

Managing liver cirrhosis

Hepatology

Information for Patients

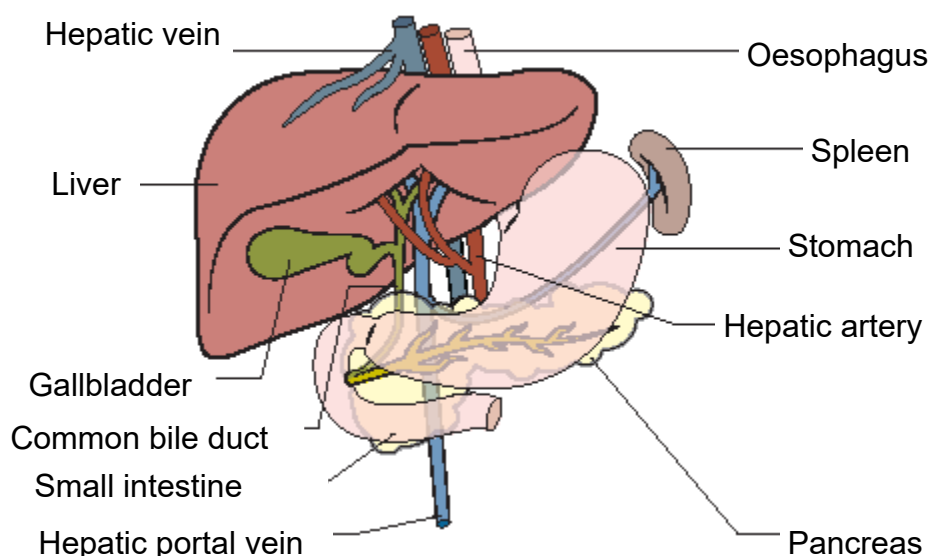
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This leaflet is for those living with cirrhosis (pronounced 'si-ROE-sis'). This is a condition caused by advanced liver disease. The leaflet explains the causes of the disease, the symptoms and gives advice on treatments.

If you have any other questions or concerns, please speak to the liver doctor or liver nurse caring for you.



**Health information and support is available at www.nhs.uk
or call 111 for non-emergency medical advice**

Visit www.uhleicester.nhs.uk for maps and information about visiting Leicester's Hospitals
To give feedback about this information sheet, contact uhl-tr.informationforpatientsmailbox@nhs.net

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1. What does the liver do?

The liver is under the ribs on your right side. It is connected to your gut by a blood vessel called the **portal vein**. The body cannot survive without the liver.

What are the functions of the liver?

Functions of the liver	Example	What this does	
Makes things	Bile	Helps with the digestion of fat	
	Albumin protein	Keeps water from leaking out of the blood vessels	
	Clotting proteins	Prevents bleeding after a cut	
	Anti-clotting proteins	Prevents clots in the blood	
	Hormones (many)		Helps to make platelets (part of blood)
			Keeps blood pressure stable
			Keeps bone and muscle healthy
			Keeps iron levels normal for making blood
Glucose	A sugar that powers your body. Your liver has to make it if you have not eaten for a few hours.		
Cleans blood	Ammonia removal	The body's digestion or breakdown of protein makes a toxin called ammonia. This is toxic to your brain and muscle.	
	Bilirubin removal	Bilirubin is a yellow chemical. It is made when your liver breaks down old red blood cells. Normally the bilirubin is then removed from your body in your poo.	
Stores things	Vitamins	Vitamin A, D, E, K and B12	
	Minerals	Iron, Copper	
	Energy	Sugar, fat	

2. What is liver cirrhosis (pronounced 'si-ROE-sis')?

- Liver cirrhosis happens when your liver is injured over a long time and it has scars.
- The liver can fix itself by growing new tissue after an injury. But if the damage keeps happening, the healthy tissue are replaced with scars. These scars are called fibrosis.
- The scars make the liver hard and bumpy, and not smooth. These bumps are called nodules. They replace the smooth liver tissues and make the liver stiff.
- When there is lots of scarring and nodules we called this cirrhosis.
- When scarring worsens, the liver can no longer work properly.

3. What causes liver cirrhosis?

In the UK, the main causes are:

- Drinking a lot of alcohol over many years.
- Fat build up in the liver. This condition is called metabolic dysfunction-associated steatotic liver disease (MASLD). It used to be called non-alcoholic fatty liver disease (NAFLD). It is most often linked with obesity and type 2 diabetes. It can also affect people who are of a healthy weight.
- Liver infections like hepatitis B or C.
- Too much iron in the blood. A condition called hemochromatosis (pronounced 'hee·muh·krow·muh·tow·suhs') can cause this.

All these can harm the liver.

4. What happens in liver cirrhosis?

- The liver becomes bumpy and stiff. This change restricts blood flow to the liver. It raises pressure in the blood vessel feeding the liver (portal vein).
- High pressure in the portal vein is called portal hypertension. This creates many problems.
- The high pressure makes the blood flow find new paths through veins. These veins (called varices) are found in the food pipe (oesophagus) and gullet (stomach). High pressure in the veins can make them swell.
- The high pressure causes blood to flow back into the spleen, making it swell. This condition is called splenomegaly. The spleen absorbs platelets. Platelets are important for blood clotting.
- When blood flow goes away from the liver, the liver cannot filter the blood. Toxins then stay in the bloodstream.
- With less blood reaching the liver, less flows to other organs. This stresses the body, especially the kidneys.

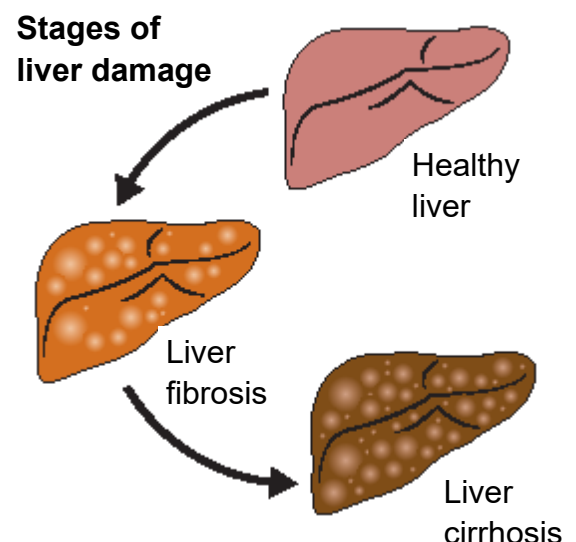
5. How does cirrhosis affect you?

Early stages: Compensated cirrhosis.

- In early stages cirrhosis might not cause symptoms. The liver can still do its job despite the damage. This happens when the pressure in the portal vein is not very high. There are still enough healthy liver cells to keep up with the body's needs. This stage is called **compensated cirrhosis**. You can live for many years with cirrhosis without knowing your liver is scarred.

Advanced stages: Decompensated cirrhosis

- When the liver gets too many scars, it cannot work properly. You may feel tired, lose weight, or have poor appetite. If the cause of cirrhosis is not treated and the portal vein pressure gets worse it can lead to serious health problems. This stage is called **decompensated cirrhosis**.



6.0 Problems in decompensated liver cirrhosis:

- Jaundice which is the yellowing of the eyes and skin.
- Bleeding from inside the body through swollen veins (varices).
- Fluid build up in the belly (ascites, pronounced 'a-sigh-tees).
- Confusion from toxins in the blood (hepatic encephalopathy, pronounced 'en-sef-a-lop-a-thee').
- More likely to get an infection. Mostly infection of belly fluid (ascites), called spontaneous bacterial peritonitis (pronounced perry-toe-ny-tus).
- Kidney problems called hepatorenal (pronounced 'hep-uh-toh-REE-nuhl') syndrome. This happens because of less blood flow to the kidney.
- Liver cancer (hepatocellular carcinoma). People with cirrhosis have a higher risk of getting liver cancer. This is even if you have compensated cirrhosis. However, not everyone with cirrhosis will get it.

7.0 What to look for in decompensated liver cirrhosis

7.1 Jaundice (yellowing of the eyes and skin)

- A liver that is not working properly cannot remove a substance called bilirubin. High levels of bilirubin makes your eyes and skin look yellow.

If you see yellowing of your skin or eyes, go to the Emergency Department right away.

7.2 Variceal (pronounced vah-ruh-see-all) bleeding

- When the liver gets scarred, blood flow slows down and builds up in the veins of the food pipe (oesophagus). This can cause the veins to swell. Swollen veins are called oesophageal varices. If these burst, they can bleed heavily.

What are the signs of bleeding from oesophageal varices?

- You will not feel symptoms until the veins start to bleed. **Bleeding is very dangerous and needs urgent medical care.**

Go to the Emergency Department right away if you:

- vomit large amounts of fresh blood or clots
- pass black and sticky poo

Prevention:

During your treatment you will have a camera test of your food pipe (gullet). This is to see if you have varices. If you have varices we will offer treatment (prophylaxis) to reduce the risk of bleeding. The treatment you get depends on the size of the swelling.

- **Medication:** We may give you a medication called beta-blocker. It lowers blood pressure and helps prevent bleeding. Your doctor will likely begin with a low dose. It may be Propranolol, Nadolol, or Carvedilol.



Tell your doctor if you get dizzy or light-headed after taking these medications.

- **Treating large veins (endoscopic band ligation):** A doctor does this during an Oesophageal Gastro-Duodenoscopy (OGD). This is a camera test that looks for varices in your stomach and bowel. We wrap tiny rubber bands around varices. This collapses the blood vessels and prevents bleeding. Varices can show liver disease progression.
- **Making new connections in the liver (Transjugular intrahepatic portosystemic shunt (TIPS)):** A TIPS procedure uses a small tube to connect veins in the liver. This lowers blood pressure in the portal vein. It can prevent bleeding and fluid build-up.

If you have varices, always tell your doctor before planning to travel by plane.

More information on endoscopic band ligation and TIPS

Use your phone camera to scan the QR Code or type in the webpage below:

	<p><u>Having a gastroscopy to look inside your upper digestive tract</u></p> <p>Search for leaflet number: 440.</p>
	<p><u>Having a TIPS procedure in your liver to treat high blood pressure in the portal vein</u></p> <p>Search for leaflet number: 47.</p>

7.3 Ascites (pronounced 'a-sigh-tees) / fluid build up

What causes fluid build up?

Ascites happens when fluid builds up in the belly (abdomen). Fluid is not exchanged within cells as it should causing ascites. It often happens because the liver and kidneys do not work properly. Ascites is common in people with portal hypertension.

How does fluid affect your body?

- Fluid can leak from the liver into the belly causing swelling.
- Legs and the skin holding the testicles (scrotum) might also swell.
- Too much fluid in the belly can press on the lungs This makes it hard to breathe. Sometimes, it even moves into the chest, which can worsen breathing.
- Swelling can make it difficult to eat or lie down comfortably.
- There is a risk of infection called spontaneous bacterial peritonitis (SBP). This condition is life-threatening but can be treated with antibiotics.

How to manage ascites:

These lifestyle changes can help control ascites from happening again:

- **Follow a low salt (sodium) diet:** Salt makes your body hold fluid. Avoid adding salt to your food. This means limiting the amount of salt added during cooking and at the table. Try to eat less of processed foods like ready meal and tinned products. Try to choose products that are low in salt or has no added salt. **The key is to limit your salt intake, not your fluid intake.**
- **Take water pills (diuretics):** Medicines like spironolactone and furosemide can help remove extra fluid.
- **Do not smoke:** Smoking can worsen ascites.
- **Serious cases:** We may need to drain your tummy. We use a procedure called **paracentesis (pronounced 'para-sen-tee-sis')**.
- Both you and your doctor **must** track your weight and blood tests. If you gain more than 1kg (2 pounds) everyday for 3 days, call the hospital drain clinic. The liver nurses will give you the contact details for the drain clinic.

If you have ascites and you suddenly get a fever or new belly pain, go to the Emergency Department right away. These could be signs of a serious infection that can be life-threatening.

7.4 Spontaneous bacterial peritonitis (SBP)

- Cirrhosis can cause bacteria to move from your intestine into the fluid in your belly. This causes an infection in your belly called spontaneous bacterial peritonitis (pronounced perry-toe-ny-tus).
- **Symptoms:** fever, nausea, vomiting, decreased appetite, belly pain, and/or confusion.

Treatment:

- **Medication:** Doctors use antibiotics to treat this.

7.5 Confusion (hepatic encephalopathy (HE)) (pronounced 'en-sef-a-lop-a-thee')

Cirrhosis means your liver cannot clean harmful substances like ammonia. This is toxic to your brain and muscles. This toxin can cause problems like:

• Falls	• Poor sleep
• Mood changes (crankiness)	• Poor concentration
• Less alertness	• Confusion

If it gets bad, these toxins can even cause a coma.

Encephalopathy can also happen from an infection, bleeding from inside the body, or constipation. It can also be due to taking too many water tablets or sleeping pills.

How to manage encephalopathy?

- **Rifaximin:** This is an antibiotic that only works in the gut. This medicine lowers your risk of getting repeated confusion.

This is not dementia. This is mostly reversible with treatment such as lactulose.

How to manage encephalopathy...continued

- **Lactulose syrup:** Your doctor will prescribe lactulose to flush toxins from your gut. It works by trapping toxins in your poo and helps with having regular poo. You can raise the dose until **you pass 2 to 4 soft poos each day**. This is the only medication you or your carer can change. Lower the dose if you are having more than 4 loose poo a day. You should raise the dose if:
 - Your poo is firm.
 - You are having fewer than 2 poos a day.
 - You are getting symptoms like worsening sleep, falls, mood changes, or confusion.

It is important to stop constipation.

You should aim to poo 2 to 4 times a day.

- **High protein diet:** Your body's muscle plays a big role in cleansing your blood. We need to support it by making sure you eat enough protein. Without high protein, you may lose muscle, experience more HE, and become weaker.

You can get protein from eating:

- meat,
- fish (salmon, tuna, cod, haddock, mackerel),
- dairy (milk, yoghurt, custard, cheese),
- eggs,
- nuts,
- seeds,
- pulses (beans, peas, lentils),
- meat alternatives (soya, tofu).

If you feel confused, very sleepy, or not like yourself, go to the Emergency Department right away.

You should not drive if you feel any of the above.

7.6 Kidney problems from liver failure (hepatorenal syndrome)

- This happens when there is less blood flow to your kidneys. It can cause you to pee less.
- To treat this your doctor will stop your water tablets. They will search for what is causing this. It is often reversible like dehydration or infection.

7.7 Liver cancer (hepatocellular carcinoma)

- Liver cirrhosis puts you at risk of getting primary liver cancer. This cancer starts in the liver and is called hepatocellular carcinoma (HCC) or hepatomas.
- **Doctors recommend regular checks for early detection of liver cancer. You should have a liver ultrasound and blood tests every 6 months.** These checks help look for early signs of liver cancer (HCC).
- Screening is important. If we catch a liver cancer early when it is small, the treatment for HCC works best.
- The liver team at Leicester Royal Infirmary will arrange these checks. They will send you a letter with your appointment details. If the time does not suit you, call them to reschedule. Find the contact details on page 17.

Always attend your appointments. Regular checks are the best way to stay ahead of liver cancer.

8.0 Treatment and management of cirrhosis

- In general, **the scarring is not reversible.**
- The best way to take care of the liver and stop problems is to treat the cause of cirrhosis:

If your cirrhosis is because of hepatitis B or C infection, doctors can prescribe medication to limit liver damage.

If your cirrhosis is from fatty liver, a healthy diet and exercise can help.

If your cirrhosis is because of drinking too much alcohol, you need to reduce and stop drinking heavily.

8.1 Nutrition therapy for cirrhosis consists of a low-sodium, high-protein diet


- Good nutrition is key for your liver. It may need more calories than a healthy liver. Eat regular meals and have snacks between. **Aim for a ‘little and often’ style of eating.**

8.2 Having a bedtime snack

- With liver cirrhosis, your body struggles to use energy from food for long. After about 2 hours, your body starts using your muscle for energy. This can lead to muscle loss, weakness, and fatigue.
- Eat a snack with 50g of carbohydrates before bed. This is to keep your energy up and protect your muscles. This helps your body stay fuelled overnight and prevents weight loss and muscle wasting.

More information Nutritional support for liver disease:

Use your phone camera to scan the QR Code or type in the webpage below.

	<p><u>Nutritional support for liver disease</u></p> <p>Use your phone camera to scan the QR code or type in the web page address to find out more.</p> <p>Search for leaflet number 1445.</p>
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8.3 Exercise:

- Doing regular physical activity is important for keeping muscle mass.
- If you have had a hospital stay because of liver damage, it can take time to build up your strength again. Aim for 30 minutes of exercise each day. This may change based on your strength levels.
- Do more physical activity slowly each week. Doing even a small amount of activity is much better than not doing any.
- Ways to include physical activity in your lifestyle:
 - Choosing to walk or cycle when possible.
 - Aim to get more number of steps taken each day.
 - Taking the stairs.
 - Taking part in activities such as gardening, shopping, or cleaning.

8.4 Medicines and supplements:

- Take your medication exactly as directed.
- Talk with your GP before taking vitamins, over the counter medicines, or herbal supplements. Some herbal supplements may be toxic to the liver. NSAIDs, like ibuprofen, can harm the liver if you have cirrhosis.
- Ask your GP about vaccines for hepatitis A and B. They can cause liver disease.

8.5 Get vaccinated (immunisation)

- Cirrhosis make you more at risk of infections, like the flu and pneumonia. We recommend regular vaccinations to reduce your risk of infections.
- Your GP can give flu vaccinations yearly and the pneumococcal vaccine every 5 years. We tell people with cirrhosis to get the hepatitis A and B vaccines because these infections can strain the liver and cause liver failure.

8.6 Maintain healthy bones

- People with liver cirrhosis often experience thinning bones, known as osteopenia or osteoporosis. You may have a higher chance of having broken bones (fractures).
- To stop this, a healthy diet and vitamin supplements may help. The diet should include calcium rich foods.
- You must get a scan of your bones (DEXA scan) every 2 to 3 years. This so that we can check for thinning of the bones.

8.7 Reduce alcohol with an aim to completely stop.

- **Doctors recommend that anyone who has cirrhosis to stay away from alcohol.** There is no safe amount of alcohol. Spread your drinking over 3 days or more. If you are concerned about the amount of alcohol you are drinking, you can refer yourself to your local alcohol service:
 - **Turning Point:** 0330 303 600 (Leicester City)
0116 210 4510 (Leicestershire),
Website: www.turning-point.co.uk
 - **Dear Albert:** 07724 284 730 or www.dearalbert.co.uk
 - **Alcoholic Anonymous:** 0800 917 7650 or www.alcoholics-anonymous.org.uk

9.0 Key information for family and caregivers

Key Message	Why?	What should I look for?	What should I do?
Track weight every day at the same time	Increasing weight maybe sign of fluid building up in the belly.	Look out for change in weight from where they started.	If weight goes up by 1 kg (2 pounds) or more from the starting weight over 5 days, call the drain clinic.
Look for signs of hepatic encephalopathy (HE)	HE is a treated condition and can be a sign of serious illness.	Look out for: Small changes: stumbling or falls, mood changes, saying or doing goofy things. Big changes: Sleeping all the time and will not open eyes much, or not making any sense.	Small changes: Make sure they are hydrated, do not let them drive, and call the liver doctor. Big changes: Go to the Emergency Department.
Adjust lactulose:	Lactulose is a laxative used to treat hepatic encephalopathy. It works by binding toxins to get rid of them when you poo.	Look for the 'small changes' above and pay attention to your poo. The goal is about 2 to 4 soft poos a day.	<ul style="list-style-type: none"> • Signs of small changes: give an extra tablespoon (30ml) of lactulose. • Decrease the dose if you are having more than 4 loose poos a day.
Change in diet: High protein and low salt diet	People with cirrhosis need high protein and low salt diet.	Foods should be rich in protein. Fruits and vegetable are great vitamins. Watch the 'sodium' amount on the food labels.	
Treat pain	People with cirrhosis are sensitive to many medications.	Avoid Ibuprophen. It may cause bleeding or make the ascites worse. Codeine and oromorph cause constipation. You may need to increase lactulose.	Before starting any over the counter or prescription, talk to the liver doctor first.

10.0 How will the hospital team help me?

We are here to support the symptoms of liver cirrhosis. We also monitor any changes in your liver disease.

- **Elective drain clinic**

If fluid builds up in your tummy and is causing you to be short of breath, uncomfortable or tense you can contact the hospital to come in for an elective drain (paracentesis).

Contact us on 0116 258 6480 or 0116 258 7296

Monday to Friday, 9am to 4pm.

The Hepatology Team will want to see you on a regular basis to check how you and your liver is doing. You will have:

- a follow up with the Hepatology Team on a regular basis.
- regular blood tests which can be done at your GP surgery or the hospital.
- an ultrasound scan of your liver at regular intervals. People with cirrhosis are at risk of liver cancer.
- an endoscopy procedure to check swollen veins (varicies) in your digestive tract.
- a DEXA scan to check bone density every 2 to 3 years.

When to get medical help

If you have the following symptoms you should get medical advice right away as these can be signs that your liver is struggling:

- Fever
- Shortness of breath
- Vomiting blood
- Dark / black sticky poo (stools)
- Periods of mental confusion or drowsiness
- Swelling of your tummy



11.0 Where can I get more information to keep my liver healthy?



[Information to keep your liver health](#)

Use your phone camera to scan the QR code or type in the web page address to find out more.

Search for leaflet number: 1508



[Advice and support if you are drinking too much alcohol](#)

Use your phone camera to scan the QR code or type in the web page address to find out more.

Search for leaflet number: 1161

Contact details

Contact your GP, or if unavailable call the NHS helpline on 111, or Ward 43 at the Leicester Royal Infirmary on 0116 258 6239.

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغةٍ أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل
જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

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Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email uhl-tr.equalitymailbox@nhs.net