

Alcohol and liver disease



BRITISH
LIVER
TRUST

Pioneering Liver Health

Alcohol and liver disease

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 greater awareness around liver disease, leading to swifter diagnosis and treatment.

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 enquires on **01425 481320**, or visit **britishlivertrust.org.uk**

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

This publication is for adults diagnosed with alcohol-related liver disease, for those who would like to better understand the condition and the recommended safe drinking guidelines.

Contents

3	The liver
4	How liver disease develops
6	Alcohol: are you putting yourself at risk?
7	What is alcohol?
8	How much can I drink?
9	What is a unit of alcohol?
10	Binge drinking
11	How does the body process alcohol?
12	What happens to the liver if you drink too much?
15	Who is at risk?
15	Can the liver recover?
16	What are the effects of alcohol on the rest of your body?
17	How many calories are in alcohol?
18	What are the symptoms of alcohol-related liver disease?
20	How do you test for alcohol-related liver disease?
22	What treatments are available?
24	Looking after yourself
25	Complementary and alternative medicines
27	Useful words
30	Further information

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:

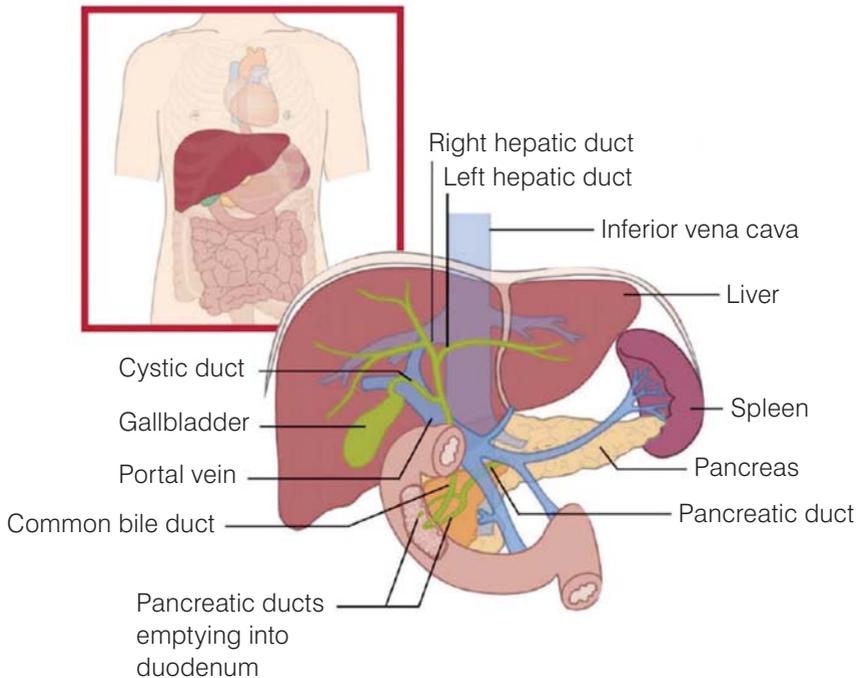
- **fights infections and disease**
- **destroys and deals with poisons and drugs**
- **filters and cleans the blood**
- **controls levels of cholesterol**
- **produces and maintains the balance of hormones**
- **produces enzymes and other proteins**
- **is responsible for many chemical reactions in the body, such as blood clotting and tissue repair**
- **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.**

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.

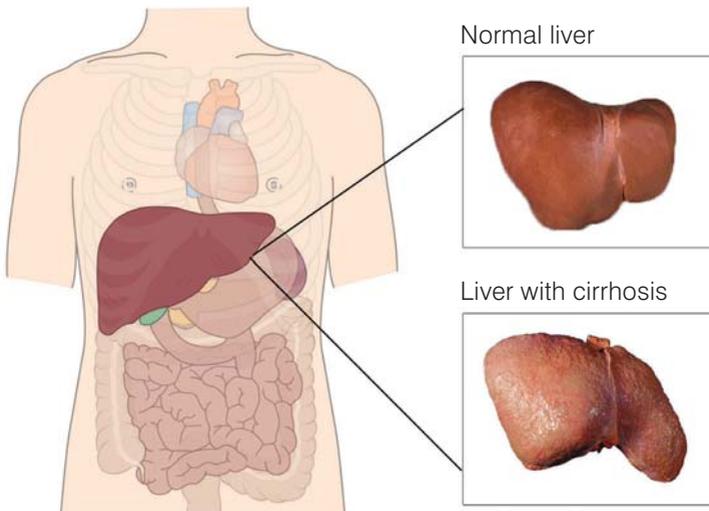


Source: British Liver Trust

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 is difficult to remove and may be permanent. However, further progression can be halted and your cirrhosis stabilised, if the cause of the liver damage is removed.

Cirrhosis increases your risk of liver cancer and can lead to liver failure. 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.



Source: British Liver Trust

Alcohol: are you putting yourself at risk?

A lot of people see alcohol as simply something to be enjoyed and as a normal part of life in the UK. Other than unwelcome 'side effects', such as a hangover or putting on a bit of weight, many of us are unaware about the unseen damage alcohol can do to the body.

Every year in the UK, there are more than 300,000 hospital admissions where the main reason for admission is alcohol, and more than one million admissions to hospital where alcohol is partly responsible. Alcohol-related illness accounts for almost three quarters of all admissions to Accident & Emergency departments (A&E) from midnight until 5am at weekends. Every year, over 6,500 people will die because of an illness directly related to alcohol, and alcohol-related admissions and deaths costs the NHS over £3.5 billion per year. If trends are not reversed, it's estimated that the cost to the NHS of managing alcohol-related ailments over the next five years will rise to £17 billion.

The liver is your largest internal organ. As well as hundreds of other jobs, it processes the alcohol you drink. If you drink over the recommended daily guidelines (see 'How much can I drink?' on page 8) your liver will be unable to process the alcohol you consume quickly enough, which damages the cells in your liver. But because ongoing damage to the liver does not cause pain, you may not have any symptoms of the inflammation, fatty deposits or scarring affecting it until your liver disease is severe, at which point you are at risk of liver failure and death.

Many people mistakenly think that you have to be an 'alcoholic' to be affected by alcohol-related liver disease. However, the term alcoholic is misleading, as alcohol dependency is a spectrum. Currently, one in five people in the UK drink alcohol in a way that could harm their liver. Regularly drinking more than the lower-risk levels of alcohol (defined by the NHS as 14 units a week, spread over several days, with two or three alcohol-free days every week, ideally consecutively) can seriously harm your liver. These guidelines are the same for men and women. Just because you don't feel the effects of drinking on your liver, it doesn't mean that you are not risking chronic ill-health or lasting liver damage from alcohol-related liver disease. It is a lot easier to overdrink than many people realise, putting vast numbers of us in danger of alcohol-related illnesses.

What is alcohol?

The type of alcohol we drink is a chemical called ethanol, also known as ethyl alcohol. Ethanol is the ingredient in alcoholic drinks that affects our mental processes - for example, our speech, balance and what or how we think. Ethanol is made by putting grains, fruit or vegetables through a process called fermentation, which is when the sugars in the grains, fruit or vegetables are broken down by yeast. Spirits also go through an additional process called distillation (the removal of water from the alcohol product) which leaves it stronger in concentration and taste. Ethanol dissolves quickly in water and is then absorbed into the bloodstream. In the short term, in small doses, it makes people feel relaxed and provides a general sense of wellbeing. However, increased amounts of alcohol start to affect the balance and speech sections of the brain. If you drink regularly, your brain learns to adapt to alcohol and you need to drink more and more to produce the same effect.

Despite the short term sense of wellbeing, alcohol is a depressant (causes low moods) and will often affect the moods of those who regularly drink over the recommended daily guidelines. Remember too that alcohol affects everyone differently.

How much can I drink?

If you are generally healthy, eat a well-balanced diet and take regular exercise, sensible drinking shouldn't lead to problems with the liver. But what is sensible drinking?

As stated above, the Department of Health currently advises that men and women should not regularly drink more than 14 units a week, and that you should have two to three alcohol-free days a week, consecutively, to allow your liver to recover. The British Liver Trust strongly supports these guidelines.

Women are more susceptible to liver damage than men, even if they drink less. This is because women are generally smaller than men and have a greater proportion of fat tissue in their body mass. This means they have less water in their bodies, which results in higher levels of alcohol in the blood (blood alcohol concentration, or 'BAC') for every unit of alcohol they consume.

When not to drink

- If you already have a liver condition
- When you're taking some medications. This is because it can cause dangerous side effects such as irregular heartbeat, low blood pressure and vomiting. It can also make side effects such as drowsiness and dizziness become worse. Alcohol can sometimes interfere with the effectiveness of a medication. Talk to your GP when being prescribed medication to confirm if you can drink whilst taking it
- If you need to drive or to operate machinery
- If operating electrical equipment or circuitry
- When climbing ladders or scaling heights of any kind
- When taking part in sports or physical activities, particularly contact or extreme sports. Never go swimming if you have consumed any alcohol
- When pregnant or trying to conceive.

What is a unit of alcohol?



A glass of
Champagne (175ml)
2.1 units



A bottle of lager
(330ml)
1.7 units



A pint of cider
(568ml)
3.4 units



A bottle of wine
(750ml)
9 units



A pint of beer
(568ml)
3 units



A single gin or vodka
& tonic (25ml)
1 unit



A large glass
of wine (250ml)
3 units



A bottle of
alcopops (275ml)
1.1 units

One unit of alcohol is 10 millilitres (ml) or eight grams (g) of pure alcohol. The alcohol by volume (ABV) tells you how many units there are in a litre of a particular drink. This can be found on the bottle, box or can. If you have a preference for a particular beer or cider, be aware the ABV may fluctuate between draught, canned or bottled versions. Non-draught versions can be significantly higher.

What is binge drinking?

Binge drinking is when you drink more than double your recommended daily allowance, normally with the purpose of getting drunk, in one sitting. For both men and women, binge drinking is most commonly defined as drinking more than six units in a single day. This is two to three pints of beer (4% ABV) or two to three standard glasses (175ml) of wine (13% ABV). 'Saving up' your units so you can drink more in a single session, even if you drink fewer than 14 units, is also considered to be a binge and puts your liver under pressure.

Statistics show binge drinking is most common in people aged 16-24. However, the highest consumption of alcohol overall is among those aged 45-64. It is estimated that one in five people drink more than the recommended guidelines, with just over a quarter of men drinking more than 21 units and 18% of women drinking more than 14 units a week. Drinking heavily over a short period leads to a rapid rise in blood alcohol concentration (BAC) and consequently to 'drunkenness'. The effect on behaviour varies from one person to another and ranges from relaxation and exhilaration, to memory loss, violent behaviour and nausea. A rapidly rising blood alcohol level can cause you to say things or act in a way that might embarrass you later, and can also lead to physical accidents, vehicle accidents and unsafe sex. It can also make you more vulnerable to physical attack. You may put yourself at risk of being infected with viral hepatitis, HIV and other STIs (sexually transmitted infections).

Very high blood alcohol levels can cause your brain's control over the respiratory system to become paralysed, causing heart irregularities, stroke, coma and even death.

How does the body process alcohol?

Alcohol is soaked up through the lining of the stomach and the upper part of the gut (intestine) into your blood stream. The higher the concentration of alcohol the faster it will be absorbed. From there, the alcohol is carried to your liver as well as other organs and body tissues. Your brain and central nervous system will be affected by the alcohol in your body, altering your physical coordination and mental judgement. Your liver cannot store alcohol and instead metabolises (processes) about 90% of the alcohol you drink and eliminates it from your body. Alcohol breaks down into water and carbon dioxide gas and can be turned into fat.

What happens to the liver if you drink too much?

Along with the central nervous system, the liver suffers the most from excessive alcohol consumption. Your liver can only process a certain amount of alcohol at any given time (estimated at one unit an hour). If you are drinking quickly your liver cells will have to work overtime to process the alcohol you consume. If you drink more than the recommended daily units, your liver will not be able to process the alcohol quickly enough and the excess alcohol will be transported to your other organs. When the liver is processing alcohol it produces a substance called acetaldehyde. This has a toxic effect on the liver, as well as the brain and stomach lining and is what causes your hangover. The acetaldehyde is subsequently broken down into a chemical called acetate, which is then broken down further into carbon dioxide and water. When the liver's ability to metabolise alcohol is overwhelmed, your body finds another way to 'cope'. It does this by producing free radicals (see Useful words section, page 27). Free radicals can damage cells, proteins and DNA in the liver. Regular or harmful drinking over time can strain or disrupt the liver's ability to process alcohol, leading to alcohol-related liver disease.

Alcohol-related liver disease can be broken down into stages. The first stage may not seem significant but addressing the condition now may prevent it progressing and possibly leading to a liver transplant or loss of life.

Stage 1: Fatty liver

The first stage is a result of an accumulation of fat in your liver. When alcohol is metabolised it results in overproduction of fat in the liver. A healthy liver should have little or no fat but if you drink more than your liver can cope with, fat can build up, leading to fatty liver disease. This condition can also be caused without drinking, which is called non-alcohol related fatty liver disease (NAFLD). This stage is often asymptomatic (has no symptoms) and can be addressed by reducing the amount of alcohol you consume or abstinence, which means you stop drinking completely.

There can be other contributory factors leading to the development of fatty liver apart from alcohol. It's important to look at all your lifestyle choices, including:

- Your diet - cut out foods that are high in unhealthy fats and sugar (processed foods) - see our Diet and liver disease publication for more information
- Exercise (see 'Looking after yourself', page 24)
- Any medications you may be on - these can contribute to the development of a fatty liver. Consult your doctor about the possible side effects.

At this stage if you do not abstain, or reduce the amount of alcohol you consume, you are at risk of developing serious liver damage.

Stage 2: Alcohol-related hepatitis

If you have a fatty liver, and do not stop or reduce your intake of alcohol, you are at a high risk of developing alcohol-related hepatitis. This is a condition where your liver becomes inflamed, swollen and tender. It can develop suddenly over a few weeks, resulting in liver failure (jaundice and abdominal fluid build-up). Developing this condition may be the first time a person is aware that they have any form of alcohol-related liver disease. It can continue to progress to death, even after stopping drinking. Alcohol-related hepatitis can occur at an early stage or after many years of harmful drinking.

As with fatty liver disease caused by alcohol, alcohol-related hepatitis can be addressed by abstaining from drinking. If a person survives alcohol-related hepatitis, continuing to drink any amount of alcohol puts them at a very high risk of dying of their liver disease within a short period.

Repeated liver injury and inflammation due to alcohol can lead to the formation of scar tissue (fibrosis), which gradually extends between the liver cells like a meshwork that looks a bit like chicken-wire. Continuing to drink alcohol results in ongoing injury to the liver and the progressive build-up of scar tissue, and affects the liver's ability to regenerate.

Stage 3: Cirrhosis

The final and irreversible stage of alcohol-related liver disease is cirrhosis. This is usually the result of long-term, continuous damage to the liver. Irregular bumps, known as nodules, replace the smooth liver tissue and the liver becomes stiffer due to the accumulation of scar tissue. As a result, the shape of the liver becomes distorted. This can lead to complete liver failure as there are too few cells left to carry out normal liver functions. By the time you discover you have cirrhosis your quality of life may be severely impaired, as your liver will no longer be working efficiently. If you carry on drinking at this stage you will speed up damage to your liver and significantly increase the risk of death. About one in 10 people who drink harmful amounts will develop cirrhosis. In the UK, the number of people dying from cirrhosis each year is increasing. In addition to liver failure, people who have cirrhosis have a much higher chance of developing liver cancer. Each year, 1-3% of people with cirrhosis will develop liver cancer.

Who is at risk?

We all react to alcohol in a different way, so it's difficult to tell in advance who is most likely to suffer liver damage. However, the following groups may be more at risk than most:

- Men and women who regularly drink over the lower-risk recommended units (14) of alcohol and those who do not take two to three days off a week
- Women are more at risk than men, due to their smaller body size, build and lower water to fat ratio
- People who are overweight
- People who inherit genes that do not allow for proper metabolism (breakdown) of alcohol
- People who have another liver condition such as haemochromatosis (too much iron in their blood), NAFLD (non-alcohol related fatty liver disease) and hepatitis B or C (long-term, or 'chronic', viral infections of the liver).

Can the liver recover?

The liver has the potential to repair itself. However, this is limited, and the potential for recovery depends on how badly your liver is damaged and your general health. If you have a fatty liver because of alcohol consumption, cutting down or stopping drinking and maintaining a healthy weight (see 'Looking after yourself', page 24) can help your liver repair itself completely. Many people who have alcohol-related hepatitis can make a good recovery if they stop drinking completely, but some people with alcohol-related hepatitis will have also developed cirrhosis. **At this stage, complete lifelong abstinence from alcohol is the key treatment, as simply cutting down is not enough to stop progressive liver failure and death.**

What are the effects of alcohol on the rest of your body?

Alcohol can damage other parts of your body as well as your liver. Harmful drinking can lead to a number of health problems, such as:

- Stomach disorders
- Pancreatitis, leading to diabetes
- High blood pressure
- Circulatory problems, including heart attacks and strokes
- Vitamin deficiencies
- Sexual difficulties, including impotence
- Problems with the brain
- Dementia
- Brain damage, causing loss of balance
- Depression
- Malnutrition
- Problems with nerves in the arms and legs
- Cancer of the mouth, throat, tongue, oesophagus, stomach, large bowel (gut) and breast.

Alcohol can also cause other problems, such as relationship difficulties or arguments with family or friends who may be concerned about how much you drink. It may affect your work and can often place you under financial strain.

How many calories are in alcohol?



A standard glass of wine (175ml), at 13% abv contains around 126 calories, the same as a large chunk of chocolate.

A pint of draught beer at 5% abv contains around 170 calories, the same as one pack of salted crisps.

An alcopop at 5% abv contains up to 237 calories, the same as three tea cakes.

Alcohol contains a lot of calories, which can cause you to gain weight. When drinking alcohol, the calories you consume are known as 'empty calories' because they have no nutritional value. Consuming empty calories may lead to extra pounds but it can also cause you to become malnourished (see Useful words section, page 27) as alcohol doesn't provide the body with the nutrients it needs to function properly. The recommended daily calorie requirement for most adult males is 2500 and for most adult females is 2000, so it's easy to see how those extra few drinks every week can have an impact on your weight.

What are the symptoms of alcohol-related liver disease?

You may not experience any symptoms of liver damage early on. In fact, many people who have alcohol-related fatty liver or hepatitis find out during routine tests for an unrelated illness or when they are admitted to hospital with signs of liver failure or vomiting blood. The early symptoms of alcohol-related liver disease can be nonspecific (similar to those caused by other conditions not related to liver damage). There are often no warning signs of liver damage until cirrhosis has occurred.

Early symptoms can include:

- Feeling some pain in the liver (place your right hand over the lower right hand side of your ribs and this will cover the area of your liver)
- A general feeling of poor health and fatigue
- Flu-like symptoms
- Loss of appetite
- A sick, nauseous feeling, especially in the morning and often accompanied by diarrhoea
- Pale stools
- Dizziness
- Breathlessness
- A rapid heart rate
- Increased sensitivity to alcohol or drugs.

Later symptoms, as the liver is struggling to function:

- Jaundice (yellow eyes or, in more severe cases, yellow skin. For more information see 'Useful words' section, page 31)
- Vomiting blood (haematemesis)
- Dark black, tarry, stools (melena)
- Significant weight loss
- Periods of confusion or poor memory, also known as brain fog (hepatic encephalopathy)
- Swelling of the abdomen (tummy area) and legs
- Fever – possibly with shivering attacks
- Itching (pruritis)
- Dark urine
- Frequent gum or nose bleeds
- Bruising easily
- Muscle cramps
- Pain in the right shoulder
- Personality changes
- Staggering when walking.

If your doctor suspects liver damage, they will look out for the following signs:

- Tender, firm or possibly enlarged liver (hepatomegaly)
- Red and mottled palms (palmar erythema)
- Partly white fingernails
- Enlargement of male breasts, which may be tender (gynaecomastia)
- Swollen abdomen (ascites)
- Thinning hair (alopecia)
- Weakness and wasting of muscles (atrophy).

How do you test for alcohol-related liver disease?

If your doctor suspects you have liver damage, they may recommend a liver blood test (these used to be known as liver function tests, or LFTs) or scans (see below). If necessary you will then be referred to a hepatologist (liver specialist) or a gastroenterologist (digestive disease specialist) for further investigations.

Liver blood tests (formerly known as liver function tests, or LFTs)

These measure various enzymes, proteins and chemicals in the blood, which are made or cleared by the liver. An abnormal result may indicate a problem with the liver, and help to identify the cause.

As the liver performs its various functions it makes chemicals that pass into the bloodstream, and bile. Various liver disorders alter the blood level of these chemicals. The tests are used to help diagnose liver disorders; the pattern of the blood results may help to confirm which disorder is causing the problem. For example, the levels of liver enzymes and proteins in your blood can increase during liver inflammation (hepatitis). Further blood tests may be done to exclude other possible illnesses, such as viral hepatitis, autoimmune hepatitis, diabetes and other liver conditions. Having an abnormal liver blood test result does not always mean you have liver damage and abnormal liver blood test results are relatively common. An infection or a reaction to medication might affect your blood test results and sometimes a repeat liver blood test is all that's needed. However, any abnormality does need to be investigated to find out what the cause is.

Scans

While liver blood tests can help indicate how inflamed or damaged your liver is, scans are able to help doctors look at your liver for visual clues as to what's going on. Scans can include ultrasound, Fibroscan, CT (computed tomography) or MRI (magnetic resonance imaging). An ultrasound will look at the surface and general shape of your liver, as well as any significant changes from its normal appearance; a Fibroscan assesses the stiffness of your liver, while CT and MRI scans will look at all of these in more detail. If a blood test or scan comes back abnormal, you may need to have further tests. These may include a liver biopsy and an endoscopy.

Liver biopsy

During a liver biopsy, a tiny piece of the liver is taken for study. This usually involves a fine hollow needle being passed through the skin into the liver and a small sample of tissue being removed. The test is usually done under local anaesthetic and most people will be allowed home later the same day, although for some it may mean an overnight stay in hospital. As the test can be uncomfortable and there is a very small risk of internal bleeding or bile leakage, a stay in bed of at least six hours after the procedure is required. Ask your doctor for more information on this. The results of your biopsy are graded and staged according to the degree of liver inflammation and scarring.

Endoscopy

An endoscopy is an established and reliable method of looking at the inside lining of the gut to check for swollen veins (varices) in the oesophagus and stomach that may rupture and bleed as a result of liver damage. An endoscope is a long, flexible fibre optic tube with a tiny camera and a light on the end, which is passed down your throat. It's performed under sedation or local anaesthetic, and only takes a few minutes.

For more detailed information on these tests see our *Liver disease tests explained* publication.

What treatments are available?

Stop drinking alcohol

The most effective way to treat alcohol-related liver disease is to stop drinking alcohol. For most people with fatty liver and alcohol-related hepatitis the liver can potentially heal itself if they commit to lifelong abstinence. 'Cutting down' is not enough, and although symptoms may disappear, damage to the liver may still be taking place. Cirrhosis can develop with no early warning signs, and can't usually be reversed. If you have cirrhosis, you will reduce any further damage to your liver and increase your chances of survival dramatically if you stop drinking. For support and treatment options available to help you stop drinking, ask your GP or contact one of your local alcohol services.

Diet

Drinking alcohol can lead to malnutrition. The consumption of empty calories, a loss of appetite and malabsorption (poor absorption of food and nutrients), caused by alcohol's toxic effect on the gut, can all play a part in this. For this reason, eating a balanced diet and maintaining a healthy weight is important in helping your liver recover. If you have an alcohol-related liver condition it is likely you will be deficient in certain vitamins, in particular thiamine (a B vitamin that helps the body convert carbohydrates into energy). Your doctor may prescribe vitamin supplements. For more information on diet see 'Looking after yourself', page 24.

Nutrition

If your liver is damaged then you might benefit from enteral nutrition (nutrients fed through a tube into the gut) to help your liver repair itself. This method of treatment ensures your body has all the vitamins and minerals it needs to start to recover.

Steroids

If you have severe alcohol-related hepatitis you may have to be admitted to hospital, where you may be administered steroids for up to four weeks to control the inflammation of your liver. This can improve the chances of survival in some people but by suppressing the immune system, steroids may also make you more susceptible to infection. Many liver specialists give steroids for seven days and assess the effect, continuing the treatment if there is evidence that a person's blood tests are improving, but stopping them if they are not.

Liver transplant

For some people with life-threatening liver complications of cirrhosis, a transplant may be the only option. In the UK, alcohol-related cirrhosis is one of the most common reasons people need a liver transplant. Only patients whose liver condition fails to improve after a period of abstinence are considered candidates for transplantation in the UK. If you are a candidate for a transplant, you'll be carefully assessed and may be put on the national liver transplant waiting list. If you continue to drink and do not show commitment to lifelong abstinence, you will not be offered a transplant. Depending on the severity of your liver condition, without a liver transplant, your life expectancy may be reduced to only a few months or years.

A liver transplant is a major operation and if the transplant is successful you will be prescribed medication to take for the rest of your life, to help stop your body from rejecting the transplanted liver. Survival following a liver transplant is improving all the time, with more than three quarters of people undergoing successful transplants now living longer than five years. If your liver transplant is due to an alcohol-related condition, you will be required to abstain from alcohol permanently in order to remain in good health.

For more information, see our publications on *Liver transplantation and Life after liver transplantation*.

Looking after yourself

Alcohol and other liver conditions

Alcohol is processed by your liver and, as a result, can be dangerous for anyone with a liver condition. If you have a liver condition you should speak to your doctor about how much alcohol you can safely consume and if it will affect the condition or your treatment. Advice on alcohol will vary from person to person, even for those with the same condition. Many people find they can no longer tolerate any alcohol, while others might be able to drink a small amount on special occasions.

Smoking

Smoking is dangerous to everyone's health, and can increase the severity of liver damage. People with liver conditions are more vulnerable to infection and to poor health overall, so smoking or exposure to passive smoking is not advisable. If you smoke, speak to your doctor about what help is available with cutting down and giving up.

Diet and exercise

Being overweight or obese can affect the progression, or treatment of, your liver condition. If you have a liver condition, there may be some special considerations you need to make in your diet to stay nutritionally well and to help manage your condition. Some of these are specific to certain liver diseases, others relate to how advanced your liver disease is (for more information, see our publication *Diet and liver disease*).

Exercise will help you to maintain a healthy weight. The Department of Health recommends adults should take at least half an hour's exercise five days a week. It should leave you warm and slightly out of breath. You can do this all at once or, if you find it easier, in several 10 minute sessions. If you are overweight, the amount of exercise you do may need to be increased from 30 minutes to 45-90 minutes a day to help you to lose weight. It helps if you find an exercise that you enjoy - try walking, swimming, cycling or dancing. If you are overweight, speak to your doctor about losing weight safely. Avoid crash diets and rapid weight loss regimes as these rarely work and you are unlikely to maintain weight loss. They can also be dangerous and increase the risk of malnutrition and gallstones. A safe weekly rate of weight loss is between 0.5kg and 1kg (1-2lb).

Complementary and alternative medicines and therapies

Many complementary and alternative medicines available suggest they can ease the symptoms of liver disease. Before taking any medicine you should check with your doctor that it is safe to do so, as most of these are processed by the liver, so they can be toxic to people with liver problems. Some can damage the liver and make you more severely ill. At present, healthcare professionals are not clear on the role and place of some complementary medicines in managing liver disease; research is needed on their use. Licensing has been introduced for some traditional herbal medicines but many herbal products are not classified as a medicine so there is no regulation of these products. This means you cannot be sure how much of the active ingredient you are getting or how pure it is. Unregulated products are not monitored or assessed for how effective or safe they are. Some remedies can damage the liver and make you more severely ill. 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 important to discuss the use of these remedies with your doctor before taking them.**

Some people choose to use complementary therapies alongside their conventional medical treatment, both to ease symptoms and improve emotional wellbeing. Such therapies may include massage, aromatherapy, meditation or acupuncture. To ensure your chosen therapy does not adversely affect your health or medical treatment, you should discuss any therapies you are thinking of using with your doctor. Make sure your practitioner is registered with an accredited body; your doctor may be able to refer you to a locally recommended practitioner. Always inform your practitioner of your medical history as this may impact on the type of therapies that are safe for you.

Useful words

Absorption – the process by which fluids, oral medications and nutrients are taken into the blood stream from the small intestine.

Acute – a sudden illness that may be severe but lasts for a short period.

Ascites – accumulation of fluid in the abdomen (peritoneal cavity), which surrounds the bowel, leading to enlarged, swollen and tender abdomen.

Balanced diet – a diet that contains all the different substances your body needs, in the right amounts, to keep you healthy.

Bile – a yellow-green fluid produced by your liver, which passes into your intestine. It contains chemicals, as well as waste products, and plays a central role in helping the body to process cholesterol and digest fat.

Bilirubin – a yellow pigment and waste product from the breakdown of haemoglobin. Increases of bilirubin in your blood can indicate liver disease, especially disease of the bile ducts (see jaundice).

Calories – units of energy, sometimes written as kilocalories (kcal) or kilojoules (kJ).

Carbohydrate – a substance that provides energy or fuel for your body. ‘Simple’ carbohydrates are sugars, as found in fruit, honey and jam. ‘Complex’ carbohydrates are starches, as found in bread, rice and potatoes.

Cell – the basic functioning unit or ‘building block’ of living things, it can reproduce itself exactly. Your body is made up of cells, each with its own unique functions and features. Most cells contain a central compartment called a ‘nucleus’ which contains your genetic material.

Chronic – an illness that lasts more than six months, possibly for the rest of a person’s life.

Cirrhosis – a condition where injury to the liver results in replacement of normal liver tissue with scar tissue (fibrosis), nodules of regenerated liver cells and hardening of the liver. The working capacity of liver cells become badly impaired and they are unable to repair the liver; this is caused by long-term, continuous damage.

End-stage liver disease – a term sometimes used for cirrhosis. It can be more useful to describe a person's cirrhosis as either 'compensated' or 'decompensated'.

Enzyme – a protein that speeds up a chemical reaction within a cell, without being changed or used up in the reaction. Each enzyme has a specific job, there are many types of enzyme for the various different reactions.

Fibroscan – a non-invasive ultrasound scan, it is used to measure the stiffness of the liver.

Free radical – an unstable molecule created from the metabolism of oxygen in your body. Free radicals belong to a group known as 'reactive oxygen species'. Although a by-product of normal cell function, when too many are generated they can become toxic and lead to cell damage.

Gastroenterologist – a doctor who specialises in diseases of the gullet, stomach, bowel and their associated organs, the pancreas, liver and spleen.

Hepatic – anything relating to the liver.

Hepatic encephalopathy (HE) – disturbed brain function, leading to mental confusion and memory loss, this occurs when the liver is severely damaged and is unable to process waste products which are then carried to the brain in the blood.

Hepatitis – any inflammation of the liver is known as hepatitis, whether its cause is viral or not. A sudden inflammation of the liver is known as acute hepatitis. Where inflammation of the liver lasts longer than six months the condition is known as chronic hepatitis.

Hepatocyte – a liver cell.

Hepatologist – a doctor who specialises in liver diseases.

Inflammation – the body's reaction to acute and chronic injury or infection, commonly characterised by swelling, pain, redness and heat.

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 (see bilirubin). Jaundice usually indicates a problem with the liver, though it can be caused by other conditions.

Liver blood tests (formerly known as liver function tests, or LFTs) – a panel of tests used to indicate whether your liver is inflamed (hepatitis), damaged or not working properly. They measure levels of certain enzyme and protein substances in your blood that may alter when liver damage is present.

Malnutrition – (or being malnourished) is a serious condition that occurs when a person's diet does not contain the right amount of nutrients. It means “poor nutrition” and can refer to undernutrition – when you don't get enough nutrients or overnutrition – when you get more nutrients than you need.

Metabolism – the physical and chemical processes by which food is transformed into energy. This occurs by absorbing substances and using them in the body or by removing toxins and disposing of them from the body as waste products.

Nutrient – a substance required from our diet for growth, energy production and the body's functioning. Nutrients can be 'organic' (meaning they contain carbon), such as carbohydrates, fats, proteins and vitamins, or 'inorganic'. Inorganic nutrients are usually dietary minerals, water, oxygen or iron.

Steroid – natural or synthetic compounds sharing the same four-ring molecular structure. Synthetic steroids can be used to reduce pain, swelling and other symptoms of inflammation.

Varices – expanded and protruding (dilated) veins that run along the wall under the lining of the upper part of the stomach and lower end of the gullet. If they rupture or break they will bleed heavily (variceal bleeding).

Useful websites

www.nhs.uk

Government site providing information and selfhelp advice about tests, treatments, operations and local services.

www.patient.co.uk

Register of health information provided by GPs to patients during consultations. Also contains a directory of patient support information and patient feedback.

www.labstestonline.org.uk

Information to help the patients understand the way laboratory tests are used to diagnose, monitor and screen for a broad range of conditions and diseases.

www.rcr.ac.uk

The Royal College of Radiologists is a charity which aims to advance the science and practice of radiology and oncology, further public education and promote study and research through setting professional standards of practice.

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:

- Diet and liver disease
- Hepatitis A
- Hepatitis B
- Hepatitis C
- Liver cancer
- Liver transplantation
- Living with liver disease
- Non-alcohol related fatty liver disease (NAFLD)
- Testing for viral hepatitis (fact sheet).

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 a charity funded by donations, including gifts in Wills.

The British Liver Trust can only provide its expert liver health information thanks to donations from supporters like you, enabling us to meet 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 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:

Online at britishlivertrust.org.uk/donate

Remember to indicate your Gift Aid preference.

Via post to **British Liver Trust, 6 Dean Park Crescent,
Bournemouth BH1 1HL**

Please consider supporting the British Liver Trust today.

If you have questions about making a donation, please call 01425 481320
or email fundraising@britishlivertrust.org.uk

BRITISH
LIVER
TRUST

Contact details

Call us: 01425 481320

Helpline: 0800 652 7330

Email us: info@britishlivertrust.org.uk

Visit our website: britishlivertrust.org.uk

Write to us: British Liver Trust, 6 Dean Park Crescent, Bournemouth BH1 1HL

 [Facebook.com/britishlivertrust](https://www.facebook.com/britishlivertrust)

 [@livertrust](https://twitter.com/livertrust)

 healthunlocked.com/britishlivertrust

Registered Charity in England & Wales 298858, Scotland SC042140