

Alcoholic liver disease

Introduction

Harmful drinking

Harmful drinking means drinking alcohol at levels that lead to significant harm to physical and mental health, and that may cause harm to others.

Women who regularly drink more than six units of alcohol a day (or more than 35 units a week) and men who regularly drink more than eight units a day (or 50 units a week) are at the highest risk of alcohol-related harm.

Women who drink heavily during pregnancy put their baby at risk of developing foetal alcohol syndrome or foetal alcohol spectrum disorder. These disorders lead to lifelong intellectual and behavioural problems for the child.

Alcoholic liver disease refers to liver damage caused by alcohol misuse. It covers a range of conditions and associated symptoms.

Alcoholic liver disease does not usually cause any symptoms until the liver has been extensively damaged. When this happens, symptoms can include:

- nausea
- weight loss
- loss of appetite
- yellowing of the eyes and skin (jaundice)
- swelling in the ankles and abdomen
- confusion or drowsiness

This often means that alcoholic liver disease is diagnosed during tests for other conditions that show that the liver has been damaged.

If you have a history of regular alcohol misuse it is recommended that you contact your DOCTOR and ask for a liver function test.

Alcohol and the liver

With the exception of the brain, the liver is the most complex organ in the body.

The functions of the liver include:

- filtering toxins from the blood
- regulating cholesterol levels in the blood
- helping to fight infection and disease

The liver is very resilient and is capable of regenerating itself. Each time your liver filters alcohol, some of the liver cells die. The liver can develop new cells, but prolonged alcohol

misuse over many years can seriously damage the liver and is the cause of alcoholic liver disease.

Stages of alcoholic liver disease

There are three main stages of alcoholic liver disease, although there is often an overlap between each stage. The three stages are explained below.

Alcoholic fatty liver disease

Alcoholic fatty liver disease is the first stage of alcoholic liver disease.

Drinking a large amount of alcohol, even for only a few days, can lead to a build-up of fatty acids in the liver.

Fatty liver disease rarely causes any symptoms but it is an important warning sign that you are drinking at a level that is harmful to your health.

Fatty liver disease is reversible. If you stop drinking alcohol for two weeks, your liver should return to normal.

Alcoholic hepatitis

Alcoholic hepatitis (not related to infectious hepatitis) is the second, more serious stage of alcoholic liver disease.

Prolonged alcohol misuse over many years can cause the tissues of the liver to become inflamed. This is known as alcoholic hepatitis. Less commonly, alcoholic hepatitis can occur if you drink a large amount of alcohol in a short period of time (binge drinking).

Alcoholic hepatitis is usually reversible, although you may need to stop drinking alcohol for several months or years.

Cirrhosis

Cirrhosis is the final stage of alcoholic liver disease. Cirrhosis happens when prolonged inflammation causes scarring of the liver and loss of function. Loss of liver function can be life threatening.

The damage caused by cirrhosis is not reversible. In mild to moderate cases, stopping drinking alcohol immediately should prevent further damage and lead to the gradual recovery of liver function. In more severe cases, a liver transplant may be required.

Can alcoholic liver disease be treated?

The treatment options for alcoholic liver disease largely depend on whether you stop drinking alcohol and make changes to your lifestyle, preferably for the rest of your life.

Treatment includes stopping drinking alcohol, nutritional therapy, medication and, in the most serious of cases, a liver transplant.

In the early stage of alcoholic liver disease (fatty liver and hepatitis), people who stop drinking have a good chance of their liver repairing itself.

In the most serious cases of cirrhosis you will only be considered for a liver transplant if you do not drink alcohol for at least three months.

How common is alcoholic liver disease?

Alcoholic liver disease is widespread in India.

It is estimated that:

- 90-100% of heavy drinkers have alcoholic fatty liver disease
- one in four drinkers with fatty liver disease will develop alcoholic hepatitis
- one in five drinkers with fatty liver disease will develop cirrhosis

A heavy drinker is someone who regularly drinks more than the recommended weekly limit for alcohol consumption. This is 3-4 units of alcohol a day for men and 2-3 units for women. Sticking to the recommended daily limit of alcohol units is the best way of preventing alcoholic liver disease.

Death rates linked to alcoholic liver disease have risen by more than two-thirds (69%) in the past 30 years. This makes alcohol one of the most common causes of death, along with smoking and high blood pressure.

Symptoms of alcoholic liver disease

You may not notice any symptoms of alcoholic liver disease until your liver is badly damaged, so it is important to regulate your drinking.

Alcoholic fatty liver disease

Alcoholic fatty liver disease does not usually cause any noticeable symptoms unless the build-up of fatty acids in your liver is severe.

If this is the case, symptoms of alcoholic fatty liver disease include:

- weakness
- loss of appetite
- nausea
- abdominal pain
- a general sense of feeling unwell

Alcoholic hepatitis

Symptoms of alcoholic hepatitis include:

- yellowing of the eyes and skin (jaundice)
- abdominal pain or tenderness
- the appearance of 'spider-like' red blood vessels in your skin

- loss of appetite
- nausea
- high temperature, usually around 38°C (101°F)
- fatigue

Cirrhosis

The symptoms of cirrhosis usually come in two stages:

- Early stage symptoms occur when your liver starts to lose some of its function.
- End stage symptoms occur when your liver loses more or all of its function (total loss of liver function is known as liver failure).

Early stage symptoms include:

- tiredness and weakness
- loss of appetite
- weight loss
- feeling sick
- very itchy skin
- blotchy red palms
- problems sleeping (insomnia)

Tenderness or pain around the liver (located in your abdomen) is not common (many forms of advanced liver disease don't have obvious symptoms at first).

Later symptoms include:

- jaundice
- hair loss
- build-up of fluid in the legs, ankles and feet (oedema) or in the abdomen, making you look heavily pregnant (ascites)
- dark urine and black, tarry or very pale stools
- a tendency to bleed and bruise more easily, such as frequent nosebleeds and bleeding gums
- vomiting blood
- muscle cramps
- right shoulder pain
- loss of sexual desire (loss of libido)
- dizziness and fatigue
- breathlessness
- rapid heartbeat
- fever and shivering attacks (because you are more prone to infections)
- memory loss and confusion
- changes in your personality (caused by toxins in the bloodstream affecting your brain)
- staggering when walking
- increased sensitivity to alcohol and drugs (because the liver cannot process them)
- more weight loss from the body and upper arms

When to seek medical advice

Alcoholic liver disease often causes no symptoms until it has reached an advanced level. If you misuse alcohol, you may have liver damage even though you have none of the symptoms above.

A good way to assess your history and pattern of drinking is to use a short test known as the CAGE test, which consists of four questions:

- Have you ever thought you should **cut down** on your drinking?
- Have people **annoyed** you by criticising your drinking?
- Have you ever felt **guilty** about your drinking?
- Have you ever drunk an **'eye-opener'**, which means, have you ever drunk alcohol first thing in the morning to get over a hangover and steady your nerves?

If you answer yes to one or more of the questions above, you may have an alcohol misuse problem and are advised to see your doctor.

Causes of alcoholic liver disease

Alcoholic liver disease is caused by alcohol misuse. The more you drink above the recommended limits, the higher your risk of developing alcoholic liver disease.

There are two ways that alcohol misuse can cause alcoholic liver disease:

- drinking a large amount of alcohol in a short amount of time (known as binge drinking) can cause alcoholic fatty liver disease and, less commonly, alcoholic hepatitis
- drinking more than the recommended limits of alcohol over many years can cause hepatitis and cirrhosis, the more serious types of alcoholic liver disease

The people at highest risk of developing serious types of alcoholic liver disease are:

- **men who drink more than 35 units of alcohol a week** for 10 years or more
- **women who drink more than 28 units of alcohol a week** for 10 years or more

Additional risk factors

Almost all people who misuse alcohol will develop fatty liver disease. Around one in four will develop hepatitis and one in five will develop cirrhosis.

However, people who do not develop hepatitis or cirrhosis are still at risk of developing other alcohol-related conditions, such as liver cancer, stroke and heart disease. This suggests that there are additional risk factors that make some people more vulnerable to the effects of alcohol on their liver.

This includes:

- being obese
- being female (women appear to be more vulnerable than men to the harmful effects of alcohol)

- eating a high-fat diet
- having a pre-existing liver condition, such as hepatitis C (a chronic viral infection of the liver)

Diagnosing alcoholic liver disease

Alcoholic liver disease is often first suspected when tests for other medical conditions show that the liver has been damaged.

Blood tests

Blood tests used to assess the liver are known as liver function tests. They can detect enzymes in your blood that are normally only present if your liver has been damaged.

Blood tests can also detect if you have low levels of certain substances, such as a protein called serum albumin, which is made by the liver. Low levels of serum albumin suggest that your liver is not functioning properly.

Further testing

If tests or your symptoms suggest that there is damage to your liver, your doctor will ask you about your alcohol consumption. It is important to be totally honest about how much and how often you drink alcohol.

If you say you drink less alcohol than you do or deny drinking any alcohol, you may be referred for further unnecessary testing. This could lead to a delay in the treatment you need.

If your symptoms or liver function test suggest that you may have alcoholic hepatitis or cirrhosis, you may need further tests to assess the state of your liver. These are described below.

Imaging tests

An ultrasound scan, computerised tomography (CT) scan or a magnetic resonance imaging (MRI) scan may be carried out on your liver. The scans can produce detailed images of your liver and highlight any scarring. Some scans may also measure the stiffness of the liver, which is a good indication of whether your liver is scarred.

Liver biopsy

A fine needle is inserted into your body (usually between your ribs). A small sample of liver cells is taken and sent to a laboratory to be examined under a microscope. The biopsy is usually carried out under local anaesthetic, as a day case or with an overnight stay in hospital. The outcome of the biopsy will confirm a diagnosis of cirrhosis and may provide more information about the cause.

Endoscopy

An endoscope is a thin, long, flexible tube with a light and a video camera at one end. In an endoscopy it is passed down your oesophagus (food pipe) and into your stomach. Images of

your oesophagus and stomach will be transmitted to an external screen. The doctor will be looking for varices (swollen veins), which are a sign of cirrhosis.

Treating alcoholic liver disease

Successful treatment for alcoholic liver disease often depends on whether someone is willing to stop drinking alcohol, and make changes to their lifestyle.

Stopping drinking alcohol

Treatment for alcoholic liver disease involves stopping drinking alcohol. This is known as abstinence. Abstinence can be vital depending on what stage your alcoholic liver disease is at. For example, if you have:

- **alcoholic fatty liver disease**, you should consider at least two weeks of abstinence before drinking again
- **alcoholic hepatitis**, life-long abstinence from alcohol is recommended
- **cirrhosis** life-long abstinence is essential to prevent you from dying of liver failure

An estimated 70% of people with alcoholic liver disease have an alcohol dependency problem. There is additional alcohol support and advice available to help them stop drinking.

Self-help groups

Many people with a dependence on alcohol find it useful to attend self-help groups. One of the most well known is Alcoholics Anonymous.

Medication for abstinence

Medication is available to help people abstain from alcohol. Disulfiram (sold under the brand name Antabuse) can be used if you are trying to abstain but are concerned that you may relapse, or have relapsed in the past. Acamprosate is another medication sometimes used to aid alcohol withdrawal.

Disulfiram causes extremely unpleasant physical reactions if you drink any alcohol, including nausea and vomiting. This deters you from drinking alcohol.

These medications must be prescribed and monitored by a specialist clinic or health professional.

Nutritional therapy

Nutritional therapy is another important part of treating alcoholic liver disease.

Most people with alcoholic liver disease are also malnourished for a number of reasons. These include poor diet, loss of appetite and loss of liver function, which interferes with the digestion of important nutrients.

Research has also found that being malnourished makes the liver more vulnerable to the harmful effects of alcohol.

A high-calorie diet that contains plenty of protein and carbohydrates is usually recommended for people with alcoholic liver disease. You may also be advised to take mineral and vitamin supplements.

Your DOCTOR can advise you on a suitable diet or, in some cases, refer you to a dietitian.

In the most serious cases of malnutrition, nutrients may need to be provided through a feeding tube that is inserted directly into your stomach.

Medication for treating symptoms

The use of medication to treat alcoholic liver disease is controversial. Many experts have argued that there is limited evidence for its effectiveness.

With severe alcoholic hepatitis, treatment in hospital may be necessary. Specific treatment with corticosteroids or pentoxifylline medication may be used to reduce inflammation of the liver.

Several medications have been used to treat cirrhosis, including:

- anabolic steroids (a more powerful type of steroid medication)
- propylthiouracil (a type of medicine originally designed to treat overactive thyroid glands)
- colchicine (a medication originally designed to treat gout)

There is a lack of good-quality evidence that these medications are effective in treating alcoholic liver disease.

Liver transplants

In the most serious cases of cirrhosis, the liver loses its ability to function, leading to liver failure. Once the liver has failed, medication will only work for several years and a liver transplant is currently the only way to cure liver failure.

Most transplant centres expect you to commit to not drinking alcohol for the rest of your life. You usually have to abstain from drinking alcohol for at least three months before you are considered suitable for a transplant.

Complications of alcoholic liver disease

Complications of alcoholic liver disease include portal hypertension and hepatic encephalopathy.

Portal hypertension and varices

Portal hypertension is a common complication of cirrhosis and, less commonly, alcoholic hepatitis.

Portal hypertension occurs when the blood pressure inside your liver has risen to a potentially serious level.

When the liver becomes very scarred it is harder for blood to move through it. This leads to an increase in blood pressure.

The blood must also find a new way to return to your heart. It does this by opening up new blood vessels, usually along the lining of your stomach. These new blood vessels are known as varices.

If the blood pressure rises to a certain level, it can become too high for the varices to cope with, causing the walls of the varices to split and bleed.

This can cause long-term bleeding, which can lead to anaemia (a condition where the body does not have enough oxygen-carrying red blood cells).

Alternatively, the bleeding can be rapid and massive, causing you to:

- vomit blood
- pass stools that are very dark or tar-like

Split varices can be treated using an endoscope (a narrow tube with a camera at the end that is passed down into the stomach) to locate the varices. A tiny rubber band is then used to seal the base of the varices.

Hepatic encephalopathy

One of the most important functions of the liver is to remove toxins from your blood. If your liver is unable to do this due to hepatitis or cirrhosis, the levels of toxins in your blood increase. A high level of toxins in the blood due to liver damage is known as hepatic encephalopathy.

Symptoms of hepatic encephalopathy include:

- agitation
- confusion
- disorientation
- muscle stiffness
- muscle tremors
- difficulty speaking
- in very serious cases, coma

Hepatic encephalopathy may require admission to hospital. In the hospital the function of the body is supported while medication is given to remove toxins from the blood.

Preventing alcoholic liver disease

The most effective way to prevent alcoholic liver disease is to stop drinking alcohol, or stick to the recommended daily limits and have at least two alcohol-free days a week.

The recommended limits of alcohol consumption are:

- **men** – up to 21 units of alcohol a week (3-4 units a day)

- **women** – up to 14 units of alcohol a week (2-3 units a day)

A unit of alcohol is equal to about half a pint of normal strength lager, a small glass of wine or a pub measure (25ml) of spirits. Use the drinking self-assessment tool to work out whether you're drinking too much.

Alcohol misuse

There are different types of alcohol misuse, depending on how much alcohol you drink. To help you find out how harmful your drinking is, read our page on defining a drink problem. This may help you to look for treatment for alcohol misuse and prevent alcoholic liver disease from progressing to a further stage.

Even if you have been a heavy drinker for many years, reducing or stopping your alcohol intake will have important short- and long-term benefits for your liver and your overall health.

Living with liver disease

If you have alcoholic liver disease, you may need to make lifestyle changes depending on which stage it's at.

If you have cirrhosis, stop drinking immediately as alcohol increases the rate at which the condition progresses, regardless of the cause.

Talk to your doctor if you are taking over-the-counter or prescription medications and are diagnosed with alcoholic liver disease. This is important because the liver processes some medications.

Withdrawal symptoms

If you are abstaining from alcohol you may suffer withdrawal symptoms.

Your withdrawal symptoms will be at their worst for the first 48 hours. They should gradually start to improve as your body adjusts to being without alcohol. This usually takes between three and seven days from the time of your last drink.

You will also find that your sleep is disturbed. You may wake often during the night or have problems getting to sleep. This is to be expected and your sleep patterns should return to normal within a month.

If you are taking medication to help ease your withdrawal symptoms, you should not drive or operate heavy machinery because the medication will probably make you feel drowsy. Only take your medication as directed.

Detox can be a stressful time. Ways that you can try to relieve stress include listening to music, going for a walk or taking a bath. Read more about stress management.

If you are detoxing at home you will regularly see a nurse or other health professional. You might see them at home, at your hospital. You will also be given the relevant contact details for other support services should you need additional alcohol support.

Withdrawal from alcohol is an important first step to overcoming your problems with alcohol. However, withdrawal is not an effective treatment by itself. You will be advised to undergo further treatment and support to help you in the long-term, depending on what stage your alcoholic liver disease is at.

Diet

It is important to eat a well-balanced diet to counter the effects of malnutrition, which is common with alcoholic liver disease. You may also need extra energy and protein in your diet. Liver disease can cause the liver to stop working properly, so it may be unable to store glycogen, the carbohydrate that provides short-term energy. When this happens, the body uses its own muscle tissue to provide energy between meals, which leads to muscle wasting and weakness.

Healthy snacking between meals can top up your calories and protein, which helps preserve muscles and keeps them strong. Nourishment will make you feel better, so try to eat regularly, about every two to three hours.

Limit your caffeine intake. Caffeine is processed through the liver and eliminated from the body by the kidneys. This process is drastically affected by cirrhosis and can result in a higher concentration of caffeine in the blood, causing headaches, fatigue, insomnia and anxiety. Avoid drinks that contain caffeine such as coffee, tea and some soft drinks.

One of the symptoms of end-stage liver disease is an accumulation of fluid in the abdomen, called ascites. If you have ascites, reduce the amount of salt in your diet to 1,000mg a day (500mg if possible). This will help reduce the amount of fluid in your body.