

ALCOHOL
KNOW YOUR
LIMITS



Alcohol Units

A brief guide





Units of alcohol explained

As typical glass sizes have grown and popular drinks have increased in strength over the years, the old rule of thumb that a glass of wine was about 1 unit has become out of date. Nowadays, a large glass of wine might well contain 3 units or more – about the same amount as a treble vodka.

So how do you know how much is in your drink?

A UK unit is 10 millilitres (8 grams) of pure alcohol. It's actually the amount of alcohol that an average healthy adult body can break down in about an hour. So, if you drink 10ml of pure alcohol, 60 minutes later there should be virtually none left in your bloodstream. You could still be suffering some of the effects the alcohol has had on your body though, such as feeling thirsty if you hadn't drunk any water.

Increasingly, bottles and cans show the number of units they contain. Tables like the one at the back of this leaflet and online calculators (e.g. www.nhs.uk/units) also provide unit information for a range of common drinks.

Good labelling should mean you won't normally need to work it out, but the exact number of units in any alcoholic drink can always be found by calculating the amount of pure alcohol in it. You just need to know the volume and how 'strong' the drink is – given by the percentage of alcohol by volume (ABV). The ABV is widely available and shown on beer pumps, bottles, cans and so on.

For example, most whisky has an ABV of 40%. A 1 litre (1,000ml) bottle of this whisky therefore contains 400ml of pure alcohol. This is 40 units (as 10ml of pure alcohol = one unit). So, in 100ml of the whisky, there would be 4 units. And hence, a 25ml single measure of whisky would contain 1 unit.

The maths is straightforward. To calculate units, take the quantity in millilitres, multiply it by the ABV (expressed as a percentage) and divide by 1,000.

In the example of a glass of whisky (above) the calculation would be:

$$\frac{25\text{ml} \times 40\%}{1,000} = 1 \text{ unit.}$$

Or, for a 250ml glass of wine with ABV 12%, the number of units is:

$$\frac{250\text{ml} \times 12\%}{1,000} = 3 \text{ units.}$$

A 330ml bottle of lager (ABV 5%) contains:

$$\frac{330\text{ml} \times 5\%}{1,000} = 1.65 \text{ units.}$$

To work out units when volume is expressed in pints, you need to convert to millilitres. 1 pint is 568ml, so as an approximation, 1 pint can be considered as 500ml.

So, for 1 pint of beer (ABV 4%), the calculation would be roughly:

$$\frac{500\text{ml} (1 \text{ pint}) \times 4\%}{1,000} = 2 \text{ units*}.$$

*Because in this case the volume of a pint in mls was rounded down, the actual number of units is a little more than this estimate.

NHS advice on alcohol consumption

ALCOHOL KNOW YOUR LIMITS

SHOULD NOT REGULARLY EXCEED	
MEN	WOMEN
3-4 UNITS DAILY	2-3 UNITS DAILY

Drinking heavily in one session, including drinking to get drunk, can create risks of injury and accident, and can make you and others vulnerable in particular situations. While drinking a lot of alcohol in one go may not affect your

long-term health, it can certainly affect you in the short term and is responsible for a significant number of alcohol-related deaths.

The effects of alcohol on long-term health depend on the amount drunk and the frequency of drinking.

The NHS recommends that men should not regularly drink more than 3-4 units of alcohol daily and women should not regularly drink more than 2-3 units daily.

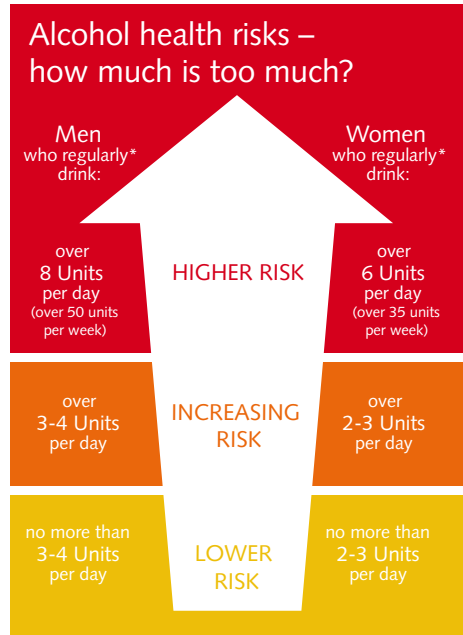
Why?

The advice is based on scientific evidence from studies in the population as a whole in this country and others about long-term health harms for broadly average, healthy adults. Up to these levels, an individual's risk of contracting alcohol-related illness is considered to be statistically low. Above these limits, the risk of long-term health harms starts to become significant and increases progressively the more you exceed these guidelines – see below.

Why is there no exact limit?

The limit is set as a range (2-3 and 3-4 units) because the science shows that there is no single exact cut-off that applies to every person every day. Rather it gives a good indication of the limit that should not be exceeded on a regular basis.

The limits are lower for women because their bodies are less effective than men's at breaking down alcohol, putting them at higher risk of harm.



* 'Regularly' here means every day or most days of the week (not just drinking at these levels once a week)

What does 'regularly' mean?

'Regularly' refers to drinking every day or most days of the week and does not refer to regular consumption just once a week.

Until 1995, the government advice on sensible drinking was based on weekly, rather than daily, limits. The advice was changed in 1995 to daily limits (for regular consumption). This was mainly because some people had misinterpreted the weekly amounts, believing it was safe to 'store up' their weekly 'allowance' until the weekend, when they would drink heavily. In fact, short-term episodes of heavy drinking or 'binge drinking' are often associated with injuries, accidents and social harm.



Individual circumstances

The NHS advises that it is important for people to think carefully about how much to drink on certain occasions, for example when responsible for the care of children or when driving, swimming, operating machinery, etc. It may be appropriate not to drink at all in these situations.

It can be advisable for some individuals to drink much less than the regular drinking limits, because of their own identified personal risks. For example, for some people mental health problems may be aggravated by alcohol, so they may choose to avoid drinking completely at certain times.

For some illnesses, increased risks occur as soon as any alcohol is consumed. For example, regular drinking of alcohol slightly increases the risk of future breast cancer – although the additional risk is small for most women. The NHS describes its recommended drinking limits as ‘lower-risk’ rather than completely ‘safe’ because of such issues.

Pregnancy and conception

Specific advice has been developed for pregnant women and those trying to conceive based on analysis of the evidence of the potential for harm to a developing baby.

NHS advice is that:

Pregnant women or women trying to conceive should avoid drinking alcohol. If they do choose to drink, to protect the baby they should not drink more than 1-2 units of alcohol once or twice a week and should not get drunk.

The National Institute for Health and Clinical Excellence (NICE) advises women to avoid alcohol in the first three months of pregnancy in particular, because of the increased risk of miscarriage.

Although there is believed to be little risk associated with consuming below 1 or 2 units once or twice a week, the evidence base for limited risk comes from a small number of studies. Ignorance of units themselves also means that some women might unknowingly put their unborn child at risk by consuming more units than they realise. The NHS has taken the view that precautionary advice is right for an area where the health harm can be severe and lifelong.

Women who drink heavily during pregnancy put their babies at particular risk of development of fetal alcohol syndrome or fetal alcohol spectrum disorder. These disorders lead to lifelong intellectual and behavioural problems for the child and may shorten life.



Health benefits

There is evidence that regularly drinking low levels of alcohol (around 1 unit a day) can confer a health benefit (mainly a cardiovascular benefit¹) for middle-aged and older people. The NHS does not explicitly advise that everyone who might benefit should drink in this way, as the same or greater benefits might occur with just exercise and a good diet, but it may be valuable for some people.

Effects on long-term health

Drinking regularly over the recommended limits increases health risks over the long term. Even consumption slightly above guideline levels for lower-risk drinking contributes to significant numbers of deaths.

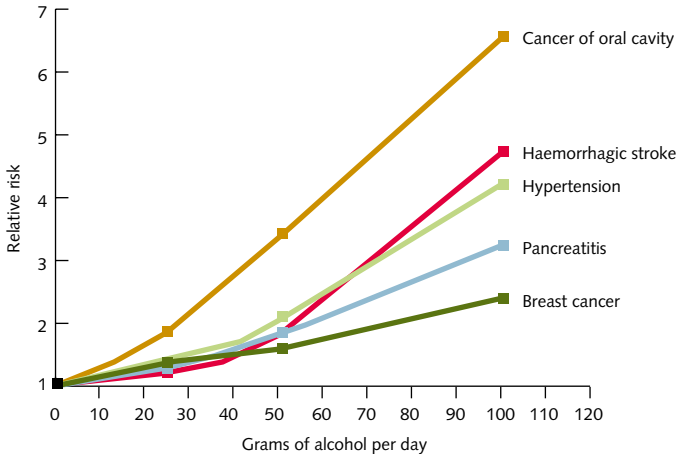
Men and women who drink over double the recommended limits increase their chances of contracting the illnesses in the table² below by the multiples shown compared with people who drink below the limits. For example, both men and women are 13 times more likely to suffer liver cirrhosis.

Illness	Men	Women
Liver cirrhosis	13.0	13.0
Mouth cancer	5.4	5.4
Larynx cancer	4.9	4.9
Oesophagus cancer	4.4	4.4
Liver cancer	3.6	3.6
Haemorrhagic stroke	3.6	3.3
Hypertension	4.1	2.0
Irregular heartbeat	2.2	2.2
Coronary heart disease	1.7	1.3
Colo-rectal cancer	1.5	1.4
Female breast cancer	n/a	1.6

People who drink more heavily face even higher risks of these illnesses.

¹ The benefit relates to reduced chronic heart disease mortality and morbidity on men aged over 40 and post-menopausal women, and consumption above 1 unit per day does not confer any additional health benefit.

The relationship between alcohol consumption and severe health harms



In the UK, most of the people who will die because of their drinking are not alcoholics. Instead, they are drinkers whose habit of regular drinking over a number of years has contributed to the damage to their health and the shortening of their lives. Many of these people suffer few immediate consequences of their drinking, but cumulatively it takes its toll.

While the connection between smoking and lung cancer is now commonly understood, the contribution of excessive drinking to various illnesses is less well recognised. In fact, 6,000 deaths per year due to coronary heart disease in men are directly attributable to alcohol – 12 per cent of all such deaths. And 400 of the 1,700 deaths per year due to mouth cancer are associated with heavy drinking – that's nearly one in four.

Each year in England and Wales, alcohol misuse leads to some 33,000 hospital admissions for alcohol-related liver disease. However, the effects on health go much wider and alcohol-related hospital admissions to acute care have been rising annually.

Alcohol misuse is also associated with:

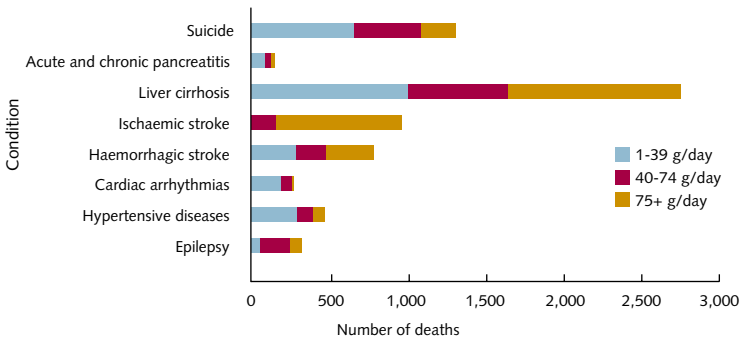
- around 5,000 cancer deaths²
- 1,100 haemorrhagic stroke deaths
- nearly 600 deaths due to hypertension
- a total of between 15,000 and 22,000 premature deaths.

Overall men in England who die from alcohol-related causes lose an average of 20.2 years of life and women who die from alcohol-related causes lose an average of 15.1 years of life.

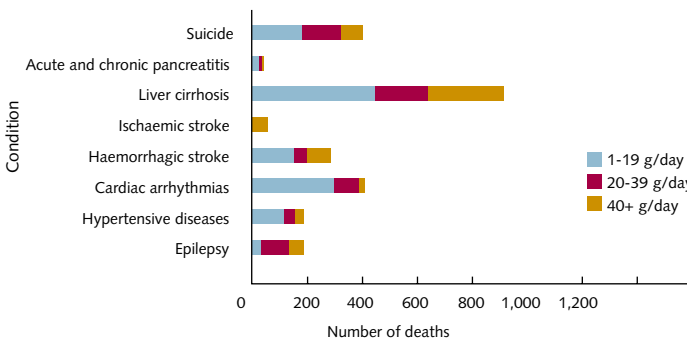
² Cancer deaths in particular may be an underestimate, as only data validated by research is included.



*Number of male deaths from selected conditions attributable to different levels of alcohol consumption, 2005**



*Number of female deaths from selected conditions attributable to different levels of alcohol consumption, 2005**



Alcohol misuse is calculated to cost the health service £1.7 billion per annum – equivalent to the amount spent on all accident & emergency services.

Alcohol-related crime and disorder

‘Binge drinking’ (drinking heavily in one go and getting drunk) has immediate and short-term risks to the drinker and those around them. People who become drunk are much more likely to become involved in an accident or assault,

be charged with a criminal offence or contract a sexually transmitted disease; women are more likely to have an unplanned pregnancy.

The cost of alcohol-related crime is estimated to be up to £7.3 billion per year.

1.2 million violent incidents (around half of all violent crimes) and 360,000 incidents of domestic violence are linked to alcohol.

*These graphs do not show the deaths prevented by low levels of alcohol consumption.

Know Your Units

The table below provides information on the number of units contained in some common drinks, based on typical alcoholic strengths. Check labels or ask bar-staff to identify the actual ABV % strength of what you are drinking, because different brands may be stronger or weaker than these examples.

To keep track of the units in your favourite drinks visit www.nhs.uk/units. Then you can easily keep count and make informed choices when you're drinking.

'Low Alcohol' Beer, Lager & Cider	Bottle (330ml)	Can (440ml)	Pint (568ml)	Litre
2%	0.7 units	0.9 units	1.1 units	2 units
Beer, Lager & Cider	Bottle (330ml)	Can (440ml)	Pint (568ml)	Litre
4%	1.3 units	1.8 units	2.3 units	4 units
5%	1.7 units	2.2 units	2.8 units	5 units
5.2%	1.7 units	2.3 units	3 units	5.2 units
6%	2 units	2.6 units	3.4 units	6 units
'Super-Strength' Beer, Lager & Cider	Bottle (330ml)	Can (440ml)	Pint (568ml)	Litre
9%	3 units	4 units	5 units	9 units
Alcopops	1 Bottle (275ml)			
5%	1.4 units			
Wine & Champagne (red, white, rose or sparkling)	Small glass (125ml)	Standard glass (175ml)	Large glass (250ml)	Bottle (750ml)
10%	1.25 units	1.75 units	2.5 units	7.5 units
11%	1.4 units	1.9 units	2.8 units	8.3 units
12%	1.5 units	2.1 units	3 units	9 units
12.5%	1.6 units	2.2 units	3.1 units	9.4 units
13%	1.6 units	2.3 units	3.3 units	9.8 units
13.5%	1.7 units	2.4 units	3.4 units	10.1 units
14%	1.75 units	2.5 units	3.5 units	10.5 units
Fortified wine (Sherry & Port)	Standard measure (50ml)			
17.5-20%	0.9-1 unit			
Spirits (Gin, Rum, Vodka & Whisky)	Single measure (25ml)	'Large single' measure (35ml)	Double measure (50ml)	'Large double' measure (70ml)
38-40%	1 unit	1.4 units	1.9-2 units	2.7-2.8 units
Shots (Tequila, Sambuca)	Single measure (25ml)		'Large single' measure (35ml)	
38-40%	1 unit		1.3 units	

Shots may either be spirits or liqueurs, and are generally drunk very quickly. Different liqueurs can vary considerably in strength – they can be stronger or weaker than this example.





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www.nhs.uk/units