

Q AND A's

(Also see our quiz on [page 98](#)).

What is alcohol?

Alcohol is ethanol or ethyl alcohol. There are many informal names for alcohol (e.g. booze, bevvy, drink), and there are many different types of alcoholic drink (e.g. beer, lager, wine, spirits and cider). But they all contain ethanol, or what we have come to call 'alcohol'.

Ethanol is made by a natural process, whereby yeast converts the sugar in fruits, cereals and cane sugar for example, into alcohol. Pure alcohol is a colourless, clear liquid. The process used to make it is called fermentation.

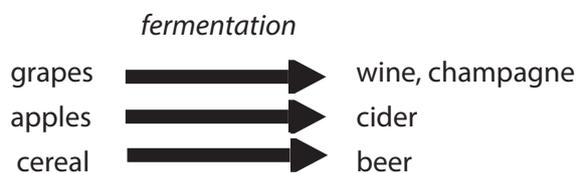
Fermentation

Alcohol is formed when yeast feeds on sugar. This tiny organism grows and multiplies by feeding on sugar in foods such as grain and fruits. As the yeast feeds on the sugar, carbon dioxide and alcohol are produced.

sugar = energy + alcohol + carbon dioxide

Different drinks

In wine making, yeast acts on the sugar in crushed grapes. Different types of grapes give different flavours and colours to wines. In cider making, crushed apples are used. Beer is produced from malted grain - usually barley - to which hops have been added for flavour.



The amount of alcohol in drinks can be increased by a process called distillation. This produces spirits such as whisky, gin, vodka, cognac, and rum, which usually contain about 40% pure alcohol.

In this process, water and alcohol are separated, through boiling which results in higher alcohol concentrations. Fortified wines (such as sherry and port) are wines that have spirit added to them, leading to a higher alcohol level (15% and over for sherry, 20% for port).

Why is it against the law to buy alcohol for under 18s or to be served alcohol if you can drink at home?

Laws regulate the purchase and consumption of alcohol in most countries around the world. In America, the Legal Drinking Age (LDA) is 21, here in the UK it is 18, unless you are under parental supervision or at home.

LDA's exist because the same amount of alcohol has a much greater effect on the body of a young person than on an adult as the body is still growing and developing. The brain and liver are not fully formed either, and binge drinking in particular will cause even more harm than for an adult.

Alcohol also affects judgement, coordination, mood, reactions and behaviour and again it's harder to deal with this when younger, away from adults or vulnerable. Alcohol, when it is broken down by the body makes toxins (poisons) – and if you drink too much too fast this can lead to alcohol poisoning, coma or even death.

It is legal to drink under parental supervision to allow parents to make the right choices – they may decide no alcohol before the age of 18 is the right policy, or they may think a small amount at a wedding or celebration is appropriate. It is our parents' responsibility to keep us safe until we are adult.

What is alcohol tolerance and addiction?

There is alcohol tolerance and alcohol addiction. Tolerance is when you gradually need more and more alcohol to achieve the same effect. If you drink above the daily recommended guidelines on a regular basis you run the risk of becoming addicted. 4% of 16 - 24 year-old men drink more than 50 units a week and 4% of women aged 16 - 24 drink more than 35 units a week and are taking this risk.

Addiction means that you can no longer cope without alcohol. Without alcohol you feel sick and have withdrawal symptoms, which include trembling, shivering, feeling nauseous and even vomiting. These withdrawal symptoms make it very difficult to overcome addiction and specialist help and support is needed. See [contacts](#) on the inside back page for help and advice.

Can you be allergic to alcohol?

A food allergy is where a normally tolerated substance is perceived as a threat by the body's immune system. In sufferers, even a little alcohol can cause an allergic reaction such as migraines, headaches, itchininess, rashes, bowel colic, diarrhoea, asthma, swollen facial features and watery swollen eyes. If you suffer these symptoms on drinking alcohol, consult your doctor for advice.

Ethnic differences

Some Asians have an 'in-active' gene for breaking down alcohol, this means that acetaldehyde (the toxin from the break down of alcohol) builds up in the blood stream and liver. The blood concentration of this toxin in individuals with the in-active gene can be 10-times higher than normal. The physical effects can include facial flushing, a rapid heartbeat, a headache, nausea and vomiting, extreme drowsiness or tiredness and low blood pressure. The effects of any drinking are so unpleasant that most people with the inactive gene won't drink alcohol.

What is Blood Alcohol Concentration?

Blood Alcohol Concentration (BAC) is the amount of alcohol in the bloodstream. Alcohol is absorbed into the bloodstream through the stomach walls and the intestines as a person drinks. The bloodstream carries the alcohol to the brain and alcohol is then transported in the blood stream to the liver, which breaks down the alcohol, but it can only process approximately one unit an hour. As more alcohol is consumed the BAC rises. However the exact time that the body takes to absorb alcohol varies from one person to another.

Blood alcohol concentration is used by the police to test how much you've been drinking. A BAC of 0.08 (the drink drive limit in England) means that an individual has 0.08g of alcohol in their body for every 100ml (0.1L) of blood.

Be careful to check drink drive laws if driving abroad as BAC limits vary from country to country. The US and England, Northern Ireland and Wales) have a BAC maximum of 0.08, whereas most of Europe, including Scotland, has a limit of 0.05 (In Sweden it is 0.02).

What is responsible drinking?

The Government and Chief Medical Officer have looked at the medical evidence to see what can be a safe level of drinking for most adults (not if you're under 18, on certain medications, pregnant, have a history of mental illness or addiction). This is 14 units a week for both men and women. However, responsible drinking is also about how and when we drink and the effect of your behaviour on others. It means drinking enjoyably, sociably and pacing yourself. It includes not drinking at all in certain situations when the effect of alcohol can put others safety (or yours) at risk – such as when driving, when pregnant or in certain work situations.

Define binge drinking

Binge drinking is a commonly used term that has no clear meaning. It differs in its medical and social usage from drinking to drunkenness, drinking five or more drinks in quick succession, or on one drinking occasion.

It may be useful to describe harmful patterns of drinking as 'drinking to drunkenness' or 'going out with the intention of getting drunk' as well as tracking the number of drinks consumed, time frame and context. The World Health Organisation has defined binge drinking as drinking six or more standard drinks during one drinking occasion.

Whatever the definition, drinking to drunkenness and repeatedly subjecting the brain to the effects of withdrawal from the presence of large doses of alcohol i.e. having what people would term drinking 'binges', could damage brain cells even more than continuous drinking.

What are social norms?

This is the process whereby what you believe becomes the pattern for your behaviour. Concerning drinking, this belief is based on the wrong information or interpretation.

Young people tend to have exaggerated beliefs concerning the behaviour of older teenagers (e.g. nearly everyone gets drunk when they're 15). This belief becomes their norm and influences their behaviour. For example, 90% of binge drinkers believe that every young person is out 'getting plastered', when in reality it's about 20% of 18 - 24 year-olds. A social norms approach aims to correct expectations and beliefs as to how most teenagers behave.

Of course, in many cultures, drinking alcohol is not the social norm, with over 50% of adults worldwide choosing not to drink for religious, genetic, cultural or health reasons.