

Everything you need to know about cirrhosis

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Cirrhosis of the liver describes a condition where scar tissue gradually replaces healthy liver cells.

It is a progressive disease, developing slowly over many years. If it is allowed to continue, the buildup of scar tissue can eventually stop liver function.

For cirrhosis to develop, long-term, continuous damage to the liver needs to occur. When healthy liver tissue is destroyed and replaced by scar tissue, the condition becomes serious, because it can start blocking the flow of blood through the liver.

This *MNT Knowledge Center* article explains the symptoms, causes, and treatments of liver cirrhosis, including information about complications.

Symptoms

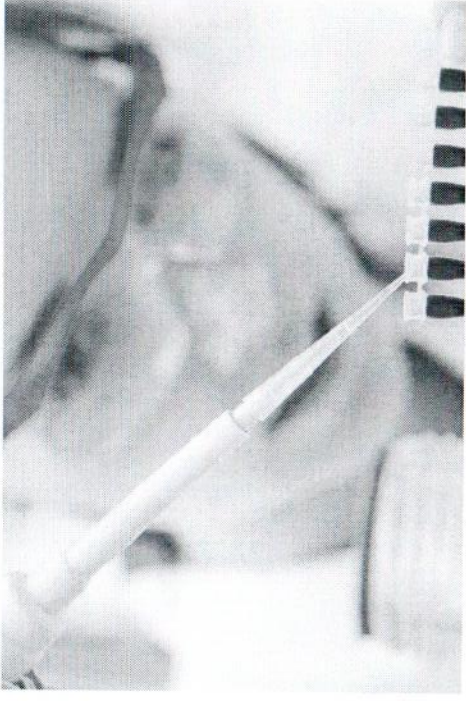
Symptoms are not common during the early stages of cirrhosis.

However, as scar tissue accumulates, the ability of the liver to function properly is undermined. The following signs and symptoms may occur:

- blood capillaries become visible on the skin on the upper abdomen.
- fatigue
- insomnia
- itchy skin
- loss of appetite
- loss of bodyweight
- nausea
- pain or tenderness in the area where the liver is located
- red or blotchy palms
- weakness

The following signs and symptoms may appear as liver cirrhosis progresses:

- accelerated heartbeat
- personality changes
- bleeding gums
- lost mass in the body and upper arms
- difficulties processing drugs and alcohol
- confusion
- dizziness
- fluid buildup on ankles, feet, and legs, known as edema



One of the primary methods of diagnosis is through a blood test.

- hair loss
- higher susceptibility to bruising
- jaundice, or yellowing of the skin, whites of the eyes, and tongue
- loss of sex drive
- memory problems
- more frequent fevers and increased risk of infection
- muscle cramps
- nosebleeds
- pain in the right shoulder
- breathlessness
- stools become black and tarry, or very pale.
- urine becomes darker.
- vomiting blood
- problems with walking and mobility

The liver tissue is replaced by fibrous scar tissue. Regenerative nodules may also form. These are lumps that appear as the liver tries to heal the damage.

Treatment

If the cirrhosis is diagnosed early enough, damage can be minimized by treating the underlying cause or the various complications that arise.

Treatment for alcohol dependency: It is important for the patient to stop drinking if their cirrhosis was caused by long-term, regular heavy alcohol consumption. In many cases, the doctor will recommend a treatment program for treating alcohol dependency.

Medications: The patient may be prescribed drugs to control liver cell damage caused by hepatitis B or C.

Controlling pressure in the portal vein: Blood can "back up" in the portal vein that supplies the liver with blood, causing high blood pressure in the portal vein. Drugs are usually prescribed to control the increasing pressure in other blood vessels. The aim is to prevent severe bleeding. Signs of bleeding can be detected via an endoscopy.

If the patient vomits blood or passes bloody stools, they probably have esophageal varices. Urgent medical attention is required. The following procedures may help:

Banding: A small band is placed around the base of the varices to control bleeding.

Injection sclerotherapy: After an endoscopy, a substance is injected into the varices, which triggers a blood clot and scar tissue to form. This helps stem the bleeding.

A Sengstaken-Blakemore tube with a balloon: A balloon is placed at the end of the tube. If endoscopy does not stop the bleeding, the tube goes down the patient's throat and into their stomach. The balloon is inflated. This places pressure on the varices and stops the bleeding.

Transjugular intrahepatic portosystemic stent shunt (TIPSS): If the therapies mentioned above do not stem the bleeding, a metal tube is passed across the liver to join the portal and hepatic veins, creating a new route for the blood to flow through. This reduces the pressure that was causing the varices.

Other complications are handled in different ways:

Infections: The patient will be given antibiotics for any infections that arise.

Screening for liver cancer: Patients with cirrhosis have a much higher risk of developing liver cancer. The doctor may recommend regular blood tests and imaging scans.

Hepatic encephalopathy, or high blood toxin levels: Drugs can help treat excessive blood toxin levels.

In some cases, the damage caused by cirrhosis covers most of the liver and cannot be reversed. In these cases, the person may need a new, transplanted liver. It can take time to find a suitable donor, and this procedure is often advised only as a last resort.

Outlook

The survival rate of a person with liver cirrhosis depends on the severity of the scarring.

A 15-year follow-up study of 100 people in Norway with severe alcoholic cirrhosis showed that 71 percent of the people in the study lived for 5 years after diagnosis, and 90 percent lived for 15 years.

Continued alcohol consumption and advanced age were linked to a higher mortality rate in people with cirrhosis.

This is a limited study, but it shows that cirrhosis is a serious condition that severely reduces life expectancy and impairs quality of living.

Cirrhosis is responsible for 12 deaths in every 100,000 members of the United States population.

Stages

Cirrhosis is graded on a scale called the Childs-Pugh score as follows:

- **A:** Relatively mild
- **B:** Moderate
- **C:** Severe

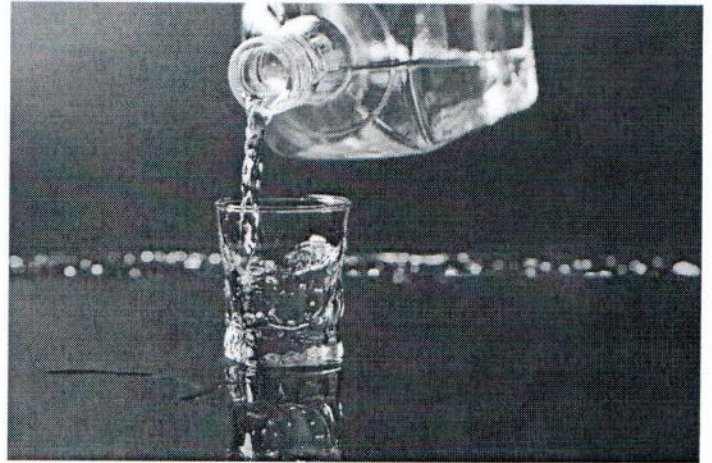
Doctors also classify cirrhosis as either compensated or decompensated. Compensated cirrhosis means that the liver can function normally despite the damage. A liver with decompensated cirrhosis cannot perform its functions correctly and usually causes severe symptoms.

Rather than being viewed in terms of its own stages, cirrhosis is often seen as a final stage of liver disease.

Causes

Common causes of cirrhosis are:

- long-term alcohol abuse
- hepatitis B and C infection
- fatty liver disease
- toxic metals
- genetic diseases



Frequent heavy drinking is a cause of cirrhosis.

Hepatitis B and C together are said to be the leading causes of cirrhosis. Other causes include:

Regularly drinking too much alcohol

Toxins, including alcohol, are broken down by the liver. However, if the amount of alcohol is too high, the liver will be overworked, and liver cells can eventually become damaged.

Heavy, regular, long-term drinkers are much more likely to develop cirrhosis, compared with other, healthy people. Typically, heavy drinking needs to be sustained for at least 10 years for cirrhosis to develop.

There are generally three stages of alcohol-induced liver disease:

1. Fatty liver: This involves a build-up of fat in the liver.
2. Alcoholic hepatitis: This occurs when the cells of the liver swell.
3. Approximately 10 to 15 percent of heavy drinkers will subsequently develop cirrhosis.

Hepatitis

Hepatitis C, a blood-borne infection, can damage the liver and eventually lead to cirrhosis. Hepatitis C is a common cause of cirrhosis in Western Europe, North America, and many other parts of the world. Cirrhosis can also be caused by hepatitis B and D.

Non-alcoholic steatohepatitis (NASH)

NASH, in its early stages, begins with the accumulation of too much fat in the liver. The fat causes inflammation and scarring, resulting in possible cirrhosis later on.

NASH is more likely to occur in people who are obese, diabetes patients, those with high fat levels in the blood, and people with high blood pressure.

Autoimmune hepatitis

The person's own immune system attacks healthy organs in the body as though they were foreign substances. Sometimes the liver is attacked. Eventually, the patient can develop cirrhosis.

Some genetic conditions

There are some inherited conditions that can lead to cirrhosis, including:

- Hemochromatosis: Iron accumulates in the liver and other parts of the body.
- Wilson's disease: Copper accumulates in the liver and other parts of the body.

Blockage of the bile ducts

Some conditions and diseases, such as cancer of the bile ducts, or cancer of the pancreas, can block the bile ducts, increasing the risk of cirrhosis.

Budd-Chiari syndrome

This condition causes blood clots in the hepatic vein, the blood vessel that carries blood from the liver. This leads to liver enlargement and the development of collateral vessels.

Other diseases and conditions that can contribute to cirrhosis include:

- cystic fibrosis
- primary sclerosing cholangitis, or hardening and scarring of the bile ducts
- galactosemia, or inability to process sugars in milk.
- schistosomiasis, a parasite commonly found in some developing countries
- biliary atresia, or badly formed bile ducts in babies
- glycogen storage disease, or problems in the storage and energy release vital for cell function

Diagnosis

Because there are rarely symptoms early on in the condition, cirrhosis is often diagnosed when the patient is being tested for some other condition or disease.

Anybody who has the following symptoms should see their doctor immediately:

- fever with shivering
- shortness of breath
- vomiting blood
- dark or tarry stools
- episodes of drowsiness or confusion

A doctor will examine the patient and feel around the liver area to determine whether it is enlarged. The patient will be asked about their medical history and lifestyle, including drinking.

The following tests may also be ordered:

- **Blood test:** These measure how well the liver is functioning. If levels of alanine transaminase (ALT) and aspartate transaminase (AST) are high, the patient may have hepatitis.

- **Imaging tests:** Ultrasound, CT, or MRI scans can be used to see whether the liver is enlarged and detect any scarring or nodules.
- **Biopsy:** A small sample of liver cells is extracted and examined under a microscope. The biopsy can confirm cirrhosis and its cause.
- **Endoscopy:** The doctor inserts a long, thin tube with a light and video camera at the end goes through the esophagus and into the stomach. The doctor looks out for swollen blood vessels called varices than can be a sign of cirrhosis.

Complications

Cirrhosis can lead to several other conditions, some of which are life-threatening. These include:

Ascites or edema: Ascites is a buildup of fluid in the abdomen, and edema is a buildup of fluid in the legs. They can be treated with a low-salt diet and water pills. In severe cases, the fluid may have to be drained repeatedly. Surgery is sometimes needed.

Varices and portal hypertension: These are large, swollen veins in the esophagus and stomach. They can increase pressure in a blood vessel called the portal vein that carries blood from the spleen and bowel to the liver. Varices can rupture, causing severe blood loss and clots.

Hepatic encephalopathy: This refers to high levels of toxins in the blood where the liver is no longer successfully filtering them all.

Hepatocellular carcinoma: This is the most common type of liver cancer. It is the third-leading cause of cancer mortality across the globe.

Hepatopulmonary syndrome (HPS): Doctors define HPS as a combination of liver disease, dilated blood vessels in the lungs, and abnormalities in the exchange of gases. It is linked to an increase in the mortality rate of people waiting for a liver transplant.

Coagulation disorders: Cirrhosis can cause problems with blood clotting, leading to potentially fatal bleeds and clots.

Prevention

Staying within recommended daily and weekly alcohol limits is highly recommended to avoid cirrhosis. Please refer to the following helpful information from the Centers for Disease Control and Prevention (CDC) about drinking in moderation.

Individuals who have cirrhosis should avoid alcohol completely. Alcohol accelerates the progression of the disease.

To avoid contracting hepatitis B and C, be sure to take the following precautions:

- Use a condom when having sex.
- Do not share needles when injecting drugs.
- People at risk of becoming infected with hepatitis B, such as healthcare workers, social care workers, and police personnel, can be vaccinated

As cirrhosis cannot be reversed or repaired once it reaches a certain stage, prevention is often considered the best form of treatment.

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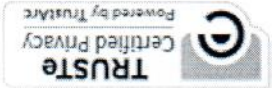
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