound or CT scan is used to guide the needle into the correct position.

This type of treatment works best with small tumours and can be carried out under general anaesthetic or sedation. Most people will need to stay in hospital overnight.

Patients often experience tiredness or nausea following treatment. A raised temperature and flu-like symptoms are also very common side effects.

Ethanol injections

Ethanol is a type of pure alcohol that can be injected into liver cancers to kill the cancer cells by dehydrating them. The ethanol is injected through the skin into the tumour using a very thin needle. You may need several treatment sessions to destroy the cancer and this may require a general anaesthetic and hospital stay. However, ethanol injections are rarely used. They may be considered if ablation therapies are unsuitable because other organs close to the tumour are at risk of being damaged.

Embolisation

Embolisation is a technique used to cut off the blood supply to the tumour, killing the cancerous cells. It's possible to do this without harming healthy liver cells because the liver has two blood supplies: the portal vein, which supplies blood to the healthy liver cells, and the hepatic artery, which supplies blood to the tumour. Despite this, there may be some damage to healthy liver cells, which is why embolisation is usually recommended for people who have good liver function and are able to cope with the treatment. The treatments described below are both embolisation techniques.

Transarterial embolisation (TAE) and transarterial chemoembolisation (TACE)

TAE involves injecting the hepatic artery with a substance containing tiny gel-coated beads or pieces of a gelatin sponge. This creates a seal that blocks the supply of blood to the tumour to stop it growing. The injection is via an artery in the groin.

TACE is a procedure that delivers chemotherapy drugs directly to the liver to target the cancer, after which the embolising substance (tiny gel-coated beads) is also injected to create a 'seal' around the chemotherapy drug and block off the blood supply to the tumour to help slow down its growth. This ensures it's as effective as possible over a long period of time. This therapy is given under local anaesthetic and sedation, and requires an overnight stay in hospital. Although giving chemotherapy in this way means side effects such as hair loss may be avoided, abdominal pain, feeling or being sick and a high temperature for days or even weeks afterwards are common.

New methods aimed at improving delivery of these drugs are being developed and your medical advisor can provide more information about these treatments.

Targeted cancer drugs

Sorafenib (also known by its brand name, Nexavar®) is a type of targeted cancer drug (called a protein tyrosine kinase inhibitor (TKI)). It stops signals that tell cancer cells to grow and slows down the formation of new blood vessels so the supply of blood to the cancer cells is reduced. This type of drug is sometimes referred to as a biological therapy because it uses substances found naturally in the body, or artificial versions of these, to help fight the cancer. Sorafenib is given in tablet form and is suitable for those with advanced liver cancer but is only available on the NHS to adults classified as 'A' on the Child-Pugh liver function scale (those with good liver function).

You can read the NICE guidance at

<https://nice.org.uk/guidance/ta474>

The Scottish Medicines Consortium (SMC) has accepted the Trust's evidence on behalf of patients and agreed to the use of Stivarga® (regorafenib) for patients in Scotland. It has been approved for use as a monotherapy for the treatment of adult patients with hepatocellular carcinoma (HCC) who have been previously treated with Nexavar® (sorafenib). It is taken orally and works by slowing down the growth and spread of cancer cells by cutting off the blood supply that keeps cancer cells growing. The British Liver Trust is providing evidence to NICE in the hope that regorafenib will be available for patients in the rest of the UK in the future. Check the British Liver Trust website for the latest information.

There are also proposals for other initiatives through which the Department of Health will cover the costs of cancer drugs, such as a Cancer Drugs Fund. Talk to your cancer specialist to see if any of these would be options for you.

Chemotherapy

Chemotherapy is a treatment which uses drugs to kill cancer cells, or to stop them from multiplying. It aims to shrink tumours down and slow the development of the disease. As well as the type of chemotherapy outlined above (TACE) it can also be given by injection or tablet form. Chemotherapy will not cure your cancer, but it may control the cancer or even reduce its size. This can help to reduce symptoms and may also extend your life.

Radioembolisation/Selective Internal Radiation Therapy (SIRT)

Like chemoembolisation, this technique uses tiny beads to block the blood supply to the cancer. The beads contain a radioactive substance that helps to kill the cancer cells. A course of chemotherapy may also be given at the same time. This may be an option if you have good liver function but resection is not suitable. Research is being undertaken to further evaluate the safety and effectiveness of the technique.

Targeted radiotherapy

The methods below have been developed to deliver extremely targeted radiotherapy to cancer tumours with minimal damage to the surrounding healthy cells.

Stereotactic Ablative Radiotherapy (SABR) is most suitable for those with smaller cancers and involves several thin beams of radiation being focussed on the tumour. The treatment is painless, although you may feel tired, and have red, sore skin afterwards.

CyberKnife radiotherapy is the latest in radiotherapy technology. It involves treating tumours with radiotherapy administered by a robotic system that uses cameras to pinpoint the cancer exactly. This means fewer sessions and visits to hospital for the patient.

NanoKnife

This is a non-invasive technique that uses a strong electric current passed through fine needles to destroy cancerous cells. The needles pass through the skin and are guided into place around the tumour, using ultrasound or a CT scan. An electric current is then passed between them, killing the cancer cells. There is minimal damage to the surrounding healthy tissues. This can be used when traditional surgery isn't an option. It is done under general anaesthetic and requires an overnight stay in hospital.

New treatments

Doctors are always trying to find better ways of treating people. For instance, researchers are currently testing a treatment called nivolumab, which is what's known as a monoclonal antibody. Doctors think it can help your immune system to attack the cancer and stop it growing,

Clinical trials

Your specialist may talk to you about the possibility of taking part in a clinical trial. This may involve treatment with new drugs or new ways of using drugs. There may be a requirement for a biopsy of the cancer.

You do not have to take part in clinical trials and your care will not be affected if you choose not to. If you do take part, you may receive extra monitoring which may be beneficial to your treatment. The doctor involved in the research will give you specific information about any clinical trials.

You can find more information on trials that are currently running at www.controlled-trials.com.

Looking after yourself

Diet supplements

If you are finding it difficult to eat, there are plenty of dietary supplements available on prescription. Some are powders you sprinkle on your food and some are drinks that are complete meals in themselves. Sipping a supplement between meals throughout the day (and especially at the end of the day) can boost your calorie intake and help maintain weight. Ask your doctor or dietician for help.

Alcohol and smoking

Alcohol is processed by your liver and as a result, it can be dangerous for anyone with liver problems. Check with your doctor whether it is safe for you to drink any alcohol and if so, how much. Smoking is dangerous to everyone's health. People with liver disease are more vulnerable to infection and to poor health overall, so smoking or exposure to passive smoking is not advised.

Ascites

Ascites is a build-up of fluid in the abdomen. There are several possible reasons for ascites including:

- poor liver function, in particular low protein levels
- cancer cells in the lining of the abdomen cause fluid to leak out into the abdomen
- pressure develops in veins around the liver because the liver is not working properly; this causes fluid to leak out into the abdomen.

Symptoms of ascites, such as a large, uncomfortable abdomen, can be relieved by taking water tablets (diuretics) or by inserting a tube into the abdomen to drain the fluid over a few hours. Unfortunately, despite both of these treatments, ascites often comes back again.

Pain

Pain may develop in the abdomen and sometimes in the back. If pain affects you, there are lots of painkillers you can try. You will probably be started on some simple painkillers such as paracetamol or co-dydramol; some people do not need anything stronger than these.

However, if these are not effective then you may be offered a morphine-based painkiller such as morphine sulphate tablets (MST). Morphine is one of a group of strong painkillers called opioids. Your doctor will advise on how to take these safely and reduce the dose when appropriate.

Palliative care

Your team may suggest that you are referred to your local community palliative care team. They are experts in pain relief and can be very helpful in supporting you and your family while you are having treatment or when treatment is no longer possible. They can advise and help you with symptom control and also provide emotional support to you and your family.

Complementary and alternative medicines

It is suggested that some complementary and alternative medicines may help with the symptoms of liver disease. However, many of these are processed by the liver, so can be toxic to people with liver problems. For this reason, few medical professionals recommend these, especially as many products are not licensed as a medicine and there is no regulation of the product. This means you cannot be sure how much of the active ingredient you are getting or how pure it is.

It is wise to be cautious about the claims made for herbal remedies, particularly those advertised on the internet, as they can offer false hope. It is a good idea to discuss the use of these remedies with your doctor.

Useful words

Carcinogen – any substance that, when exposed to living tissue, may cause cancer.

Carcinoma – a cancer that forms in the tissue that lines the skin and internal organs (epithelium) of the body.

Cholangiocarcinoma – cancer of the bile ducts.

Gastroenterologist – a doctor who specialises in understanding and treating digestive diseases.

Curative – a treatment which offers a potential cure.

Hepatocellular cancer (HCC) – cancer of the liver cells.

Hepatologist – a doctor who specialises in understanding and treating liver problems.

Jaundice – a condition in which the whites of the eyes go yellow; in severe cases the skin does too. This is caused by the yellow pigment (bilirubin) which is normally disposed of in the liver.

Lymph nodes – glands found all over the body which are connected to form part of the lymphatic system (helps to fight infection). If cancer has spread to the lymph nodes it increases the chance of it spreading to other parts of the body.

Metabolic syndrome – a combination of medical conditions linked with cardiovascular disease including diabetes, high blood pressure, high cholesterol, obesity and also often associated with non alcoholic fatty liver disease.

Metastasis – the distant spread of a malignant tumour from its site of origin.

Oncologist – a doctor who specialises in understanding and treating cancer.

Palliative – treatment which is aimed at reducing symptoms and improving quality of life but does not offer a cure.

Primary biliary cirrhosis (PBC) – also referred to as primary biliary cholangitis, this is a chronic disease in which the bile ducts (tubes around your liver that carry digestive juices called bile to the gut) become blocked. Bile builds up in the liver, causing inflammation and scarring, which prevent the liver from working properly.

Primary sclerosing cholangitis (PSC) – an uncommon liver disease that causes the bile ducts (tubes around your liver that carry digestive juices called bile to the gut) to harden and thicken. This causes them to shrink, and the flow of bile becomes blocked. It builds up instead in the liver, causing inflammation and scarring. Over time, this prevents the liver from working properly.

Resection – removal of some of a body part by surgery.

Ulcerative colitis – a condition where ulcers and inflammation form in the rectum and the colon (part of your bowels).

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Further information

Please refer to the Trust website for details of patient organisations and support groups specialising in specific liver conditions that you may find helpful.

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:

- *Alcohol and liver disease*
- *Autoimmune hepatitis*
- *Cirrhosis of the liver*
- *Haemochromatosis*
- *Hepatitis B*
- *Hepatitis C*
- *Liver disease tests explained*
- *Liver transplantation*
- *Living with liver disease*
- *Primary biliary cholangitis (PBC)*
- *Primary sclerosing cholangitis (PSC).*

Contact us for more information:

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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.

We hope you have found this publication helpful

All our publications are reviewed by medical experts and people living with liver disease. If you have any feedback on this publication please email the Trust at **info@britishlivertrust.org.uk**

The British Liver Trust is proud to be recognised as a provider of expert liver health information, but to do this we must depend on the kind donations of our supporters. The Trust receives no government aid, yet strives to fill the growing need for liver health information in the UK.

We are a small charity, and your donation can make an important difference.

A gift of £5 could help us answer patient calls to our helpline

A gift of £20 could help us to set up a new patient support group

A gift of £50 could support the costs of a new patient guide or leaflet

Gifts can be made:

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Remember to indicate your Gift Aid preference.

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please call **01425 481320** or email
fundraising@britishlivertrust.org.uk



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