

This factsheet provides an informative and colourful tour around the human body. Our tour will have the broad base of alcoholic drinks and we shall visit the brain, heart and liver, with stopovers at many interesting places.

## LET'S GET STARTED

When you drink alcohol it's absorbed into the bloodstream relatively quickly, having first visited the stomach and upper part of the bowel (small intestine).

*Some factors to bear in mind whilst on the tour:*

- Some drinks enter the bloodstream rapidly, others are much slower to take effect. Among the fastest is champagne, while neat whiskey, gin and vodka are slower.
- Alcohol might take longer to have an effect if your stomach is full (food helps to absorb alcohol).
- Alcohol might have a variable effect on you, depending on your mood, atmosphere, environment and how you expect alcohol to affect you.
- If you're a regular heavy drinker, alcohol might take longer to affect you because your body is more used to it (often referred to as 'having developed a tolerance').
- The speed at which you drink might also affect the outcome.
- The same amount of alcohol consumed by a woman and a man is likely to lead to higher blood alcohol concentration in the woman as women generally have less fluid in their bodies than men.

*Returning to our journey, alcohol has entered the bloodstream and travels rapidly throughout the body and begins to affect all the cells.*

The system of measuring drinks in units was devised almost 20 years ago. Since then we have seen many developments in the strength and variety of alcoholic products. It is no longer accurate to say one glass of wine = 1 unit. This is only true of a glass of wine at 8%ABV in a 125ml glass. A glass of wine at 13% in a 175ml glass = 2.3 units.

Alcohol is described as a cell poison but our body - a wonderful piece of intricate functioning - efficiently provides protection, courtesy of the liver. As the blood passes through the liver, this organ breaks alcohol down into less harmful substances. As you might imagine, when the liver becomes overworked by heavy or excessive quantities of alcohol, it becomes less efficient.

## IS ALCOHOL GOOD FOR YOU?

This is a question often asked and certainly worth considering in our tour.

*It is believed there are no significant harmful effects to your health if:*

- Males drink 3 - 4 units a day, but not every day and do not exceed a total of 21 units per week.
- Females drink 2 - 3 units a day, but not every day and do not exceed a total of 14 units per week.

It's useful to allow your body to experience at least two alcohol-free days each week. For people at risk from coronary heart disease, men over 40 years and women who are past the menopause, it's believed that 1 - 2 units a day, or every other day, can reduce these risks by lowering the blood cholesterol levels.

However, it's probably worth noting that you don't have to drink alcohol to achieve a reduction in risk - a healthy low fat, low sugar diet with appropriate exercise can achieve the same results.

Now let's visit the main areas of our body and see how they're affected when someone regularly drinks more than the sensible drinking limits.

It is important to know the strength of drink(%ABV) and volume/ amount of liquid, to know how many units a drink contains.

**Wine at 13%ABV in a 175ml glass = 2.3 units**

*Here's how to work it out:*

Multiply the volume of drink by %ABV, then divide by 1000. For example:  $175 \times 13 = 2,275 \div 1000 = 2.275$  (2.3 units).

## THE LIVER

*When the liver has to deal with more alcohol than it can handle it's likely that damage will occur but this can happen in stages.*

- **Fatty liver:** deposits of fat in the liver - full recovery is possible.
- **Alcoholic hepatitis:** inflammation of liver - full recovery is possible.
- **Cirrhosis:** a permanently scarred and damaged liver.

## THE STOMACH AND OESOPHAGUS

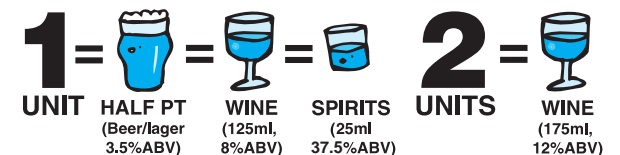
*Excessive use of alcohol tends to have a corrosive impact on the linings of these organs causing conditions such as:*

- **Gastritis:** an inflammation of the stomach cleared up by avoiding alcohol.
- **Ulcers:** may not be caused by alcohol but are certainly irritated by excessive use of alcohol.
- **Reflux:** can cause ulceration, tearing, bleeding around junction of stomach and oesophagus.

## THE PANCREAS

*This is a large gland behind the stomach which secretes enzymes and releases insulin. Regular binge drinking can cause serious damage to this gland.*

- **Acute pancreatitis:** an inflammation of the pancreas. Causes severe pain with symptoms sometimes persisting even when alcohol is avoided.
- **Chronic pancreatitis:** similar to the acute version and sufferers may also develop diabetes. This condition usually follows many years of excessive alcohol use ("bout drinking").



## THE BRAIN AND NERVOUS SYSTEM

*Persistent heavy drinking is often linked to a number of specific forms of brain damage.*

- **Wernicke's encephalopathy:** often confused with signs of intoxication - is caused by a lack of thiamine (vitamin B1) and can be treated by injection of the vitamin, but is often undiagnosed.
- **Korsakoff's syndrome:** can develop from untreated Wernicke's encephalopathy and is characterised by significant memory loss (similar to dementia). Improvement is variable even with avoiding alcohol.

**Risk of above is higher if heavy drinking is combined with a poor diet.**

## THE HEART AND CIRCULATORY SYSTEM

*The main area of concern in this part of the body is raised blood pressure, which is easily achieved by drinking in excess of sensible limits.*

- Binge drinking in particular (10+ units at a time) is linked with a significant rise in blood pressure.
- Raised blood pressure increases the risk of heart disease and stroke.

**In fact, this liquid drug can affect almost all parts of our body adversely when taken in excess of recommended guidelines.**

## HIGH RISK GROUPS

*We also know some groups of people are perhaps more at risk than others:*

- **Older people** because of age related deficits whereby the liver is less efficient and the body has less fluid. Older people also tend to use more prescription drugs which can interact with alcohol.

- **Pregnant women** because alcohol taken when pregnant reaches and affects the developing baby and can cause alcohol related birth defects. Particularly a risk when binge drinking is combined with smoking and poor diet.
- **Young people** because 'safe levels' are not appropriate when bodies are still developing. Also, young people might drink less often than adults, but when they do, they can drink large amounts.
- **Users of other substances**, because alcohol used with other drugs (prescribed and illicit) causes many adverse reactions.

If you're concerned about your own or someone else's drinking, contact **Alcohol Focus Scotland** for further information or information on the alcohol advice agency nearest to you.

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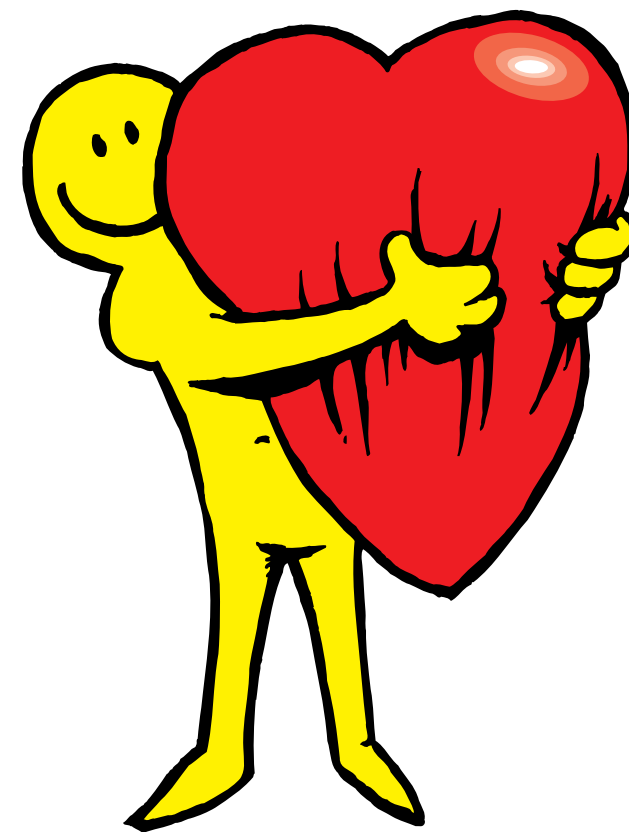


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# Alcohol and the body



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