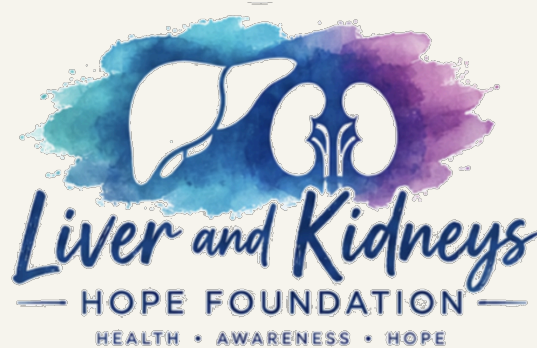




PATIENT & COMMUNITY EDUCATION SERIES

Understanding Cirrhosis

A plain-language, comprehensive guide to advanced liver scarring — how it develops, its possible complications, how it's managed, and what living well with it can look like.

Covering compensated and decompensated cirrhosis, from any underlying cause

Health Education Series · EDU-LIV

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First Edition

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CONTENTS

What's Inside

A cirrhosis diagnosis can feel overwhelming at first. This guide moves step by step — from what cirrhosis actually is, through its possible complications, to how it's monitored and treated — so you can understand your own situation and know what questions to ask.

1	Your Liver: A Quiet, Hardworking Organ	>
2	What Is Cirrhosis?	>
3	How Cirrhosis Develops: From Injury to Scarring	>
4	Causes of Cirrhosis	>
5	Compensated vs. Decompensated Cirrhosis	>
6	How Common Is Cirrhosis? Who Is Affected	>
7	Signs & Symptoms	>
8	How Cirrhosis Is Diagnosed & Staged	>
9	Portal Hypertension: The Central Complication	>
10	Ascites: Fluid Buildup in the Abdomen	>
11	Variceal Bleeding	>
12	Hepatic Encephalopathy	>
13	Liver Cancer Risk & Surveillance	>
14	Other Complications	>
15	Treatment & Management: The Big Picture	>
16	Treating the Underlying Cause	>
17	Diet & Nutrition with Cirrhosis	>
18	Medications & Substances to Be Careful With	>



- 19 Monitoring, MELD Score & Your Care Team >
- 20 Liver Transplantation >
- 21 Living Well, Prevention & Myths vs. Facts >
- ★ Questions, Glossary, Resources & Disclaimer >

A NOTE BEFORE YOU BEGIN

Cirrhosis can result from many different causes — including MASLD/MASH, alcohol, viral hepatitis, and others — and this guide focuses on cirrhosis itself: what it is, how it behaves, and how it's managed, regardless of cause. If you'd like to understand the underlying condition that led to your cirrhosis in more depth, our companion guides on MASLD, MASH, and alcohol-related liver disease go into that detail.

SECTION 1 Your Liver: A Quiet, Hardworking Organ

Before discussing what can go wrong, it helps to appreciate just how much your liver does every day — usually without you noticing at all.

Your liver is the largest solid organ inside your body, weighing roughly 1.4 kg (about 3 pounds) in an adult. It sits just under your rib cage on the right side, tucked below the diaphragm and above the stomach and intestines. Nearly all the blood leaving your stomach and intestines passes through the liver first, where it is filtered, processed, and sent on.

What your liver does for you

- **Processes nutrients**, storing and releasing sugar to keep blood sugar steady.
- **Manages fats**, making bile to help digest dietary fat.
- **Filters and detoxifies**, neutralizing alcohol, medications, and natural waste products such as ammonia.
- **Makes essential proteins**, including albumin (which keeps fluid inside blood vessels) and most clotting factors.
- **Stores vitamins and minerals**, such as vitamins A, D, E, K, B12, and iron.
- **Supports the immune system**, filtering bacteria and toxins arriving from the gut.

DID YOU KNOW?

The liver can regenerate after injury — a genuinely remarkable ability among human organs. But this capacity is not unlimited. Cirrhosis is what happens when repeated or long-standing injury outpaces that ability to repair, leaving permanent scar tissue behind. Understanding this process is what this whole guide is built around.

Why the liver's complaints come late

The liver has very few pain-sensing nerves, and a large amount of spare capacity — it can lose a substantial share of its healthy tissue before function noticeably suffers. This is precisely why cirrhosis can develop quietly over years, and why the symptoms covered in Section 7 often don't appear until scarring is already advanced.

KEY POINT

Cirrhosis represents the liver's remaining function being squeezed by accumulated scar tissue. Everything in this guide — from complications to treatment — follows from that one central fact.

SECTION 2 What Is Cirrhosis?

Cirrhosis is advanced scarring of the liver that disrupts its normal structure and function. It is the end stage of a long process of liver injury and repair, whatever the original cause.

To understand cirrhosis, it helps to understand **fibrosis** — the medical term for scar tissue. When liver cells are injured, whether by a virus, alcohol, fat and inflammation, or another cause, the liver responds the way skin responds to a cut: it lays down collagen to patch the area. A small amount of this is a normal healing response. But when injury is repeated or ongoing over months and years, this scar tissue accumulates faster than the liver can remodel it away.

From fibrosis to cirrhosis

Fibrosis is graded on a scale, often written F0 to F4:

Stage	What it describes
F0	No scarring.
F1	Mild scarring, limited to small areas.
F2	Moderate, "significant" scarring that has begun to spread.
F3	Advanced, "bridging" scarring — but not yet cirrhosis.
F4	Cirrhosis — scar tissue has reshaped the liver's architecture.

Cirrhosis (F4) is reached when scar tissue has replaced enough healthy liver tissue that the organ's normal, orderly structure — plates of liver cells arranged around small blood vessels — becomes distorted into nodules of regenerating tissue separated by bands of scar. This distorted structure is what drives many of the complications covered later in this guide.

KEY POINT

Cirrhosis is not itself a disease with one single cause — it is a shared **end point** that many different liver conditions can lead to if left unaddressed. What caused it matters for treatment, but the scarring itself, and its complications, are managed using many of the same principles regardless of cause.

DID YOU KNOW?

Cirrhosis was long considered permanent and irreversible. While the reshaped architecture of an established cirrhotic liver generally doesn't fully return to normal, research has shown that removing the ongoing cause of injury — for example, stopping alcohol, treating viral hepatitis, or improving metabolic health — can allow meaningful improvement in liver function and even some regression of fibrosis in earlier, "compensated" cirrhosis (Section 5).

SECTION 3

How Cirrhosis Develops: From Injury to Scarring

Understanding the biological steps behind cirrhosis helps explain why so much of its treatment focuses on removing the underlying cause of injury, whatever that may be.

Step 1 — Ongoing liver-cell injury

Whatever the cause — a virus, alcohol, fat and inflammation, or another process — repeated injury to liver cells (hepatocytes) triggers the body's wound-healing response.

Step 2 — Activation of scar-forming cells

Specialized cells in the liver, called hepatic stellate cells, become activated in response to this injury and begin producing collagen — the material scar tissue is made of. In a healthy liver, these cells are normally quiet; injury is what switches them on.

Step 3 — Progressive scarring (fibrosis)

With a single injury, this scarring resolves. With repeated or ongoing injury over years, collagen builds up faster than it can be cleared, gradually forming bands of scar tissue throughout the liver.

Step 4 — Architectural distortion

Eventually, these scar bands surround and separate areas of regenerating liver tissue into nodules, disrupting the liver's normal internal blood flow and function. This distorted architecture is cirrhosis, and it is what leads to portal hypertension (Section 9) — the root of many of cirrhosis's complications.

KEY POINT

Every stage of this process is driven by **ongoing** injury. This is why removing or controlling the underlying cause — described throughout this guide — is the single most powerful lever available at any stage, including after cirrhosis has developed.

DID YOU KNOW?

This process usually takes many years, sometimes decades, to progress from initial injury to established cirrhosis. The pace varies enormously between individuals, shaped by the underlying cause, genetics, and other health conditions.

SECTION 4 Causes of Cirrhosis

Cirrhosis can result from many different underlying conditions. Identifying the cause matters enormously, because treating it — where possible — is often the most effective way to slow or even partly reverse the disease process.

Cause	Brief description
MASLD / MASH	Fatty liver disease linked to metabolic risk factors; a rapidly growing cause of cirrhosis worldwide.
Alcohol-related liver disease (ALD)	Long-term heavy alcohol use; one of the most common causes globally.
Chronic viral hepatitis (B or C)	Long-standing viral infection of the liver; increasingly treatable, especially hepatitis C.
Autoimmune hepatitis	The immune system mistakenly attacks liver cells.
Primary biliary cholangitis (PBC) & primary sclerosing cholangitis (PSC)	Conditions that damage the small bile ducts within or around the liver.
Genetic / inherited conditions	Including hemochromatosis (iron overload), Wilson disease (copper overload), and alpha-1 antitrypsin deficiency.
MetALD	Combined metabolic and alcohol-related injury.
Certain medications	Rarely, long-term use of specific medications can contribute to liver injury over time.

KEY POINT

Determining the cause of cirrhosis is one of the first and most important steps after diagnosis, because many causes have specific treatments that can meaningfully change the disease's course. This is covered fully in Section 16.

DID YOU KNOW?

Sometimes more than one cause contributes to a person's cirrhosis — for example, MASLD alongside moderate alcohol use, or hepatitis C alongside metabolic risk factors. Addressing every contributing factor, not just the most obvious one, gives the liver the best chance to stabilize.

SECTION 5

Compensated vs. Decompensated Cirrhosis

This is one of the most important distinctions in all of cirrhosis care. The same underlying amount of scarring can look very different depending on whether the liver is still managing to "keep up."

Compensated cirrhosis

In compensated cirrhosis, scarring is present, but the liver still performs its essential functions well enough that the body doesn't show major visible strain. Many people with compensated cirrhosis feel well and have few or no symptoms — they may be identified only through blood tests, imaging, or occasionally, incidentally. This stage can last for years, sometimes indefinitely, especially if the underlying cause is well controlled.

Decompensated cirrhosis

Decompensated cirrhosis is the point at which the liver can no longer adequately keep up, and one or more major complications appear — most often:

- **Ascites** — fluid buildup in the abdomen (Section 10).
- **Variceal bleeding** — bleeding from enlarged, fragile veins (Section 11).
- **Hepatic encephalopathy** — confusion from toxin buildup (Section 12).
- **Jaundice** — yellowing of the skin and eyes from a buildup of bilirubin.

Decompensation marks a significant turning point in care — typically prompting more intensive monitoring, treatment of the specific complication, and evaluation for liver transplantation.

KEY POINT — THIS DISTINCTION CHANGES EVERYTHING

The difference between compensated and decompensated cirrhosis is the single biggest factor shaping prognosis and treatment intensity. Some people live for many years with well-managed compensated cirrhosis; decompensation is what shifts the conversation toward more urgent management and, often, transplant evaluation.

DID YOU KNOW?

Decompensation can sometimes be reversed back toward a more stable, compensated state — particularly if it was triggered by something treatable, like an infection, and if the underlying liver disease is brought under control. It is not always a one-way transition.

SECTION 6

How Common Is Cirrhosis? Who Is Affected

Cirrhosis is a significant global health burden and, unfortunately, its causes are shifting in ways that mean it is likely to remain common for the foreseeable future.

Cirrhosis and its complications are among the leading causes of liver-related death worldwide. Historically, viral hepatitis and alcohol were the dominant causes in many regions; today, MASLD/MASH has become one of the fastest-growing causes of cirrhosis, tracking the global rise in obesity and type 2 diabetes, while alcohol-related cirrhosis has also been rising in several countries in recent years.

Groups at higher risk

- **People with long-standing, poorly controlled MASLD/MASH, viral hepatitis, or heavy alcohol use** — the three most common underlying drivers globally.
- **People with type 2 diabetes**, which both raises the risk of MASLD/MASH progressing and independently worsens outcomes across most causes of cirrhosis.
- **People with more than one liver-disease risk factor at once**, since these often compound rather than simply add together.

DID YOU KNOW?

Because earlier stages of liver disease are so often silent, a substantial number of people are diagnosed with cirrhosis only once decompensation has already occurred — underscoring why awareness and earlier screening, covered throughout this guide series, matter so much.

KEY POINT

Cirrhosis is common, and its causes are increasingly ones — like MASLD/MASH and alcohol — that are genuinely modifiable. That is real reason for hope, both for prevention and for people already living with the diagnosis.

SECTION 7

Signs & Symptoms

Compensated cirrhosis is often silent, or nearly so. Symptoms tend to emerge, or become more obvious, as the liver's function is increasingly strained.

Earlier, general symptoms

- **Fatigue** and reduced energy.
- **Reduced appetite** and unintentional weight loss.
- **Nausea.**

- A dull ache in the **upper right abdomen**.
- **Easy bruising**, due to reduced clotting factor production.

Signs of more advanced or decompensated disease

- **Jaundice** — yellowing of the skin and eyes.
- **Abdominal swelling** from ascites (Section 10).
- **Swelling of the legs and ankles** (edema).
- **Confusion, personality changes, or unusual sleepiness** (possible hepatic encephalopathy, Section 12).
- **Spider-like blood vessels** visible on the skin, or reddened palms.
- **Persistent itching**.
- **Vomiting blood or passing black, tarry stools** (possible variceal bleeding, Section 11).

SEEK MEDICAL CARE PROMPTLY

Vomiting blood, black tarry stools, sudden or worsening confusion, rapidly increasing abdominal swelling, or high fever can all indicate a serious complication requiring urgent attention. This guide cannot assess urgency — a clinician can, and these situations generally warrant emergency care.

KEY POINT

Because compensated cirrhosis can feel like very little is wrong, regular monitoring — not how you feel day to day — is what actually tracks the disease. Section 19 covers what this monitoring looks like.

SECTION 8 How Cirrhosis Is Diagnosed & Staged

Diagnosing cirrhosis involves confirming the presence of advanced scarring, and — just as important — determining its cause and whether it is compensated or decompensated.

Blood tests

- **Liver enzymes** (ALT, AST, GGT, ALP) — can be mildly abnormal, or in some cases even normal, in established cirrhosis.
- **Liver function markers**, including albumin, bilirubin, and a clotting measure called INR — these more directly reflect how well the liver is currently functioning.
- **Platelet count**, which often drops as cirrhosis and portal hypertension develop.
- **Tests to identify the underlying cause**, such as viral hepatitis panels, autoimmune markers, and iron or copper studies.

Imaging

Test	What it shows
Ultrasound	Can show a nodular, shrunken, or enlarged liver, an enlarged spleen, and complications such as ascites.
Transient elastography (FibroScan/VCTE)	Measures liver stiffness, useful for confirming advanced fibrosis or cirrhosis non-invasively.
CT or MRI	Provides detailed images, often used to look for liver cancer or to assess blood vessels around the liver.
Endoscopy	A camera exam of the esophagus and stomach, used to check for varices (Section 11).

Liver biopsy

A biopsy is not needed to diagnose cirrhosis in most cases today, given how effective non-invasive tests have become, but may still be used when the cause is unclear or additional detail would change management.

Staging severity: scoring systems

Once cirrhosis is confirmed, clinicians use standardized scoring systems to gauge severity and guide treatment decisions — most commonly the **Child-Pugh score** (based on bilirubin, albumin, INR, and the presence of ascites or encephalopathy) and the **MELD score** (based on bilirubin, creatinine, INR, and sometimes sodium), covered further in Section 19.

TALK WITH YOUR CLINICIAN

Worth asking directly: "What is the underlying cause of my cirrhosis?" "Am I compensated or decompensated?" and "What is my current MELD or Child-Pugh score, and what does it mean for my care?"

SECTION 9

Portal Hypertension: The Central Complication

Many of cirrhosis's most significant complications trace back to a single underlying problem: increased pressure in the vein system feeding the liver. Understanding this one concept makes the rest of this guide easier to follow.

What portal hypertension is

The portal vein carries blood from the stomach, intestines, and spleen into the liver for processing. In cirrhosis, scar tissue and distorted architecture make it harder for blood to flow

smoothly through the liver, causing pressure to build up in the portal vein system — a condition called **portal hypertension**.

Why it matters so much

This increased pressure has to go somewhere. It pushes blood through smaller, alternate vessels not designed for high pressure or flow, causing several downstream effects:

- **Enlarged, fragile veins (varices)**, most often in the esophagus and stomach, which can rupture and bleed (Section 11).
- **Fluid pushed out into the abdominal cavity**, contributing to ascites (Section 10).
- **An enlarged spleen (splenomegaly)**, which can lower blood cell and platelet counts as the spleen holds onto more of them than usual.

KEY POINT

Portal hypertension is the thread connecting ascites, varices, and several other complications. Many cirrhosis treatments — including certain medications and procedures — work specifically by lowering this pressure, which is why you may hear this term often in your own care.

DID YOU KNOW?

Portal hypertension can sometimes be measured directly, through a specialized test called hepatic venous pressure gradient (HVPG) measurement, though in everyday practice its presence and severity are more often inferred from imaging, endoscopy findings, and blood test patterns like low platelet counts.

SECTION 10 Ascites: Fluid Buildup in the Abdomen

Ascites is one of the most common signs of decompensated cirrhosis, and one of the more visible ones — but it is also very manageable for many people.

What causes it

Ascites develops from a combination of portal hypertension pushing fluid out of blood vessels, and low albumin levels (since the liver makes less of this protein as function declines), which reduces the blood's ability to hold fluid inside vessels. The result is fluid accumulating in the abdominal cavity.

How it's managed

- **Reducing dietary sodium (salt)** is typically the first and most important step, since sodium encourages fluid retention.
- **Diuretic medications** ("water pills"), commonly a combination, help the kidneys remove excess fluid — dosing is individualized and monitored closely with blood tests.

- **Large-volume paracentesis** — a procedure to drain fluid directly from the abdomen using a needle — may be used when ascites is significant or doesn't respond well to medication.
- **In select, refractory cases**, a procedure called TIPS (transjugular intrahepatic portosystemic shunt) can reduce portal pressure directly.

WATCH FOR INFECTION

Ascitic fluid can become infected — a serious condition called **spontaneous bacterial peritonitis (SBP)**. Fever, abdominal pain, or worsening confusion in someone with ascites warrants prompt medical evaluation, since SBP requires urgent antibiotic treatment.

DID YOU KNOW?

People who have had one episode of spontaneous bacterial peritonitis are often prescribed long-term preventive antibiotics to reduce the risk of it happening again — a good example of how proactive care reduces complications in cirrhosis.

TALK WITH YOUR CLINICIAN

If you have ascites, ask specifically about your target sodium intake, how your diuretics are being monitored, and what warning signs should prompt you to call sooner.

SECTION 11 Variceal Bleeding

Varices are enlarged, fragile veins that develop because of portal hypertension — and bleeding from them is one of the most serious emergencies in cirrhosis care.

What varices are

When blood is rerouted around a scarred liver, it flows through smaller vessels not built for that pressure or volume — most often veins in the lower esophagus and upper stomach. Under sustained pressure, these veins enlarge and their walls thin, making them prone to rupture.

Screening and prevention

Because varices themselves usually cause no symptoms until they bleed, people with cirrhosis are typically screened with an **endoscopy** to check for their presence and size. Depending on findings, preventive treatment may include:

- **Non-selective beta-blocker medications**, which lower pressure within the varices.
- **Endoscopic band ligation**, a procedure that places small bands around varices to reduce bleeding risk.

VARICEAL BLEEDING IS A MEDICAL EMERGENCY

Vomiting blood (which may look bright red or like coffee grounds) or passing black, tarry, foul-smelling stools can indicate variceal bleeding and requires **immediate emergency medical care**. This is a genuinely life-threatening event, and rapid treatment significantly improves outcomes.

How active bleeding is treated

In hospital, treatment typically combines medications to reduce portal pressure, antibiotics (since infection risk rises sharply during bleeding episodes in cirrhosis), and an urgent endoscopy to directly treat the bleeding vessel — most often with band ligation. In more difficult cases, a TIPS procedure may be used to control bleeding by reducing the underlying portal pressure.

DID YOU KNOW?

After a first variceal bleed, ongoing preventive treatment — typically beta-blockers, continued banding, or both — substantially reduces the risk of it happening again, which is why follow-up endoscopy and medication adherence matter so much after an episode.

SECTION 12 Hepatic Encephalopathy

Hepatic encephalopathy is confusion or altered mental function caused by the liver's reduced ability to clear certain toxins from the blood. It can be distressing to witness, but it is often treatable and, in many cases, reversible with prompt care.

What causes it

A healthy liver filters out various byproducts of digestion, including ammonia produced by gut bacteria. In cirrhosis, this filtering is impaired, both because of reduced liver function and because blood is rerouted around the liver due to portal hypertension. These toxins build up and affect brain function.

What it can look like

- **Mild forms** may show as subtle changes in concentration, sleep patterns, or mood, that can be easy to miss or attribute to something else.
- **More noticeable episodes** can include confusion, personality change, slowed or slurred speech, a flapping hand tremor (asterixis), and excessive sleepiness.
- **Severe episodes** can progress to significant disorientation or unresponsiveness, which requires emergency care.

Common triggers

Episodes are often triggered by something else affecting the body — infection, constipation, dehydration, gastrointestinal bleeding, certain medications (particularly sedatives), or not taking prescribed encephalopathy treatment. Identifying and treating the trigger is a core part of managing an episode.

How it's treated

- **Lactulose**, a laxative medication that helps clear ammonia-producing bacteria and their byproducts from the gut, is typically the first-line treatment, dosed to produce a specific number of soft bowel movements per day as directed by a clinician.
- **Rifaximin**, an antibiotic that reduces ammonia-producing gut bacteria, is often added for people with recurrent episodes.
- **Treating the underlying trigger**, such as an infection or constipation.

WHEN TO SEEK URGENT CARE

New or worsening confusion, disorientation, or difficulty waking someone with known cirrhosis warrants prompt medical attention — hepatic encephalopathy can range from mild to severe quickly, and treatment works best started early.

DID YOU KNOW?

Family members and caregivers are often the first to notice subtle changes in mood, sleep, or thinking that can signal early hepatic encephalopathy — their observations are genuinely valuable information to share with the care team.

SECTION 13 Liver Cancer Risk & Surveillance

Cirrhosis substantially raises the risk of primary liver cancer (hepatocellular carcinoma), which is why regular surveillance is one of the most important, protective parts of ongoing cirrhosis care.

Why the risk rises

The same cycle of injury, inflammation, and regeneration that produces cirrhosis also increases the chance that liver cells develop harmful genetic changes over time, raising cancer risk. This risk is present with cirrhosis from any underlying cause, though it varies somewhat by cause and other factors.

Surveillance: catching it early

Because liver cancer detected early is far more treatable, people with cirrhosis are generally recommended to have regular surveillance imaging — typically an **ultrasound every six**

months, sometimes combined with a blood test called alpha-fetoprotein (AFP). If surveillance imaging shows anything concerning, a more detailed scan (CT or MRI) usually follows.

KEY POINT

Regular surveillance is one of the simplest, most protective things a person with cirrhosis can keep up with. Early-stage liver cancer often has excellent treatment options, including procedures that can be curative — but this depends heavily on catching it early.

DID YOU KNOW?

If liver cancer is found, treatment options depend heavily on the size and number of tumors and how well the liver is otherwise functioning — ranging from procedures that directly target the tumor to, in appropriate cases, liver transplantation, which can treat both the cancer and the underlying cirrhosis at once.

TALK WITH YOUR CLINICIAN

If you have cirrhosis, confirm that you're enrolled in a regular surveillance schedule — and if you've missed a scan, it's worth rebooking rather than skipping it.

SECTION 14 Other Complications

Beyond the major complications already covered, cirrhosis can affect several other body systems — worth knowing about, even though not everyone experiences them.

Kidney function (hepatorenal syndrome)

Advanced cirrhosis can affect blood flow to the kidneys, in some cases leading to a serious complication called hepatorenal syndrome. Kidney function is typically monitored closely alongside liver function in advanced disease.

Increased infection risk

Cirrhosis affects immune function, making infections — including spontaneous bacterial peritonitis (Section 10), urinary tract infections, and pneumonia — both more likely and potentially more serious. This is part of why fever or new symptoms of infection in someone with cirrhosis are taken seriously and evaluated promptly.

Malnutrition and muscle loss (sarcopenia)

Reduced appetite, altered metabolism, and nutrient malabsorption are common in cirrhosis, contributing to muscle loss that can affect strength, recovery from illness, and overall outcomes. Section 17 covers nutrition in depth.

Bone health

Certain causes of cirrhosis, and reduced activity or vitamin D absorption, can contribute to weakened bones over time; some people are advised to have bone density monitoring.

Hepatopulmonary syndrome and related lung effects

In some people with advanced cirrhosis, changes in blood vessels within the lungs can affect oxygen levels — a less common but recognized complication that a specialist can evaluate for if relevant symptoms, such as shortness of breath, are present.

KEY POINT

This list can feel like a lot — but not everyone with cirrhosis experiences all, or even most, of these complications. Regular monitoring exists precisely to catch and address these issues early, when they are most manageable.

SECTION 15

Treatment & Management: The Big Picture

Cirrhosis treatment rests on a few clear pillars. While the underlying scarring itself may not be fully reversible once established, there is a great deal that can be done to protect remaining liver function, prevent complications, and maintain quality of life.

Pillar 1 — Treating the underlying cause

Covered fully in Section 16, addressing whatever originally caused the cirrhosis — whether that's alcohol, viral hepatitis, metabolic health, or another condition — is often the single most impactful step available, at any stage.

Pillar 2 — Preventing and managing complications

This includes the specific treatments covered in Sections 9–14: managing portal hypertension, ascites, varices, hepatic encephalopathy, and liver cancer surveillance.

Pillar 3 — Nutrition and supportive care

Given how common malnutrition and muscle loss are in cirrhosis, nutritional support (Section 17) is a genuine part of treatment, not an afterthought.

Pillar 4 — Vaccination and infection prevention

People with cirrhosis are generally advised to stay current on vaccinations, including hepatitis A and B (if not already immune), influenza, and pneumococcal vaccines, given their heightened infection risk.

Pillar 5 — Liver transplantation

For people with advanced, decompensated cirrhosis where other treatments are no longer sufficient, transplantation can be life-saving (Section 20).

A WORD OF CAUTION

Treatment specifics — medications, dosing, and procedures — depend entirely on individual circumstances, the cause of cirrhosis, and its severity. **This guide cannot recommend specific treatments.** These decisions belong with a qualified hepatologist or gastroenterologist who knows your full picture.

KEY POINT

A cirrhosis diagnosis is not a single event to manage once — it's an ongoing partnership with your care team, built around treating the cause, watching closely for complications, and addressing them early when they arise.

SECTION 16 Treating the Underlying Cause

Because cirrhosis can stem from so many different conditions, treating the root cause looks quite different from person to person — but doing so is consistently one of the most powerful tools available.

Underlying cause	General treatment approach
MASLD / MASH	Improving metabolic health (weight, blood sugar, cholesterol); newer MASH-specific medications for eligible patients with fibrosis.
Alcohol-related liver disease	Alcohol cessation, ideally with structured support — the single most impactful step for this cause.
Chronic hepatitis C	Highly effective antiviral medications can cure the infection in the large majority of people, even with existing cirrhosis.
Chronic hepatitis B	Antiviral medications can suppress the virus long-term, reducing ongoing liver injury.
Autoimmune hepatitis	Medications that calm the immune system's attack on the liver.
Hemochromatosis	Regular blood removal (phlebotomy) to reduce excess iron.
PBC / PSC	Specific medications aimed at bile flow and, in PSC, monitoring for bile duct complications.

DID YOU KNOW?

For some causes — notably hepatitis C and, to a meaningful extent, alcohol and MASLD — successfully treating the underlying cause can lead to genuine improvement in liver function and even some regression of fibrosis, especially when cirrhosis is caught in its earlier, compensated stage.

KEY POINT

If you don't already know the specific cause of your cirrhosis, this is one of the most valuable questions you can ask your care team — it directly shapes which of these targeted treatments might apply to you.

SECTION 17

Diet & Nutrition with Cirrhosis

Nutrition plays an outsized role in cirrhosis. Malnutrition is extremely common, often under-recognized, and directly linked to worse outcomes — which makes this one of the more actionable areas of care.

Why nutrition needs are different in cirrhosis

A damaged liver has a reduced capacity to store energy as glycogen, meaning the body shifts toward breaking down muscle for energy more quickly than usual, especially overnight. This is part of why people with cirrhosis often need a somewhat different nutritional approach than general healthy-eating advice.

General principles often recommended

- **Adequate protein.** Contrary to older practice, most people with cirrhosis are now encouraged to eat sufficient protein (specific targets vary and should be set by a dietitian or clinician), since protein restriction was found to worsen muscle loss without clear benefit for most patients.
- **Frequent, smaller meals,** including a bedtime snack, which helps offset the liver's reduced overnight energy storage.
- **Sodium restriction,** particularly important for anyone with ascites (Section 10).
- **Adequate calories overall,** since unintentional weight loss and muscle loss are common and harmful.

TALK WITH A PROFESSIONAL

A registered dietitian experienced in liver disease can set specific, personalized targets for protein, sodium, and calories based on your stage of disease, weight, and any complications like ascites. This is one of the most valuable referrals available in cirrhosis care.

NOTE

Specific nutrient targets vary significantly based on the presence of ascites, encephalopathy, kidney function, and other factors. This section is general education, not a personalized nutrition prescription.

SECTION 18

Medications & Substances to Be Careful With

With cirrhosis, the liver has significantly reduced reserve to process medications and other substances — making a few everyday precautions especially important.

Everyday medications

- **Acetaminophen (paracetamol)** requires particular caution; ask your clinician what daily amount, if any, is appropriate for you specifically.
- **NSAIDs** (such as ibuprofen or naproxen) are generally avoided or used very cautiously in cirrhosis, since they can worsen kidney function and increase bleeding risk, particularly with varices present.
- **Sedatives and certain sleep medications** can trigger or worsen hepatic encephalopathy and are generally used with caution.
- Tell every prescriber and pharmacist that you have cirrhosis, so they can check that any new medicine, including its dose, is appropriate for your liver function.

"LIVER DETOX" AND HERBAL PRODUCTS — AVOID THEM

Products marketed to "cleanse" or "detox" the liver are not proven to help cirrhosis, and some herbal supplements have caused serious liver injury outright. With cirrhosis specifically, the liver has very little reserve to safely process an unregulated product. **Always check with a clinician or pharmacist before taking any supplement.**

Alcohol

Regardless of the original cause of cirrhosis, alcohol is generally advised against entirely once cirrhosis has developed, since the liver has little remaining capacity to safely process it.

Vaccinations

As noted in Section 15, staying current on vaccinations — including hepatitis A and B, influenza, and pneumococcal vaccines — is an important, proactive protection given increased infection risk.

TALK WITH YOUR CLINICIAN OR PHARMACIST

Bring a full list of everything you take — prescriptions, over-the-counter medicines, vitamins, and supplements — to every appointment. This is one of the simplest, most effective ways to protect your remaining liver function.

SECTION 19

Monitoring, MELD Score & Your Care Team

Cirrhosis is monitored closely and continuously, with the intensity of follow-up shaped by whether disease is compensated or decompensated.

Understanding the MELD score

The **MELD score** (Model for End-Stage Liver Disease) is calculated from blood tests — typically bilirubin, creatinine, and INR, sometimes including sodium (MELD-Na) — and produces a number that estimates short-term risk and helps prioritize candidates for liver transplantation. A higher score generally reflects more severe liver dysfunction. Your care team can explain your own MELD score and how it's being used in your specific care plan.

What ongoing monitoring usually involves

- **Regular blood tests** tracking liver function, kidney function, and blood counts.
- **Liver cancer surveillance imaging**, typically every six months (Section 13).
- **Periodic endoscopy** to monitor varices, if present (Section 11).
- **Nutritional assessment** and monitoring for muscle loss.
- **Ongoing treatment of the underlying cause**, where applicable.

Who might be on your team

Hepatologist / gastroenterologist

Primary care provider

Registered dietitian

Transplant coordinator (if applicable)

Nurse educator

Pharmacist

Social worker

Mental-health professional

KEY POINT — YOU ARE THE CONSTANT

With so many moving parts, keeping your own simple record — recent labs, your MELD score, medications, and questions — makes your care meaningfully smoother, especially if you see multiple specialists.

MAKE THE MOST OF APPOINTMENTS

Worth asking regularly: "Has anything changed since my last visit?" and "What symptoms should prompt me to call before my next scheduled appointment?"

SECTION 20

Liver Transplantation

For people with advanced, decompensated cirrhosis, liver transplantation can be transformative — offering not just survival, but a real return to a fuller quality of life.

When transplant is considered

Transplant evaluation is typically considered once cirrhosis has decompensated, when the MELD score reaches a certain range, or when specific complications (such as liver cancer within defined criteria, or difficult-to-control ascites or encephalopathy) significantly affect quality of life or survival, despite other treatments.

The evaluation process

A thorough evaluation looks at overall health, the cause of cirrhosis, psychosocial support, and — where alcohol was a contributing cause — support for sustained abstinence, generally with a similar approach to what our companion ALD guide describes. The goal is ensuring the best possible long-term outcome from a scarce, life-saving organ.

Waiting for a transplant

Donor livers are allocated based largely on MELD score and other clinical priorities, meaning wait times vary considerably. During this time, ongoing management of complications and close monitoring continue, and in some situations, a living donor — typically a family member or other well-matched volunteer — may be an option, since the liver's regenerative capacity allows both donor and recipient to end up with a fully functioning liver over time.

DID YOU KNOW?

Liver transplant outcomes have improved substantially over recent decades, with many recipients living full, active lives for many years afterward. Long-term success depends heavily on taking anti-rejection medications consistently and continuing regular follow-up care.

TALK WITH YOUR CLINICIAN

If transplant is a possibility for you, ask directly about your transplant center's specific evaluation process and criteria — these details vary by center and evolve over time.

SECTION 21

Living Well, Prevention & Myths vs. Facts

A cirrhosis diagnosis touches more than the liver — and it helps to know both how to live well with it, and what's actually true about the condition.

Living well: mind, mood & community

It's common to feel anxious, overwhelmed, or grieve the life you expected after a cirrhosis diagnosis. These feelings are entirely understandable. Many people find real value in connecting with others living with cirrhosis, whether through formal support groups or informal community, and in being open with family about what support would help. Protecting sleep, gentle regular activity as your care team advises, and treating underlying anxiety or low mood all genuinely support overall wellbeing alongside your medical care.

IF YOU ARE STRUGGLING

If you are experiencing persistent low mood, hopelessness, or thoughts of harming yourself, please reach out to a healthcare professional or a crisis line. The **988 Suicide & Crisis Lifeline** (call or text 988 in the United States) is free and available 24/7. Support is available, and you don't have to manage this alone.

Prevention — for those not yet diagnosed

- **Treat underlying liver conditions early**, rather than waiting for symptoms — this is the single best way to prevent cirrhosis from developing in the first place.
- **Manage metabolic health, alcohol use, and viral hepatitis** proactively, since these are the most common preventable pathways to cirrhosis.
- **Get regular check-ups**, especially with known risk factors.

Myths vs. facts

Myth	Fact
"Cirrhosis only happens to people who drink heavily."	Cirrhosis can result from many causes, including MASLD/MASH, viral hepatitis, and autoimmune and genetic conditions — not only alcohol.
"Once you have cirrhosis, there's nothing left to do."	Treating the underlying cause, managing complications, and — when needed — transplantation offer real, meaningful options at every stage.
"If I feel okay, my cirrhosis must be mild."	Compensated cirrhosis can feel completely fine while still carrying real risks; regular monitoring, not symptoms, tracks the disease.
"A liver detox supplement can reverse cirrhosis."	No supplement is proven to treat cirrhosis, and some have caused additional liver injury.
"Cirrhosis always ends in liver failure."	Many people live for years with well-managed compensated cirrhosis, especially when the underlying cause is controlled.

KEY POINT

If you remember one thing from this page: cirrhosis is serious, but it is also actively manageable — treating the cause, monitoring closely, and addressing complications early all make a genuine difference in how this disease unfolds.

CLOSING

Questions, Glossary, Resources & Disclaimer

Questions you might ask your doctor

- What is the underlying cause of my cirrhosis, and is it being actively treated?
- Am I compensated or decompensated? What is my current MELD or Child-Pugh score?
- Do I have varices? When was my last endoscopy, and when is my next one due?
- Am I up to date on liver-cancer surveillance imaging?
- Should I be seeing a dietitian, and what are my specific protein and sodium targets?
- Are any of my current medicines or supplements a concern for my liver or kidneys?
- Am I a candidate for, or should I be thinking about, liver transplant evaluation?
- What symptoms should prompt me to seek care before my next scheduled appointment?

Glossary

Term	Plain-language meaning
Ascites	Fluid buildup in the abdominal cavity, a common sign of decompensated cirrhosis.
Child-Pugh score	A scoring system estimating cirrhosis severity based on blood tests and symptoms.
Compensated cirrhosis	Cirrhosis where the liver still manages its essential functions without major visible complications.
Decompensated cirrhosis	Cirrhosis where a major complication (ascites, variceal bleeding, encephalopathy, or jaundice) has developed.
Hepatic encephalopathy	Confusion caused by toxins the liver can no longer adequately clear.
MELD score	A scoring system estimating short-term risk in cirrhosis, used to help prioritize transplant candidates.
Portal hypertension	Increased pressure in the vein system feeding the liver, underlying many cirrhosis complications.
TIPS	Transjugular intrahepatic portosystemic shunt — a procedure that reduces portal pressure directly.
Varices	Enlarged, fragile veins (often in the esophagus or stomach) that can bleed seriously.

About The Liver and Kidneys Hope Foundation

The Liver and Kidneys Hope Foundation (TLHF) is a Nevada-based 501(c)(3) nonprofit dedicated to liver-health education, community support, and outreach. Through educational materials like this guide, community programming, our chapter network, volunteer efforts, and fundraising initiatives, we work to raise awareness of liver conditions and support the people affected by them, including those living with cirrhosis. The Foundation is not a medical provider and does not deliver clinical care.

A NOTE ON SOURCES AND CURRENCY

This guide reflects widely accepted, general medical understanding of cirrhosis intended for patient education. It does not cite individual studies, and practices around scoring systems, transplant criteria, and emerging treatments continue to evolve. For the most current, individualized information, your healthcare team is the best resource.

Full disclaimer

PLEASE READ

This publication is provided by The Liver and Kidneys Hope Foundation for **general educational purposes only**. It is **not medical advice** and is not a substitute for professional diagnosis, treatment, or the judgment of a qualified, licensed healthcare provider who knows your personal history. The Liver and Kidneys Hope Foundation is **not a medical provider** and does not practice medicine, provide clinical services, or establish a provider-patient relationship through this material.

Do not use this guide to diagnose or treat a health problem or disease, and do not disregard or delay seeking professional medical advice because of something you have read here. Vomiting blood, black tarry stools, sudden confusion, high fever, or rapidly worsening abdominal swelling can indicate a medical emergency — contact your local emergency services immediately if you experience these or any other symptoms that concern you.

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