Recently there has been a lot of media coverage about the harmful effects of drinking too much alcohol. This factsheet describes how regularly drinking more than the recommended levels can increase the risk of stroke. It includes tips on becoming aware of the amount you drink, how to reduce your intake, and lists organisations that offer further information and support.

There has been much research on the possible health benefits of consuming moderate amounts of alcohol. Results began to show that people already at increased risk of heart disease, such as men over 40 and women past the menopause who drank moderate amounts of alcohol – one or two units a day – had a lower risk of dying from heart disease than those in the same groups who drank heavily or didn’t drink at all.

It seems that regular, small amounts of all types of alcohol appear to be good for the heart although the reasons for this remain unclear. The benefits of small amounts of alcohol against heart disease have only been demonstrated in those already at an increased risk (men over 40 or women after the menopause), but it is generally thought that a unit or two some days of the week probably protects adults of all ages against heart disease.

**Effect on stroke**

The picture is more complicated with stroke. Nearly 80 per cent of strokes are ischaemic – caused by blood clots blocking arteries. As with heart attacks, small amounts of alcohol seem to help protect against this type of stroke. The remaining percentage of strokes are haemorrhagic – bleeding caused by burst blood vessels in or around the brain. Alcohol does not protect against haemorrhagic strokes and even moderate amounts of alcohol may increase the risk of having a haemorrhagic stroke.

Research has also shown that heavy drinking increases the risk of all types of stroke. A Scottish study, begun in the 1970s, looked at the relation of alcohol consumption to mortality and followed nearly 6,000 men over a period of 21 years. It was found that those who drank five or more units per day were twice as likely to die from a stroke than those who didn’t drink.

**How alcohol works**

Alcohol (ethanol) is water soluble. It is absorbed from the stomach and the small intestine and distributed throughout water and tissue in the body. Hardly any alcohol enters fat as unlike water, fat has poor solubility. As women usually have more fat
and less volume of blood than men, this means that when drinking alcohol, a woman will have higher concentrations of alcohol in the blood and tissue than a man drinking the same amount.

It is thought that alcohol may help to thin the blood and thus may reduce the risk of clots forming in blood vessels – the cause of ischaemic strokes. However, this blood thinning action may have an adverse effect on people at risk of haemorrhagic strokes and may increase the chances of a bleed.

Alcohol may also affect the way that cholesterol is carried in the bloodstream, reducing the risk of fatty deposits building up in blood vessel walls. This may also reduce the risk of ischaemic strokes.

In larger amounts, however, alcohol increases blood pressure, and high blood pressure is the main risk factor for stroke. Blood pressure is a measure of the force with which the blood presses on the inside walls of the arteries as it is pumped around the body. It is measured in two readings – the first is when the heart beats (systolic pressure) and the second when the heart relaxes between beats (diastolic pressure). The systolic reading is always written before the diastolic figure and both are measured in millimetres of mercury – ‘mmHg’.

Hypertension – high blood pressure, develops when the pressure of the blood passing through the blood vessels is consistently high – above 140/90 mmHg. (For further information please see our Factsheet F6 High blood pressure and stroke).

High blood pressure puts a strain on blood vessels all over the body including arteries that carry blood (and oxygen) to the brain. The internal artery walls may also become narrowed and less efficient in delivering blood to the brain. Narrowing within the artery walls increases the resistance to the flow of blood and this leads to increased blood pressure.

Alcohol can also lead to a rise in homocysteine levels – a substance linked to atherosclerosis (hardening and furring of the internal walls of the arteries). This can lead to the formation of blood clots and if these break off, they can be carried in the circulation to the brain where they could cause a blockage – leading to a stroke.

Regular, heavy drinking can raise blood pressure to consistently high levels and this increases the risk of both types of stroke. ‘Binge drinking’ greatly increases the risk of a stroke because it dramatically increases blood pressure.

Sensible drinking

The current recommended guidelines from the Department of Health for safe drinking are a maximum of three to four units of alcohol a day for men, and a maximum of two to three units a day for women. It is also recommended that we aim for two ‘alcohol free’ days a week.

The maximum recommended alcohol intake used to be expressed as a weekly quota. However, this sometimes encouraged people to ‘save up’ their weekly allowance for one or two ‘binge drinking’ sessions each week (drinking double the recommended daily intake – six units for women and eight units for men). It is now
recommended that we pay attention to our daily (rather than weekly) intake. A unit is equivalent to 10ml of alcohol. The strength of alcohol is measured by percentage of alcohol by volume – written as ‘%Abv’.

1 unit = approximately:
- half a pint of ordinary strength (4%Abv) lager, beer or cider
- a pub measure of spirit, such as gin, vodka or whisky
- a small glass of wine (125ml)

One bottle of ‘alcopop’ is between 1.5 and 2.7 units depending on bottle size and alcohol strength.

Women should drink less than men because of their smaller size and different body composition. Compared to men, women have more fat and less fluid in their bodies to dilute the concentration of alcohol. Unit for unit, alcohol becomes more concentrated in women than in men and may therefore do more damage. Current Department of Health advice for women who are pregnant or who are trying to become pregnant is not to drink alcohol at all.

Staying in control

To find out if you are staying within the sensible drinking guidelines, try keeping a ‘drinks diary’. For a couple of weeks, at the end of each day, make a note of what you drank and count up the units. If you find that you are regularly drinking more than the recommended levels and you would like to try cutting down, you could try some of the suggestions below. If you would like help with cutting down you could also speak to your GP or contact some of the organisations listed at the end of this factsheet.

- **Set yourself a daily alcohol limit.** Work out when you do most of your drinking and see if there are obvious times when you can cut back (such as the ‘quick drink’ at lunchtime or after work).
- **Don’t drink** on an empty stomach.
- **Go out later** or have your first drink of the day later than usual.
- **Always drink a glass of water** alongside your glass of wine.
- **If you’re out drinking in a group, avoid buying rounds**, as this can encourage people to drink more alcohol more quickly.
- **Dilute drinks** with non-alcoholic mixers.
- **Alternate alcohol** with non-alcoholic drinks.
- **If you’re drinking at home**, try not to pour larger drinks than you would get if you were drinking in a pub or restaurant.
- **Keep** a range of non-alcoholic drinks that you like at home.

Useful contacts

All organisations listed are UK wide unless otherwise stated.

**(AA) Alcoholics Anonymous**
Helpline: 0845 769 7555
Website: www.alcoholics-anonymous.org.uk
Information and support for anyone concerned about their own drinking.
Al-Anon (UK and Eire)
Helpline: 020 7403 0888
Website: www.al-anonuk.org.uk
Information and support for anybody whose life is affected by someone else’s drinking.

Other Al-Anon information services:
Al-Anon (Scotland)
Tel: 0141 339 8884
Al-Anon (Northern Ireland)
Tel: 028 9068 2368

Alcohol Concern
64 Leman Street, London E1 8EU
Tel: 020 7264 0510
Website: www.alcoholconcern.org.uk
Works to increase the range and quality of services available to people with alcohol related problems. There are downloadable publications and a directory of useful organisations on the website. Manages the ‘Down your Drink’ website (see right).

Alcohol Focus Scotland
166 Buchanan St, Glasgow G1 2LW
Tel: 0141 572 6700
Website: www.alcohol-focus-scotland.org.uk
Information and advice on sensible drinking, publications on alcohol and related issues, promotes responsible drinking.

DAN 24/7 (Wales Drug and Alcohol Helpline/Cyffuriau ac Alcohol Cymru)
Website: www.dan247.org.uk
Tel: 0800 6 33 55 88 (24 hrs, 7 days a week)
A free and bilingual telephone helpline for anyone in Wales wanting further information and help relating to drugs or alcohol.

Down Your Drink
Website: www.downyourdrink.org.uk
Enables users to work out whether they are drinking too much and if so, tips on what they can do to change this.

Drinkline (England, Wales and Northern Ireland) Tel: 0800 917 8282
Drinkline Scotland Tel: 0800 7 314 314
Freephone helpline offering confidential information and advice for people who need help with their own or someone else’s drinking.

Drinkaware
Samuel House, 6 St Albans St, London SW1Y 4SQ
Tel: 020 7766 9900
Website: www.drinkaware.co.uk
Works towards positively changing behaviour to reduce alcohol misuse and alcohol-related harm. Provides information on alcohol and how to drink sensibly.

For further information, phone the Stroke Helpline on 0303 3033 100, email info@stroke.org.uk or visit our website www.stroke.org.uk
If you are unhappy about any aspect of The Stroke Association, please make your views known to us immediately. We will happily discuss any issues and how they can best be resolved.

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