

# Advanced Liver Disease

## Rationale

This information has been designed to help you understand advanced liver disease and how this diagnosis will affect you. It will give you information about what symptoms and complications may occur, and when you should seek extra medical attention. It will also offer guidance about managing your own health, and working together with your doctors, nurses and allied health professionals to achieve the best treatment for you.

## What does the liver do?

The liver is the body's largest internal organ and has many essential functions. The liver:

- Makes bile to help digest fat in your diet
- Stores sugar for your body to use as energy
- Produces proteins, including albumin and blood clotting factors
- Processes toxins (including alcohol) and medications (like paracetamol)
- Helps your immune system to fight infection

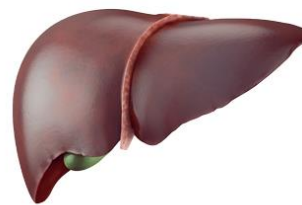
## What is advanced liver disease?

Advanced liver disease, also called cirrhosis, has many causes. Common causes include viral hepatitis (hepatitis B and C) and fatty liver disease, related to excessive alcohol consumption, overweight/obesity or type 2 diabetes. These conditions cause liver injury which, over time, causes scarring (also called *fibrosis*) to the liver.

Scarring may build up over time and create nodules in the liver which is called cirrhosis. In the early stages of cirrhosis, the liver can still function. This is called *compensated cirrhosis*. This stage may have few or no symptoms. If the cause of the liver injury is removed at this stage (for example, treating Hepatitis C or stopping alcohol consumption), sometimes the liver can repair itself and may not cause serious problems in the future.

However, when the injury is ongoing or the scarring is advanced, the scar tissue replaces healthy liver cells and the liver is no longer able to perform its functions properly. This is called *decompensated cirrhosis*. The scarring also causes the liver to become very stiff, and it is hard for blood to flow through it. This causes a build-up of pressure in the portal vein, which takes blood into the liver from the bowel and spleen. This is called *portal hypertension*.

Normal Liver



Liver with Cirrhosis



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## What are the symptoms of decompensated cirrhosis?

This stage is associated with the following symptoms and features:

### Jaundice

Bilirubin is a yellow pigment that is made from the normal breakdown of red blood cells. In advanced liver disease, the liver cannot process bilirubin properly and it builds up in your blood.

**You may notice** yellow skin (jaundice) and eyes, dark urine and itching.

There is no specific treatment for jaundice, but your doctor may recommend medications that can improve itch.

### Ascites

The change in blood flow in the abdomen causes your body to hold onto salt and fluid. This fluid leaks out into your abdominal cavity, called *ascites*. Through gravity, it may also leak into your lower limbs.



**You may notice** an increase in the size of your abdomen, swollen ankles or legs. Your belly button may pop out (called an *umbilical hernia*).

Ascites is managed by reducing salt in your diet, and taking fluid tablets (called diuretics). Diuretics include spironolactone and furosemide. Diuretics can affect your kidney function, so your doctor will monitor your kidney function on your blood tests. They can also affect electrolyte levels, so your doctor will also monitor your sodium and potassium levels. You do not have to limit your fluid intake unless your doctor tells you to.

If your ascites cannot be managed with diuretics alone, the fluid may need to be drained through a needle placed in your side (called *paracentesis* or *ascitic tap*). You may only need a tap once in a while, or as often as every fortnight. During the procedure you will receive an *albumin infusion*, which contains protein and water, to balance the fluid being taken out.

Ascites can become infected. This is called *spontaneous bacterial peritonitis (SBP)*. SBP is serious and will require you to come into hospital for antibiotics. You may also be put on long-term antibiotics like Norfloxacin or Resprim (also called Septtrin or Bactrim) to prevent this infection from happening again.

For more information about your diet, refer to the **GESA Reduced Salt Diet information sheet**.

### Low blood sodium

Eventually, your body may hold on to more and more water, which dilutes the amount of sodium in your blood. This is called *hyponatraemia*.

**You may notice** drowsiness or confusion. However, you may not experience any symptoms and low sodium will only be picked up on a blood test.

This is managed by limiting your fluid intake to 1-1.5L a day. Your doctor will advise a specific limit. This includes water, coffee, tea, juice and soft drinks. It does not include protein drinks. Although your blood sodium may be low, you should **not** increase your dietary salt intake.

### Hepatic encephalopathy

In advanced liver disease, the liver does not remove toxins from the blood. These toxins (especially ammonia) can build up in your brain, where they cause a decline in mental function and impact your ability to drive. Hepatic encephalopathy, or HE, can be made worse by triggers such as constipation, infection, medications or internal bleeding.

**You may notice** difficulty sleeping at night, drowsiness during the day, confusion and poor reaction times or decision making. Your hands may “flap” when held up in the air.

Lactulose (the sweet syrup) is used to treat hepatic encephalopathy. Diarrhoea is the desired effect of lactulose, aiming for two to three loose stools a day. Rifaximin is another medication that may be added if needed and can reduce the chance of further episodes of encephalopathy.

In people with advanced liver disease, it is important not to treat sleep disturbance with sedating medications (sleeping tablets).

If you have hepatic encephalopathy it is not safe, for you and others on the road, for you to drive. Your doctor will discuss this with you.

### Varices

The blood pressure build-up in the abdominal vessels causes varicose veins to appear in your food pipe (called your *oesophagus*) and stomach. These can be seen by looking with a camera (called a *gastroscopy*). You may need a gastroscopy every 1-3 years to look for varices. Varices will not cause symptoms unless they bleed, which can be very serious

**If bleeding occurs**, you may notice black, tarry stools (also called *melaena*) or start vomiting blood. This is an emergency and you must get to hospital urgently.



Varices are managed by reducing the pressure in your abdominal vessels. Medications such as [carvedilol](#) or [propranolol](#) may be used to reduce the chance of bleeding from varices. Otherwise, a procedure called *variceal banding* may be done during a gastroscopy. Rubber bands are used to tie off the veins so they are less likely to bleed. These bands can be placed to prevent a bleed, or to stop a bleed that is occurring.

### Liver cancer

When the liver is scarred, it is more likely to develop liver cancer. Primary liver cancer (also called *hepatocellular carcinoma*) is cancer that begins in the liver, rather than spreading to the liver from somewhere else. To catch liver cancers early, you will have a liver ultrasound every six months to look for any new spots (or lumps) in the liver that might have developed. If a new lump is discovered, a CT or MRI scan may be recommended to determine if a cancer is present.

**You may not notice** any symptoms.

If a liver cancer does develop, many treatments are available, and some early cancers may be curable. Treatment options depend on how big the tumour is and how advanced it is when diagnosed. For this reason, it is very important that you attend your ultrasound every six months. The earlier the diagnosis, the better.

### Abnormal blood clotting

The liver makes proteins that help to balance your blood's ability to clot. When these proteins are not made properly, you may be at risk of bleeding and/or clotting.

**You may notice** that you bruise or bleed easily.

There is no specific treatment for this, but if you have a procedure or operation, you may require transfusions of blood products to reduce your risk of bleeding.

### Osteoporosis

Age, chronic disease, and poor nutrition and loss of appetite can lead to thin bones (called *osteoporosis*). Every few years your specialist or GP will ask you to have a bone mineral density scan.

**You may not notice** any symptoms. However, you may experience broken bones (like wrists, ribs or spine fractures) from only small injuries or sometimes no injury at all.

This can be treated with [calcium](#) and [vitamin D](#) supplements. It may also require use of prescription medications.

### Other symptoms

Other symptoms of advanced liver disease include fatigue, loss of appetite, generalised weakness, weight loss, muscle cramps and low sex drive. Men may develop breast enlargement and women may have irregular or absent periods. Please ask your doctor about any symptoms you are experiencing.

Cramps are a common symptom in liver disease and may be very distressing. Taurine, an amino acid, at a dose of 1g twice a day orally, has been shown to reduce cramps in people with liver disease.

#### When should I seek urgent medical attention?

- If you notice blood in your vomit or stools, and/or black, tarry bowel motions
- If you are feeling faint or dizzy
- If you have a fever or chills
- If you develop abdominal pain, particularly around a hernia
- If you develop new jaundice
- If you develop new shortness of breath
- If you feel drowsy or confused

## What else can I do to help?

### Nutrition

As your liver disease worsens, you may notice that you lose weight and muscle bulk. This is called *sarcopenia*. You may also lose your appetite, sense of taste or find eating difficult when you have large ascites. It is very important to maintain a good diet and a dietician can guide you, including adding extra protein through supplements or drinks.

Please refer to the **GESA High Protein High Energy Diet** information sheet for more details.

### Exercise

You may notice that you feel weaker and become frail. Gentle exercise focusing on strength and balance will help you improve your muscle strength and prevent you falling. A physiotherapist or exercise physiologist can design an exercise program that works for you. If you want to try other programs at a gym or community centre, ask your doctor or nurse about it first.

Falls can be a serious issue. An occupational therapist can visit your home and help you to reduce the trip hazards in your home. They can also recommend equipment (like walking aids or shower chairs) to help you continue to do your daily activities.

### Avoid alcohol

Once you have advanced liver disease, any amount of alcohol can be damaging to your liver. It is strongly recommended to totally avoid alcohol.

#### Acknowledgements

This resource was reviewed and updated by the following health professionals in 2022:

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### Mental health

Being diagnosed with, and living with a chronic disease, can be very difficult for both patients and their families and carers. It is okay to feel sad or overwhelmed by this at times. It may help to talk to a counsellor or psychologist about these feelings. Please talk to your specialist or GP if you would like a referral or recommendation for someone to talk to. There are also patient support groups both online and in person that you may find useful.

### Herbal or natural medicines

A common question is whether there are herbal or natural remedies that help liver disease. Over-the-counter medications, supplements or herbal remedies can cause serious liver injury. We recommend only taking the medications prescribed to you by your doctor. If you would like to try a non-prescription medication or supplement, please discuss this with your doctor or pharmacist prior to starting.

### Can I have a liver transplant?

Liver transplantation is a life-saving option for some people with advanced liver disease. Your eligibility depends on how advanced your condition is and other health conditions you have. If you have questions about liver transplantation, please discuss this with your specialist.

Your specialist, GP, nurses, allied health professionals and liver clinic are all here to help you manage your liver disease. You should take all medications as prescribed. You can help your treating team by attending your appointments and bloods tests, or rescheduling if you can't make it, bringing an up-to-date medication list to your appointments, and letting them know if you are feeling sick or your condition has changed.