



Canadian Liver Foundation  
Fondation canadienne du foie

*Bringing liver research to life*  
*Donner vie à la recherche sur le foie*

## Alcohol and The Liver

### What happens when a person has a drink?

Alcohol affects everyone. When a person has a drink, the alcohol is absorbed directly through the wall of the stomach and intestine into the bloodstream, where it is distributed rapidly throughout the body. The alcohol changes the function of each cell that it enters.

The liver processes everything a person ingests, including alcohol. Only a certain quantity of alcohol can be detoxified over a period of time. In the meantime, excess alcohol affects the brain, heart, muscles and other tissues of the body.

### How does alcohol affect the liver?

When the liver has too much alcohol to handle, normal liver function may be interrupted leading to a chemical imbalance. If the liver is required to detoxify alcohol continuously, liver cells may be destroyed or altered resulting in fat deposits (fatty liver), and more seriously, either inflammation (alcoholic hepatitis), and/or permanent scarring (cirrhosis). Liver cancer can also result from alcohol induced liver disease.

### How much alcohol is safe?

Differences in the way alcohol is metabolized (processed) by the body are influenced by factors such as age, gender, body weight, and genetic factors. For example, women absorb more alcohol from each drink than do men and tend to be more susceptible to alcohol related liver damage.

The Canadian Liver Foundation supports the level of alcohol consumption proposed in Canada's Low Risk Alcohol Drinking Guidelines: 10 standard drinks a week for women with no more than two drinks a day; 15 standard drinks a week for men, with no more than three drinks a day. For a definition of a standard drink, please see the table below. Drinking alcohol every day as well as binge drinking (drinking four or more drinks at one time) can be harmful to your liver. If you already have a liver disease, the safest amount of alcohol is no alcohol at all. Do not drink and drive.

### With respect to different types of alcohol, is one safer than another?

No. It is the amount of alcohol present in a drink that matters, not the type of drink. One standard drink is the equivalent of either:

- 12 oz. (341 ml) beer
- 5 oz. (142 ml) wine
- 3 oz. (86 ml) sherry or port
- 1 ½ oz. (43 ml) spirits

Each of the above has the same effect on the liver whether taken alone or diluted.



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## **How does alcohol interact with medication?**

Mixing alcohol and medications may damage the liver. Alcohol should not be taken with drugs such as acetaminophen. Many prescribed and over-the-counter medications interact with alcohol, thereby altering the metabolism or effects of alcohol and/or the medication. Examples of these medications include antibiotics, antidepressants, antihistamines, barbiturates, benzodiazepines, muscle relaxants, pain and anti-inflammatory medications. Please consult with your health care provider or pharmacist.

## **How does alcohol affect other forms of liver disease?**

Alcohol consumption has proven to increase the rate of liver damage and risk of cirrhosis in people who already have liver disease, including hepatitis C. Therefore, anyone with hepatitis C, or any other form of liver disease, should not drink alcohol.

## **How do I know if my liver has been damaged by alcohol?**

More than three quarters of liver cells may be non functioning before you notice any symptoms, but by then it may be too late to do anything about it. So it's important to see your doctor and be honest about your alcohol consumption. Through regular physical examinations and blood tests, your doctor will be able to detect early signs of liver disease.

## **What are the symptoms of alcohol related liver damage?**

If the liver is not properly performing its functions, the rest of the body will soon be affected by the lack of nutrients and excess waste products present in the blood. Symptoms and complications arising from liver damage include fatigue, loss of appetite, lowered resistance to infections, jaundice (yellowing of the skin and eyes), swelling of the abdomen, internal bleeding, confusion, and kidney failure.

## **Can alcohol related liver damage be reversed or cured?**

If caught early, minimal liver damage can be reversed if a person abstains completely from drinking alcohol. When there is no alcohol in the bloodstream, the liver cells will be able to return to normal because the liver has a tremendous capacity to regenerate itself.

Alcohol related diseases vary in severity. Anyone who drinks alcohol heavily will develop a condition in which liver cells are swollen with fat globules and water. This condition is called fatty liver and may also result from diabetes, obesity, certain medications, or severe protein malnutrition. Fatty liver caused by alcohol and mild alcoholic hepatitis can be cured when drinking of alcohol is stopped.

However, advanced alcoholic hepatitis can result in serious illness. When cirrhosis develops, the structure of the liver is permanently damaged. The symptoms, signs and outcome of cirrhosis depend on its severity and whether



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or not it is accompanied by severe fatty liver and/or alcoholic hepatitis. The combination of these forms of alcohol related liver disease may cause illness, and sometimes, death.

Abstaining from alcohol can be associated with slow, but noticeable improvement in the liver function in the majority of patients. Despite complete abstinence, however, up to one third of patients with severe alcohol-related liver disease will continue to have progressive liver injury. In the presence of severe alcohol-related liver disease, a doctor may introduce a drug therapy. In many cases, these treatments allow people to live normal lives.

*Look after your liver and if you choose to drink alcohol, less alcohol is best: no more than two drinks a day (not to exceed 10 drinks per week) if you are a woman, and no more than three drinks a day (not to exceed 15 drinks per week) if you are a man. It is important to know that daily consumption of alcohol as well as binge drinking can be harmful to your liver.*

*This information is current for August 2016.*