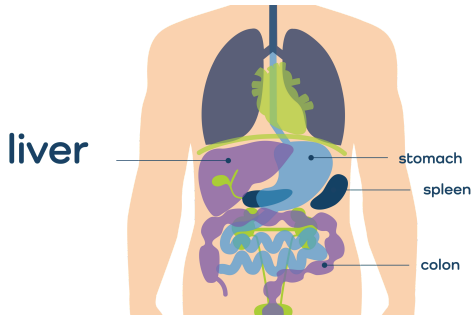


Fibrosis & Cirrhosis

Your liver and why it's so important!



Your liver is one of the largest and hardest-working organs in your body. Located under your ribs on the right side of your abdomen, your liver:



- Filters harmful substances from your blood
- Helps digest food by producing bile
- Stores nutrients and energy
- Fights infections
- Produces, regulates, and balances hormones

What is liver fibrosis?

Liver fibrosis happens when repeated liver injury occurs, leading to liver inflammation. When ongoing inflammation damages the liver, proteins like collagen begin to accumulate between liver cells and form scar tissue. Over time, this scar tissue disrupts blood flow, starves healthy cells, and triggers even more scarring. This repeated cycle leads to liver fibrosis.

The liver has a remarkable ability to heal, especially during early fibrosis. When the harmful cause is removed, the liver can often reduce some of the scarring and restore function. But if the liver continues to suffer damage over time, that scarring can progress into more advanced stages where healing becomes much more difficult and serious complications can arise.

What is liver cirrhosis?

Cirrhosis is the final stage of fibrosis. It happens when long-term liver damage leads to extensive scarring that can no longer heal. While there is no cure for cirrhosis and damage isn't fully reversible, treating the underlying cause can slow progression and even improve some scarring over time. Managing cirrhosis typically involves symptom control, protecting your liver from further harm, and regular check-ups for liver cancer, which is a common risk in cirrhosis. In advanced stages, liver transplantation may be considered, and for those at risk of hepatocellular carcinoma, ongoing monitoring is essential.

Cirrhosis has two stages: compensated cirrhosis and decompensated cirrhosis, each with its own symptoms and care pathways.

Compensated cirrhosis

This is early stage cirrhosis, where the liver is damaged but still able to do its job. Many people don't have symptoms in this stage and may not even know they have it.

Although cirrhosis scarring cannot fully heal, with proper care like treating the cause, eating well, and avoiding alcohol, the liver can continue working well for many years. In some cases, and depending on its cause, cirrhosis may stabilize or partially heal.

Decompensated cirrhosis

This is a more advanced stage of cirrhosis where the liver is severely damaged and unable to do its job. Liver damage leads to blocked blood flow through the portal vein (portal hypertension), which impairs proper blood filtering. This stage is irreversible and often requires more intensive medical or surgical interventions and careful management of complications.

While the liver has more damage, with the right care many people can manage their symptoms and improve their quality of life.

What are the possible complications of cirrhosis?

As cirrhosis progresses, the liver becomes heavily scarred and has a harder time doing its job. This can lead to health complications that need regular medical care and follow-up.

Common complications include:

- **Weakened immune system:** A damaged liver makes it harder to fight off infections. Even minor illnesses can become serious, so it's important to stay on top of vaccinations and seek care when feeling unwell.
- **Higher risk of liver cancer:** Cirrhosis increases the chance of liver cancer. Regular check-ups, blood tests, and imaging can help detect it early, when it's easier to treat.
- **Kidney problems:** Liver damage can affect how well the kidneys work, leading to fluid buildup or changes in blood pressure. Routine testing helps to monitor kidney health.



These complications can feel overwhelming, but with proper treatment, support, and ongoing monitoring, many people are able to manage their symptoms and maintain a good quality of life.

What causes liver fibrosis and cirrhosis?

Liver fibrosis and cirrhosis develop when the liver is repeatedly injured over time. This ongoing damage leads to scar tissue that affects how well the liver functions. Common causes include:

- Heavy alcohol use
- Chronic viral hepatitis
- Bile duct disorders
- Metabolic dysfunction–associated steatotic liver disease and metabolic dysfunction–associated steatohepatitis
- Autoimmune liver diseases
- Toxic hepatitis
- Repeated heart failure with liver congestion
- Inherited genetic liver diseases (Wilson’s disease, hemochromatosis) and metabolic disorders (glycogen storage disorders)

What are the symptoms?

Liver fibrosis

In early stages, liver fibrosis often has no symptoms because the liver can still function with some scar tissue. As damage and scar tissue increases, symptoms such as fatigue, loss of appetite, unexplained weight loss, nausea, and mild pain or discomfort in the upper right abdomen may appear.

Liver cirrhosis

When cirrhosis develops, the liver becomes heavily scarred and can’t function properly, which can lead to symptoms such as:



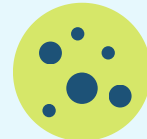
Loss of appetite



Stomach pain or discomfort



Feeling very tired (fatigue)



Small red spots on the skin



Swelling in the legs and stomach



Itchy skin



Easy bleeding and bruising



Mental confusion (hepatic encephalopathy)



Yellowing of eyes or skin (jaundice)

How are liver fibrosis and cirrhosis diagnosed?

Doctors use a few different tools to see how healthy your liver is and how much scarring may be present. They may use:



- **Physical exam and symptom monitoring:** Tiredness, swelling, jaundice, and other signs can point to liver problems. Your doctor may also check for tenderness or changes in liver size.
- **Blood tests (liver function tests):** Elevated liver enzymes can be an early sign of liver inflammation or damage.
- **Imaging tests:** Ultrasound, MRI, CT scan, or FibroScan can help detect fat in the liver and assess liver stiffness.
- **Liver biopsy:** If more clarity is needed, a small sample of liver tissue may be taken to check for inflammation or scarring. This is the most accurate way to diagnose advanced liver disease.

Early testing helps doctors find liver problems before they get worse, so they can give you the care and support you need.

How are liver fibrosis and cirrhosis treated?

Liver fibrosis and cirrhosis can often be managed, especially when the cause is caught early. While cirrhosis may not fully resolve, treatment can slow its progress, protect the remaining healthy liver, and ease symptoms.

Treatment varies depending on the cause and how advanced the condition is, but always begins with addressing the root issue. This protects healthy liver tissue and supports an improved quality of life. Common symptoms of severe liver damage and possible treatment is as follows:

- **Swelling:** Diuretics (water pills) and a low-salt diet can help reduce fluid buildup in the belly (ascites) or legs.
- **Confusion or memory issues:** Medications like lactulose or rifaximin help lower toxin levels in the body.
- **Bleeding:** Swollen veins in the stomach or esophagus, known as varices, may need medication or procedures to prevent or stop bleeding.
- **Infections:** Manage infections quickly. People with cirrhosis are more prone to infections.
- **Itching and fatigue:** Symptom-relief medications can help improve quality of life.



If you have liver fibrosis or cirrhosis, don't ignore sudden or severe symptoms as they may be signs that your condition needs urgent medical attention. Regular check-ups and early action make a big difference.

How to protect your liver from further scarring

Taking small steps each day can go a long way in protecting your liver and help slow the progression of fibrosis and cirrhosis. Here's how:

- ✓ **Avoid alcohol completely.** Even small amounts can make liver damage worse.
- ✓ **Ask to be tested for hepatitis C and D.** These viruses can cause liver damage but are treatable if caught early.
- ✓ **Maintain a healthy weight.** Extra fat in the liver can lead to more scarring.
- ✓ **Keep up with regular liver check-ups.** Blood tests, ultrasounds, and scans help monitor your liver's health.
- ✓ **Get vaccinated for hepatitis A and B.** These infections can be more serious if you already have liver disease.
- ✓ **Tell your doctor about changes.** Symptoms like tiredness, swelling, or yellowing skin or eyes may mean your liver needs attention.

Liver fibrosis and cirrhosis in children

Sometimes babies and children can develop liver damage due to conditions they are born with or illnesses they develop early in life.

Common causes include:

- **Biliary atresia:** A condition where the bile ducts are blocked or missing, causing bile to build up and damage the liver.
- **Inherited conditions:** Rare diseases passed down from family genetics (Wilson's disease, Alagille syndrome)
- **Metabolic disorders:** Problems with how the body breaks down food or nutrients (glycogen storage disorders)
- **Infections or immune system issues:** These can inflame and damage the liver.

Treatment options include:

- Surgery to correct bile duct problems (especially in biliary atresia)
- Medications to manage symptoms and slow down liver damage
- Special meal patterns to support liver function and growth

Early signs matter

Your baby can't tell you when something's wrong, so it's important to watch for signs that could point to liver conditions. Yellowing of the skin or eyes (jaundice), pale stools, dark urine, a swollen belly, or insufficient weight gain can all be signs your baby's liver needs help. Even subtle changes can mean something more serious.

If you notice anything unusual, **don't wait** and speak with their doctor. Early detection can lead to a healthier future.

Questions to ask your doctor

Asking the right questions is an important step in taking charge of liver health. Here are a few to help guide your conversations with your doctor:

Your diagnosis:

- What stage is my liver damage?
- Do I have fibrosis or cirrhosis?
- How much scarring is present in my liver?
- Is my liver still functioning well?
- Could any of my symptoms be related to liver damage?

Causes and risk factors:

- What caused my liver fibrosis or cirrhosis?
- Are there lifestyle or medical factors that could make my liver scarring worse?
- Is there a risk of liver cancer with my condition?

Lifestyle and treatment options:

- What can I do to slow or stop the scarring of my liver?
- Should I stop drinking alcohol completely?
- Are there any medications I should avoid?
- Would changing my diet or weight help?
- What treatment options are available to support my liver?
- Should I see a liver specialist or dietitian?

Next steps and monitoring:

- How often should I have check-ups or liver tests?
- What tests will help monitor my liver fibrosis or cirrhosis?
- What signs or symptoms should I watch for that could mean my condition is getting worse?
- Could I need a liver transplant in the future?



You are not alone in your diagnosis. Liver Canada is here for you for every step of your liver health journey. Contact our patient support team at our Toll Free Help Line 1-800-563-5483.

Liver disease affects 1 in 4 Canadians. From newborns to older adults. It can impact anyone, at any stage of life.

Liver Canada was first established in 1969 out of the passion and concern of a group of business leaders and doctors who believed that liver disease needed a champion. Since then, we've relentlessly driven advancements in research, treatment, and support.

With the help of donors, volunteers, researchers, health professionals, corporate supporters, and community members, we are changing the future of liver health for those living in Canada.

To help fund liver health support services, education and research, visit: liver.ca/ways-to-give

Follow us on Facebook, Instagram, and LinkedIn!
@LiverCanada

National Office:

101-3100 Steeles Ave East
Markham, ON, L3R 8T3

Email: clf@liver.ca

Toll Free Help Line: 1-800-563-5483

Website: liver.ca

