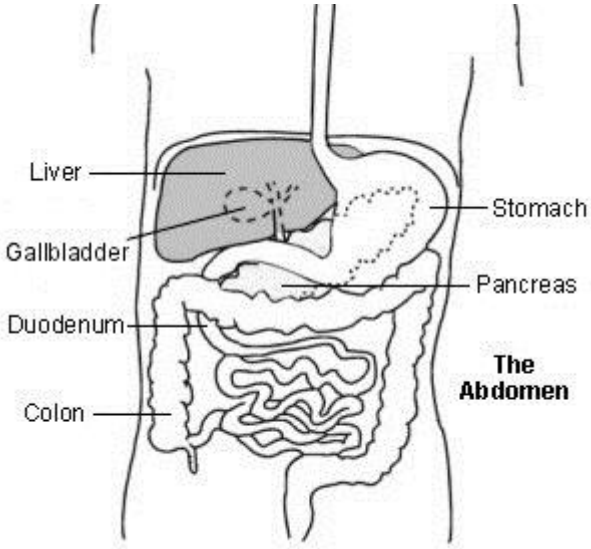
ALCOHOL ADVICE

Drinking too much alcohol can lead to three types of liver conditions - fatty liver, hepatitis, and cirrhosis. You are unlikely to develop these problems if you drink within the recommended safe limits detailed below. For all types of liver disease caused by alcohol, the main treatment is to stop drinking alcohol completely.

What does the liver do?



The liver is in the upper right part of the abdomen. Its functions include:

- Storing glycogen, a chemical made from sugars. When required, glycogen is broken down into glucose which is released into the bloodstream.
- Helping to process fats and proteins from digested food.
- Making proteins that are essential for blood to clot (clotting factors).
- Processing many medicines which you may take.
- Helping to remove or process alcohol, poisons and toxins from the body.
- Making bile which passes from the liver to the gut and helps to digest fats.

What happens when you drink alcohol?

When you drink alcohol, it is absorbed into the bloodstream from the stomach and intestines. All blood from the stomach and intestines first goes through the liver before circulating around the whole body. So, the highest concentration of alcohol is in the blood flowing through the liver.

Liver cells contain enzymes (chemicals) which process (metabolise) alcohol. The enzymes break down alcohol into other chemicals which in turn are then broken down into water and carbon dioxide. These are then passed out in the urine and from the lungs. The liver cells can process only a certain amount of alcohol per hour. So, if you drink alcohol faster than your liver can deal with it, the level of alcohol in your bloodstream rises.

What are the problems of drinking too much alcohol?

Your liver and body can usually cope with drinking a small amount of alcohol. Indeed, drinking a small amount of alcohol (1-2 units per day) may help to prevent heart disease and stroke.

However, drinking over the recommended limits (detailed below) can be harmful. If you drink heavily you have an increased risk of developing:

- Serious liver problems (alcoholic liver disease).
- Some stomach disorders.
- Pancreatitis (severe inflammation of the pancreas).
- Mental health problems, including depression and anxiety.
- Sexual difficulties such as impotence.
- Muscle and heart muscle disease.
- High blood pressure.
- Damage to nervous tissue.
- Accidents - drinking alcohol is associated with a much increased risk of accidents. In particular, injury and death from fire and car crashes. About 1 in 7 road deaths are caused by drinking alcohol.
- Some cancers (mouth, gullet, liver, colon and breast).
- Obesity (alcohol has many calories).
- Damage to an unborn baby in pregnant women.
- Alcohol dependence (addiction).

In the UK, deaths due to alcohol-related diseases (particularly liver disease) have risen considerably over the last 20 years or so. This is because heavy drinking and binge drinking have become more common.

The rest of this leaflet is about alcoholic liver disease. See separate leaflets called Alcohol and Sensible Drinking, which deals with general aspects of alcohol, and Alcoholism and Problem Drinking, which includes information on alcohol dependence

What is alcoholic liver disease?
Drinking too much alcohol can lead to three types of liver conditions - fatty liver, hepatitis, and cirrhosis. Any, or all, of these conditions can occur at the same time in the same person.
Fatty liver
A build-up of fat occurs within liver cells in most people who regularly drink heavily. In itself, fatty liver is not usually serious and does not cause symptoms. Fatty liver will usually reverse if you stop drinking heavily. However, in some people the fatty liver progresses and develops into hepatitis.

Alcoholic hepatitis
Hepatitis means inflammation of the liver. The inflammation can range from mild to severe.

- Mild hepatitis may not cause any symptoms. The only indication of inflammation may be an abnormal level of liver enzymes in the blood, which can be detected by a

blood test. However, in some cases the hepatitis becomes persistent (chronic), which can gradually damage the liver and eventually cause cirrhosis.

- A more severe hepatitis tends to cause symptoms such as feeling sick, jaundice (yellowing of the skin, caused by a high level of bilirubin - a chemical normally metabolised in the liver), generally feeling unwell and, sometimes, pain over the liver.
- A very severe bout of alcoholic hepatitis can quickly lead to liver failure. This can cause deep jaundice, blood clotting problems, confusion, coma, and bleeding into the guts, and is often fatal.
- The main treatment for alcoholic hepatitis is to provide adequate nutrition (this sometimes involves passing liquid feeds through a tube in the stomach) and steroids.

Alcoholic cirrhosis

Cirrhosis is a condition where normal liver tissue is replaced by scar tissue (fibrosis). The scarring tends to be a gradual process. The scar tissue affects the normal structure and regrowth of liver cells. Liver cells become damaged and die as scar tissue gradually develops. So, the liver gradually loses its ability to function well. The scar tissue can also affect the blood flow through the liver which can cause back pressure in the blood vessels which bring blood to the liver.

About 1 in 10 heavy drinkers will eventually develop cirrhosis. It tends to occur after 10 or more years of heavy drinking. **Note**: cirrhosis can develop in people who have never had alcoholic hepatitis.

Cirrhosis can happen from many causes other than alcohol - for example, persistent viral hepatitis and some hereditary and metabolic diseases. If you have another persistent liver disease, and drink heavily, you are likely to increase your risk of developing cirrhosis.

Cirrhosis can lead to end-stage liver disease (liver failure). However, in the early stages of the condition, often there are no symptoms. You can get by with a reduced number of working liver cells. But, as more and more liver cells die, and more and more scar tissue builds up, symptoms start to appear. The eventual symptoms and complications are similar to a severe episode of hepatitis (listed above). However, unlike a bout of severe hepatitis, the symptoms and complications tend to develop slowly. (See separate leaflet called Cirrhosis for more details.)

It is not clear why some people are more prone for their liver cells to be damaged by alcohol and to develop hepatitis and/or cirrhosis. But, as a rule, the heavier you drink, and the more regularly that you drink, the more your risk of developing hepatitis and/or cirrhosis.

The scarring and damage of cirrhosis is usually permanent and cannot be reversed. However, recent research has led to a greater understanding of cirrhosis. Research suggests that it may be possible to develop medicines in the future which can reverse the scarring process of cirrhosis.

How is alcoholic liver disease diagnosed?

A doctor may suspect that you have liver problems from your symptoms, and from a physical examination. (For example, they may detect that your liver is enlarged, or that you are retaining fluid.) They may especially think of liver problems as a cause of your symptoms if you have a history of heavy alcohol drinking. Some tests may be done:

- Blood tests may show abnormal liver function. (See separate leaflet called Liver Function Tests for details.)
- An ultrasound scan may show that you have a damaged liver.
- To confirm the diagnosis, a biopsy (small sample) of the liver may be taken to be looked at under the microscope. (See separate leaflet called Liver Biopsy for details.) The scarring of the liver caused by cirrhosis, or the typical features of liver cells with alcoholic hepatitis can be seen on a biopsy sample

What is the treatment for alcoholic liver disease?

For all types of liver disease caused by alcohol, you should stop drinking alcohol completely. Also, you may be referred to a dietician to review your diet. This is because many people who drink heavily do not eat properly and need advice on getting back into eating a healthy diet. Vitamin supplements may be prescribed for a while.

- If you have fatty liver, or alcoholic hepatitis which is not severe, you should fully recover from these conditions if you stop drinking alcohol.
- If you have severe hepatitis and require hospital admission, you may require intensive care treatment. Some people with severe hepatitis will die.
- If you have cirrhosis, stopping drinking alcohol can improve your outlook. It depends on how severe the cirrhosis has become. If cirrhosis is diagnosed when it is not too advanced, and you stop drinking alcohol, the cirrhosis is unlikely to progress. However, the cirrhosis and symptoms will usually get worse if you continue to drink alcohol. In severe cases where the scarring is extensive, and the liver can barely function, then a liver transplant may be the only option.

Preventing alcoholic liver disease

You are very unlikely to develop liver problems caused by alcohol if you drink within the recommended safe limits. That is:

- **Men** should drink no more than 21 units of alcohol per week, no more than four units in any one day, and have at least two alcohol-free days a week.
- **Women** should drink no more than 14 units of alcohol per week, no more than three units in any one day, and have at least two alcohol-free days a week.
- **Pregnant women**. Advice from the Department of Health states that ... "pregnant women or women trying to conceive should not drink alcohol at all. If they do choose to drink, to minimise the risk to the baby, they should not drink more than 1-2 units of alcohol once or twice a week and should not get drunk".

Where do these recommendations come from?

- The Department of Health recommends that men should not regularly drink more than 3-4 units of alcohol a day and women should not regularly drink more than 2-3 units a day. 'Regularly' means drinking every day or most days of the week. And if you do drink more heavily than this on any day, allow 48 alcohol-free hours afterwards to let your body recover.
- The Royal College of Physicians (RCP) advises no more than 21 units per week for men and 14 units per week for women. But also, have 2-3 alcohol-free days a week to allow the liver time to recover after drinking anything but the smallest amount of alcohol. A quote from the RCP... "in addition to quantity, safe alcohol limits must also take into account frequency. There is an increased risk of liver disease for those who drink daily or near daily compared with those who drink periodically or intermittently."
- The House of Commons Science and Technology Committee advise that people should have at least two alcohol-free days a week.
- Some would argue that the upper limits of the recommendations are too high. For example, one study found that more than two units a day for men and more than one unit a day for women significantly increases the risk of developing certain cancers.

In general, the more you drink above the safe limits, the more harmful alcohol is likely to be.

And remember, binge drinking can be harmful even though the weekly total may not seem too high. For example, if you only drink alcohol once or twice a week, but when you do you drink 4-5 pints of beer each time, or a bottle of wine each time, then this is a risk to your health.

One unit of alcohol is 10 ml (1 cl) by volume, or 8 g by weight, of pure alcohol. For example:

- One unit of alcohol is about equal to:
  - half a pint of ordinary strength beer or cider (3-4% alcohol by volume); or
  - a small pub measure (25 ml) of spirits (40% alcohol by volume); or
  - a standard pub measure (50 ml) of fortified wine such as sherry or port (20% alcohol by volume).
- There are one and a half units of alcohol in:
  - a small glass (125 ml) of ordinary strength wine (12% alcohol by volume); or
  - a standard pub measure (35 ml) of spirits (40% alcohol by volume).

But remember, many wines and beers are stronger than the more traditional ordinary strengths. A more accurate way of calculating units is as follows. The percentage alcohol by volume (% abv) of a drink equals the number of units in one litre of that drink. For example:

- Strong beer at 6% abv has six units in one litre. If you drink half a litre (500 ml) - just under a pint - then you have had three units.
- Wine at 14% abv has 14 units in one litre. If you drink a quarter of a litre (250 ml) - two small glasses - then you have had three and a half units.

Some other examples

Three pints of beer, three times per week, is *at least* 18-20 units per week. That is nearly the upper weekly safe limit for a man. However, each drinking session of three pints is *at least*

six units, which is more than the safe limit advised for any one day. Another example: a 750 ml bottle of 12% wine contains nine units. If you drink two bottles of 12% wine over a week, that is 18 units. This is above the upper safe limit for a woman.

But, you should not drink alcohol at all if:

- You have already developed early cirrhosis.
- You have chronic hepatitis or certain other liver problems. Your doctor will advise for each specific condition.

Do you need help to stop drinking?

Help and treatment are available if you find that you cannot stop drinking alcohol. Counselling and support from a doctor, nurse, or counsellor are often all that is needed. A detoxification treatment may be advised if you are alcohol-dependent. Referral for specialist help may be best for some people. If you feel that you need, or a relative or friend needs, help about alcohol then see your doctor.