



Alcohol And Liver Disease

This is an information leaflet written by the British Liver Trust.

What happens when you drink alcohol?

When you drink alcohol it is quickly absorbed directly into the bloodstream from the stomach and small intestine. Once in the blood it is rapidly dispersed throughout the body and begins to have an effect on every cell. Alcohol is a cell poison but the body is efficient at protecting itself from most of its dangerous effects. It does so by chemical reactions which take place in the liver. As the blood passes through the liver the alcohol is gradually broken down to less harmful substances. It takes about one hour for a normal liver to clear one unit of alcohol from the body. Any more than this and it has difficulty processing the excess.

What is a unit of alcohol?

- ◆ one small glass of wine
- ◆ one pub measure of spirits
- ◆ 1/2 pint of ordinary beer.

This is only a rough guide. Some beers, lagers and ciders are much stronger.

Alcohol affects the brain, heart, muscles and other tissues of the body. In particular it reaches the brain quickly and acts as a depressant. Other effects of too much alcohol range from slurred speech to having blackouts and loss of consciousness.

How does alcohol affect your liver?

The liver is essential to our health. It is the body's chemical factory with over 100 complex functions. It is second only to our brain in its complexity. The liver fights infection and filters poison. It maintains our normal body chemistry by processing proteins, carbohydrates, fats, hormones, vitamins, drugs and other chemicals in the bloodstream.

Problems may occur with any or all of these functions when the liver is presented with too much alcohol to process. Its own cells can be altered first chemically and then physically. Over a period of time the result of consistent heavy drinking can be a **fatty liver**, more seriously an inflamed liver - **alcoholic hepatitis** - or a permanently scarred and damaged liver - **cirrhosis**.

Almost everyone who drinks excessive amounts of alcohol will get some liver damage but this doesn't always develop into cirrhosis. About one third develop simple fatty liver and about one in ten develop cirrhosis. In general the more you drink, the greater the frequency and the duration of heavy drinking, the more likely you are to develop cirrhosis.

How much alcohol is sensible for health?

If you are healthy and eat a good diet, sensible drinking should not harm you. The government published a report on sensible drinking in December 1995 which focused on daily rather than weekly limits and emphasised that for some groups of people, small quantities of alcohol can help protect against heart disease.

The recent medical research which prompted the revised guidelines shows that small amounts of alcohol can reduce the risk of coronary heart disease in some groups of people only (see below). It is not clear why or what it is in alcohol that offers the benefit. Not all doctors agree with the new advice. *Earlier guidelines from the medical profession*

offers the benefit. Not all doctors agree with the new advice. *Earlier guidelines from the medical profession recommended not more than 21 units per week for men and not more than 14 for women*. A reduction in coronary heart disease can be achieved by other means, such as giving up smoking, taking regular exercise and eating a diet high in fruit and vegetables and low in fat and salt.

The Department of Health's current advice on sensible drinking is as follows:

Men

- ◆ The health benefit from drinking relates to men over 40 and the major part of this can be obtained at levels as low as one unit a day, with the maximum health advantage lying between 1 and 2 units a day.
- ◆ Regular consumption of between 3 and 4 units a day by men of all ages will not accrue a significant health risk.
- ◆ Consistently drinking 4 or more units a day is not advised as a sensible drinking level because of the progressive health risk it carries.

Women

- ◆ The health benefit from drinking for women relates to post menopausal women and the major part of this can be obtained at levels as low as one unit a day, with the maximum health advantage lying between 1 and 2 units a day.
- ◆ Regular consumption of between 2 and 3 units a day by women of all ages will not accrue any significant health risk.
- ◆ Consistently drinking 3 or more units a day is not advised as a sensible drinking level because of the progressive health risk it carries.

Drink-free days

- ◆ After an episode of heavy drinking it is advisable to refrain from drinking for 48 hours to allow tissues to recover.

Pregnant women

- ◆ Women who are pregnant or who are planning a pregnancy should not drink more than one or two units once or twice a week and should avoid getting drunk. However, some doctors advise against any drinking at all during pregnancy because alcohol passes straight into the bloodstream and travels across the placenta to the baby. The baby can be harmed by alcohol.

Do the new guidelines mean you should drink every day?

No. They are just a guide to what amount is sensible before there is a risk to your health. They cannot take into account people's individual susceptibility or their physical characteristics such as sex, height, weight or genetic make-up, all of which can affect alcohol absorption in the body and the effect it has on the liver. There are also situations where people should not drink at all for their own or other people's safety, such as before or during driving, before using machinery or electrical equipment and if taking certain medicines. It is known that the risk of illness and death increases for people who consistently drink above the recommended levels. Excessive drinking can cause:

- ◆ Stomach disorders
- ◆ Depression
- ◆ High blood pressure
- ◆ Vitamin deficiency
- ◆ Sexual difficulties
- ◆ Problems with the nervous system

- ◆ Hepatitis
- ◆ Cirrhosis
- ◆ Cancer of the liver, mouth, throat and gullet

What are the symptoms of alcoholic liver damage?

Unfortunately most people with alcoholic liver damage have few symptoms until the disease is far advanced. Not many people experience pain because the liver is relatively free of nerve fibres. If pain occurs it is usually all over the upper abdomen and indicates that the liver is inflamed (alcoholic hepatitis). Often people just have a continuing feeling of poor health and fatigue. The first symptoms don't usually show until cirrhosis has developed. However, by this stage, extensive and usually irreversible liver damage has already occurred.

FATTY LIVER When someone consistently drinks too much, the alcohol causes fat to be deposited in the liver. The fat will disappear if a person stops drinking for several weeks, but if drinking continues the fat stays. In many people the fatty change persists to a greater or lesser extent throughout their life with no significant problem, but in some the liver goes on to develop alcoholic hepatitis or cirrhosis.

ALCOHOLIC HEPATITIS This is a serious condition in which the liver is inflamed due to the poisonous effects of alcohol. The symptoms can vary from one person to another and range from abdominal discomfort, nausea and pain all over the abdomen, to profound and progressive jaundice which may lead to death within a few weeks. The hepatitis can also develop without causing any serious symptoms. The main treatment is to stop drinking which removes the cause of the inflammation. There is a significant risk that the liver will go on to develop cirrhosis if drinking continues.

CIRRHOSIS The onset of cirrhosis is usually silent with few early warning symptoms. Normally when the liver is damaged the cells die and the liver regenerates itself to its original size and shape without any scarring. When the damage is severe and continuous, the regrowth goes wrong and the healing process is incomplete. Scar tissue develops (fibrosis) and the combination of this and the irregular regrowth results in cirrhosis. Once this happens, the condition is irreversible, even if drinking is stopped. It doesn't mean that it's too late to stop drinking because stopping drinking will slow down or even halt the damage, and prolong life. If drinking continues the liver will become increasingly replaced with fibrous tissue until there are not enough liver cells to maintain its many functions. The following are signs and symptoms of cirrhosis:

- ◆ Loss of appetite
- ◆ Nausea and vomiting
- ◆ Weight loss
- ◆ Enlargement of the liver (hepatomegaly)
- ◆ Itching (pruritus)
- ◆ Increased sensitivity to drugs

Further complications of cirrhosis include:

Jaundice. Jaundice is easily noticeable as the skin and whites of the eyes go yellow. Some people notice that their urine becomes darker and stools pale. It happens if the bile duct becomes obstructed in any way or the liver cannot process bilirubin properly.

Ascites. Ascites is a build up of fluid in the abdomen which often occurs slowly over a period of weeks or months. The commonest symptom is a steadily increasing girth. Ascites usually means that cirrhosis is well advanced.

Portal hypertension and bleeding oesophageal varices. Portal hypertension means high blood pressure in the portal vein which supplies blood to the liver. It is one of the commonest problems in cirrhosis and can lead to ascites and oesophageal varices. Oesophageal varices are varicose veins in the gullet. Bleeding oesophageal varices are a medical emergency and need to be treated urgently. The blood loss can lead to a fall in blood pressure and blood flow to vital organs such as the liver and kidneys. These organs may then fail (hepatorenal failure).

Encephalopathy. Some people with cirrhosis develop poor memory and concentration and even confusion, disorientation and coma, called hepatic encephalopathy. It is thought to be caused by poisonous substances which are formed when protein in the diet is broken down. These substances are normally detoxified by the liver but this does not occur so efficiently when the liver is badly damaged.

Liver cancer. Anyone who has had cirrhosis for a long time has a significant risk of developing primary liver cancer (hepatocellular carcinoma). In the UK alcohol is an important cause, along with viral hepatitis.

Any of the symptoms described in this leaflet can be caused by conditions other than alcoholic liver damage. *Cirrhosis can be caused by other liver diseases that have nothing to do with alcohol* . If you are worried by any of the symptoms mentioned it is important they are checked by a doctor.

Diet and alcoholic liver damage

It used to be thought that a poor diet was the cause of liver damage in people who drink excessively. It is now believed that alcohol itself can damage the liver however well a person eats. However, many long term drinkers substitute alcohol for food and become malnourished. Some lose their appetite and suffer nausea, especially in the morning. A damaged liver affects the body's ability to absorb and utilise nutrients in food, so it is important for long term heavy drinkers to receive adequate nourishment. Deficiencies of vitamin B often occur in alcoholic liver damage. Recovery from severe liver damage may be helped by improving nutrition, if necessary with calorie supplements prescribed by your doctor.

If you are worried about your diet or think you may be short of vitamins because of excessive alcohol consumption, you should talk to your doctor. For further information please read our *Diet and Liver Disease* leaflet .

How is alcoholic liver damage detected?

There can be visible signs of possible liver damage but they are not always apparent. The skin on the face can be thickened with small red veins that look like the body of a spider (spider naevi). These can also appear elsewhere on the body. The palms of the hands can be red and mottled (palmar erythema) and the fingernails white. Other signs of a long term heavy drinker are spindly arms and legs, heavy breasts (gynaecomastia), a prominent abdomen and scrawny bottom, thinning body hair and wasted genitalia.

If a doctor suspects liver damage after an initial physical examination and liver function tests, he or she will refer you to a hepatologist (a liver disease specialist) or a gastroenterologist (a digestive disease specialist) for further investigations.

A liver biopsy is nearly always needed to confirm a diagnosis of alcoholic hepatitis or cirrhosis. It is performed in hospital, usually under local anaesthetic.

Treatment of alcoholic liver damage

The most important element in treatment is to stop drinking. This usually means for life, especially if people have significant alcohol related liver damage. In addition to stopping drinking, eating a well balanced diet is important. A doctor may also prescribe vitamins if necessary. Nutrition can play an important part in treatment. In some liver units dietitians often work with doctors to ensure people receive adequate nourishment. Further treatment depends on the type and stage of liver damage. It aims to stop the progress of cirrhosis and to reverse, to whatever extent is possible, the damage which has already occurred. It may also involve treating complications that are disabling or life threatening.

Most doctors will also recommend a referral to some sort of alcohol counselling. At the end of the leaflet there is a list of organisations which offer further information. Some also provide support and counselling for people with alcohol problems.

Transplantation for alcoholic liver damage. In some cases a liver transplant may be considered. Before a transplant is

had on the health of other organs in the body such as the heart and brain, a person's general health and whether they are strong enough physically and mentally to withstand the ordeal of a transplant. Usually most people will have stopped drinking for six months before being accepted for liver transplantation.

Is it necessary to stop drinking for life?

The amount of alcohol that is safe for people to drink varies from one person to another. Stopping drinking is the only way to ensure that any liver damage will not progress. People who have already developed alcoholic hepatitis or cirrhosis can damage their livers even further if they continue to drink. Cutting down only reduces the rate of damage.

Symptoms due to alcoholic liver damage such as pain, diarrhoea or jaundice may well disappear if drinking is cut down but this doesn't mean that damage is no longer taking place. Cirrhosis can develop even after drinking only a little too much over the years and there may be no early warning symptoms.

Can I drink if I have liver disease from other causes?

This will depend on many factors such as the type, severity and stage of liver disease you have, as well as your general health. Some people can drink within recommended guidelines whilst others should not drink at all. Sensible drinking advice will vary from person to person, even if they have the same liver disease as someone else. This may be because their disease takes a different form or is more severe, or it may depend upon a person's susceptibility to liver damage. It may also be because doctors take different views.

Many people with liver disease find they can no longer tolerate alcohol and do not fancy a drink. Others can drink a little on special occasions. If you are unsure whether it is advisable for you to drink with your particular disease, the best advice is to talk to your doctor.

The British Liver Trust has a range of other leaflets which may be helpful:

- ◆ Diagnostic Tests for Liver Disease
- ◆ Cirrhosis
- ◆ Portal Hypertension and Bleeding
- ◆ Oesophageal Varices
- ◆ Liver Cancer

Glossary

bilirubin - a bile pigment which gives bile its yellow/green colour

biopsy - removal of a sample of tissue for examination

genitalia - external sex organs

haemorrhage - profuse bleeding

hepatic - of the liver

liver functions tests (LFTs) - blood tests which measure enzymes and other substances released into the bloodstream when liver cells are damaged

placenta - the connection between a mother and baby in the womb

portal - the portal system of veins (blood vessels) brings blood from the stomach and intestines to the liver for processing

Further help and information

The British Liver Trust have a range of leaflets which cover specific aspects of liver disease. For a list of support groups and information leaflets please write enclosing a stamped addressed envelope to:

The British Liver Trust, Ransomes Europark, Ipswich, 1P3 9QG

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