

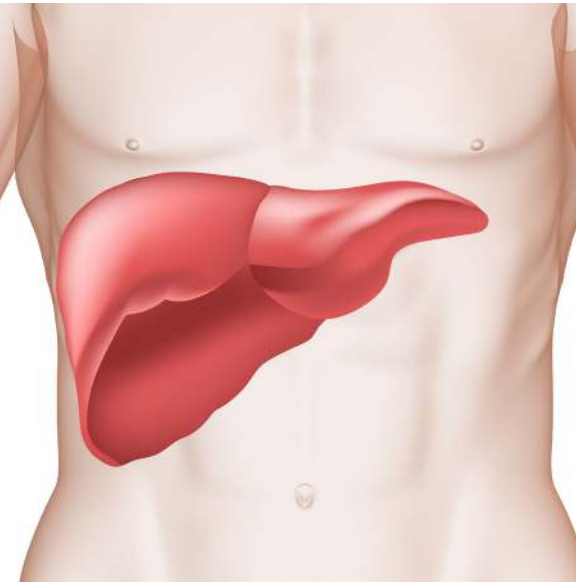
# Alcohol-Related Liver Disease



*Your Liver. Your Life.*

## Why is the liver important?

Your liver is a vital organ that performs many essential functions. It filters out harmful substances from your blood, makes bile to digest food, stores energy and nutrients, and manufactures hormones, proteins, and enzymes your body uses to function and ward off disease.



## What is the liver's role in digesting alcohol?

The liver breaks down alcohol so it can be removed from your body. This process involves breaking down ethanol – the alcohol in wine, beer and liquor. Some of the by-products of this process are toxic chemicals that, in high concentration, trigger inflammation and injure liver cells. In addition, if you drink more alcohol than the liver can process in a given amount of time, the resulting imbalance can injure the liver by interfering with the normal breakdown of protein, fats and carbohydrates.

## How does alcohol affect the body?

Drinking too much alcohol, either on a single occasion – known as binge drinking – or drinking a lot over time, can take a serious toll on your health and well-being. In addition to injuring the liver, alcohol has many effects on your body including:

- Lessening your ability to think clearly and move with coordination; it can change your mood and behavior.
- Disrupting the processes involved in digestion, leading to malnutrition and weight loss.
- Weakening your immune system and the ability to fight infections. Increasing your risk of developing certain cancers including cancers of the colon, liver, esophagus, mouth, and breast (for women).

## What are the types of alcohol-related liver disease?

Alcohol-related liver disease (ALD), as the name implies, is caused by excessive consumption of alcohol and is a common, but preventable, disease. For most people, moderate drinking will not lead to ALD.

There are three main types of alcohol-related liver disease:

**Fatty liver:** Also called steatosis, this is the earliest stage of ALD and the most common alcohol-related liver disorder. It is characterized by an excessive accumulation of fat inside liver cells, which makes it harder for the liver to function.

Usually there are no symptoms, although the liver can be enlarged and you may experience upper abdominal discomfort on the right side. Fatty liver occurs fairly soon in almost all people who drink heavily. The condition will usually go away if you stop drinking.

**Alcohol-related hepatitis:** This is an inflammation, or swelling, of the liver accompanied by the destruction of liver cells. Up to 35 percent of heavy drinkers develop alcohol-related hepatitis, which can be mild or severe. Symptoms may include fever, jaundice, nausea, vomiting, abdominal pain and tenderness. In its mild form, alcohol-related hepatitis can last for years and will cause progressive liver damage, although the damage may be reversible over time if you stop drinking. In its severe, acute form the disease may occur suddenly – after binge drinking for instance – and can quickly lead to life-threatening complications.

**Alcohol-related cirrhosis:** This is the most serious type of alcohol-related liver disease. Cirrhosis refers to the replacement of normal liver tissue with nonliving scar tissue. Between 10 and 20 percent of heavy drinkers develop cirrhosis, usually after 10 or more years of drinking. Anything that damages the liver over many years can lead the liver to form scar tissue. Fibrosis is the first stage of liver scarring. When scar tissue builds up and takes over most of the liver, it's referred to as cirrhosis.

Symptoms of cirrhosis include those of alcohol-related hepatitis, as well as the following:

- Accumulation of fluid in the abdomen (ascites)
- High blood pressure in the liver (portal hypertension)
- Bleeding from veins in the esophagus (esophageal varices)
- Behavior changes and confusion
- Enlarged spleen

Research has shown that cirrhosis can be reversed, although this may not occur for all patients. Cirrhosis caused by alcohol can be a life-threatening disease.

However, if you have alcohol-related cirrhosis your condition may stabilize if you stop drinking.

Many heavy drinkers will progress from fatty liver to alcohol-related hepatitis and finally to alcohol-related cirrhosis over time. Statistics show that about one in five heavy drinkers will develop alcohol-related hepatitis, while one in four will develop cirrhosis. The risk of developing cirrhosis is particularly high for people who drink heavily and have another chronic liver disease such as hepatitis C.

## Is there a safe level of drinking?

For most people, moderate drinking will not lead to alcohol-related liver disease. According to the Dietary Guidelines for Americans, moderate drinking is one drink a day for women and two drinks a day for men. Each of these alcoholic beverages, in the following amounts, is considered one drink and contains the same amount of alcohol:

- One 12-ounce bottle of beer
- One 4-ounce glass of wine
- One 1-ounce shot of hard liquor



However, if you have chronic liver disease, even small amounts of alcohol can make your liver disease worse. People with ALD and those with cirrhosis from any cause should abstain from alcohol completely.

## What factors increase your risk for alcohol-related liver disease?

The amount of alcohol you consume is the most important risk factor for developing ALD. The risk increases with the length of time and amount of alcohol you drink. However, because many people who drink heavily or binge drink do not develop ALD, we know there are other factors that affect a person's susceptibility. Additional risk factors that play a role in someone developing ALD include:

**Obesity:** Obesity is a contributing factor to fatty liver disease. The combined effect of obesity and alcohol together is worse than the effect of either one of them alone.

**Malnutrition:** Many people who drink heavily are malnourished, either because

they eat poorly due to loss of appetite and nausea or because alcohol and its toxic byproducts prevent the body from breaking down and absorbing nutrients. In both cases, the lack of nutrients contributes to liver cell damage.

**Genetic factors:** Genetics can influence how the body processes alcohol and may predispose someone to alcoholism and ALD.

**Race and ethnicity:** A higher risk of liver injury appears to be associated with one's racial and ethnic heritage. For example, rates of alcohol-related cirrhosis are higher in African-American and Hispanic males compared with Caucasian males.

**Your sex:** Women are more susceptible than men to the adverse effects of alcohol.

**Pattern of drinking:** It's worse to drink outside of meal times and binge drink, defined as five drinks for men and four drinks for women in one sitting.

**Chronic viral hepatitis, particularly hepatitis C:** The combined effect of alcohol and viral hepatitis on the liver results in more advanced disease than either of them alone.

## What are the complications of alcohol-related liver disease?

Serious and sometimes life-threatening complications from ALD typically occur after many years of heavy drinking. These complications include:

- Kidney failure
- Liver cancer
- Confusion and in severe cases, coma (HE or hepatic encephalopathy)

## How is alcohol-related liver disease diagnosed?

ALD may be suspected based on medical and lifestyle issues related to alcohol abuse. The diagnosis depends on a combination of features, including a history of significant alcohol use, signs and symptoms of liver disease, and laboratory results that support the diagnosis.

In order to establish the presence and severity of liver damage, your doctor will likely do the following:

- Physical exam
- Medical history, including pattern of alcohol consumption: Your doctor will ask you, and possibly members of your family, about your use of alcohol. It's important to be honest when describing your drinking habits so that an accurate diagnosis can be made.
- Tests to assess liver damage:
  - Blood tests to check liver function and rule out other causes of liver disease
  - Imaging tests like an ultrasound, CT or MRI of the liver



- A liver biopsy may be considered if the diagnosis is uncertain; it's the most accurate test in establishing the diagnosis of ALD, although not essential for its management.

## How is alcohol-related liver disease treated?

**Abstinence:** If you've been diagnosed with ALD, the single most important thing you can do for yourself is to stop drinking. Abstinence is the only way of possibly reversing liver damage, or in more advanced cases, preventing it from becoming worse. Discuss treatment options with your healthcare provider; these can include counseling, medications, an outpatient treatment program or a residential inpatient stay.

If you are physically addicted to alcohol, medical supervision in a detoxification (or detox) program may be required to safely reduce your alcohol levels. It can be dangerous to stop drinking very suddenly. A rapid reduction in alcohol can lead to withdrawal symptoms including anxiety, agitation, hallucinations and seizures. Your doctor can recommend a program that best meets your needs.

**Nutrition therapy:** Nutritional deficiencies are very common in people with ALD. Your doctor will likely recommend a special diet, as well as vitamin and nutritional supplements, to combat the effects of malnutrition and help you gain weight if needed. You may be referred to a nutritionist who can assist you with meal

planning. If you have trouble eating enough to get the vitamins and nutrients you need, your doctor may recommend giving you a special nutrient-rich liquid intravenously or via tube feeding.

**Medications:** Depending on the severity of your disease, your doctor may recommend medications to help reduce liver inflammation. These drugs have shown some short-term benefit in increasing survival. Steroid treatment with prednisolone is usually the first-line medication, followed by pentoxifylline, if steroid therapy doesn't work. No alternative medicine treatments have been found to cure alcohol-related hepatitis.

**Liver transplant:** For people with advanced alcohol-related cirrhosis, the only treatment option may be a liver transplant. However, active alcoholics do not usually qualify as suitable organ recipients. For transplant to be an option, you'd need to find a transplant center that would consider you and then meet the requirements of the program, including abstaining from alcohol for six months prior to transplant and agreeing not to resume drinking afterward.

## What is the outlook for people with alcohol-related liver disease?

Anyone with ALD will improve their health and life expectancy if they stop drinking. People with fatty liver may be able to use alcohol moderately after their liver recovers. People with alcohol-related hepatitis or alcohol-related cirrhosis should stop drink

completely. For people who do not stop drinking the outlook is poor. They are likely to suffer a variety of life-threatening health problems caused by alcohol-related liver damage.

## **What kind of support is available for people with alcohol-related liver disease?**

In order to recover from your liver disease, you must stay sober. If this is difficult for you, participating in a group, like Alcoholics Anonymous (AA), or attending individual and/or group counseling sessions can help you maintain your sobriety.

The following organizations are good resources for information on alcoholism:

*Alcoholics Anonymous*  
[www.aa.org](http://www.aa.org)

*Al-Anon/Alateen*  
[www.al-anon.org/home](http://www.al-anon.org/home)

*National Institute on Alcohol Abuse  
and Alcoholism*  
[www.niaaa.nih.gov/alcohol-health](http://www.niaaa.nih.gov/alcohol-health)

*Substance Abuse and Mental Health  
Services Administration*  
[www.samhsa.gov](http://www.samhsa.gov)

## Facts At-A-Glance

- Alcohol-related liver disease is caused by excessive consumption of alcohol. It is a common, but preventable, disease.
- Women are more likely to suffer liver damage from alcohol than men.
- Excessive alcohol consumption contributes to three types of liver disease: fatty liver, where excess fat builds up in the liver; alcohol-related hepatitis, in which the liver cells become inflamed; and alcohol-related cirrhosis, in which normal liver tissue is replaced by nonliving scar tissue.
- Abstinence is the most important therapeutic intervention for people with alcohol-related liver disease. In the early stages of the disease, liver damage may be reversed if the person stops drinking.
- Virtually all heavy drinkers develop fatty liver. Up to 35 percent develop alcohol-related hepatitis and between 10 and 20 percent develop cirrhosis.
- Alcohol-related cirrhosis is the most serious form of alcohol-related liver disease. Unlike fatty liver and alcohol-related hepatitis, the damage from alcohol-related cirrhosis is not reversible and can cause fatal liver failure.









*Your Liver. Your Life.*

American Liver Foundation

LiverFoundation.org

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HepC123.org

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