

Healthy eating and stroke

Certain foods can help protect you against stroke, but having too much fat, salt and sugar in your diet can increase your risk. This factsheet explains how what you eat affects your risk of stroke and suggests some simple ways you can make your diet healthier.

You may be aware that a healthy diet can help reduce your risk of heart disease, diabetes and cancer. You might not realise that **healthy eating also lowers your chances of having a stroke or transient ischaemic attack (TIA).**

Many strokes can be prevented and healthy eating is one important way to reduce your risk.

Even making small changes to your eating habits can make a difference to your overall health, particularly if you have been told that you are at risk of having a stroke or TIA.

A dietitian can give you advice on healthy eating if you are unsure of what to eat, need to lose weight or have diabetes. Your GP can refer you to see one.



The costs of printing this factsheet have been paid for by Wiltshire Farm Foods. The Stroke Association retains independent editorial control over all content.

Some tips to help reduce your risk of stroke

- Fruit and vegetables should make up a third of your daily diet. Eat at least five portions a day.
- Starchy foods should make up another third of your daily diet.
- Cut down on full-fat milk, cream, cheese, fatty meat, processed meats and takeaways.
- Limit salt to a teaspoon a day (or 6g). This includes hidden salt found in some ready-made and processed foods.
- Aim to eat some protein every day. It can be found in oily fish, beans, peas, pulses, nuts and seeds.

Fruit and vegetables

Eating five or more portions of fruit and vegetables a day can reduce your risk of stroke by up to 30%. Every extra portion you eat reduces your risk even further.

What is a portion of fruit or vegetables?

- One portion weighs 80g.
- For fruit, this could be an apple or two plums, a handful of berries, three heaped tablespoons of fruit salad, or one heaped tablespoon of dried fruit.
- A glass of fruit juice (150ml) counts as a maximum of one daily portion. This is because it is low in fibre and may affect your blood sugar levels.
- For vegetables, one portion is three heaped tablespoons whether raw, cooked or tinned.
- A dessert bowl of salad also counts as one portion.

What are the benefits?

- **Vitamins and minerals**

Fruit and vegetables contain a range of vitamins, minerals and nutrients. These include antioxidants such as vitamins A, C and E and beta-carotene. Antioxidants help prevent damage to your arteries, which can lead to stroke.

Getting a good amount of the mineral potassium may also reduce your risk of stroke as it can help prevent high blood pressure. Eating more fruit and vegetables is a good way to increase your potassium levels. Potatoes, spinach and bananas are rich sources of potassium. Over the counter potassium supplements should only be taken on medical advice as they can be harmful, especially for older people.

- **Fibre**

Fruits and vegetables contain a type of fibre called soluble fibre, which can help lower cholesterol and so reduce your risk of stroke. Apples, green beans and peas are good sources. Where possible, eat the skin on fruit and vegetables as this is where most of the fibre is stored. High fibre foods also help to control your body weight, as they are bulky and help you feel fuller for longer.

Tips for eating five a day

- Snack on fruit instead of sugary foods and sweetened drinks.
- Choose a colourful variety of fruits and vegetables. This will help you to get a range of vitamins and minerals.
- Choose canned fruit in juice rather than syrup, and canned vegetables in water without sugar or salt.
- Green leafy vegetables such as broccoli, cabbage, spinach and Brussels sprouts (as well as cauliflower) are particularly protective against stroke as they contain high levels of antioxidants.
- Citrus fruits and their juices may be particularly protective against stroke for the same reason.

Some types of medication can be affected by the foods you eat. If you take statins (which lower cholesterol), avoid drinking grapefruit juice. If you take warfarin (a blood-thinning medication), you need to be careful what you eat.

It is advisable not to make sudden changes to your diet and you should avoid foods or drinks that are high in vitamin K, particularly grapefruit and cranberry juice. See our factsheet *F26, Atrial fibrillation (AF) and stroke* for more information about warfarin and food.

Wholegrains

Wholegrains play an important role in preventing stroke

Starchy foods, like rice, cereals, potatoes and bread, should make up about a third of your diet. Wholegrain varieties generally contain more vitamins and minerals than refined white flour products or white rice.

- **Vitamins and minerals**

Wholegrains are a good source of B-vitamins, like B6, B12 and folic acid.

- **Fibre**

Wholegrains are another major source of fibre (also called roughage). Try to drink at least six to eight glasses of water, or other fluids, a day as this helps the body to break down wholegrains.

Tips on eating more wholegrains

- Cut down on white bread, white rice and sugary cereals, and eat fewer white flour products like biscuits, cakes, pastries and pasta.
- Gradually eat more wholegrain breads, wholegrain breakfast cereals, wholemeal pasta and brown rice.
- Oats can help lower cholesterol and so reduce stroke risk. Oat bran, oatmeal

and barley all help too.

- Millet and quinoa are gluten-free wholegrain alternatives.

Protein

Your body needs small amounts of protein every day. Protein is found in meat, fish, beans and pulses, and dairy products like milk, cheese, and eggs. Aim to eat lean cuts of meat and take the skin off poultry whenever possible to reduce the amount of fat.

Eating any type of **fish** at least once a month reduces your risk of stroke. Aim for 1-2 servings per week including one of oily fish. Due to small amounts of pollutants found in fish, you should eat no more than four portions a week.

Beans and pulses are a good alternative to meat and fish. They also contain soluble fibre that can help lower your cholesterol. Beans and pulses are also high in vitamins and minerals and three heaped tablespoons can count as one of your five a day.

Sugar

Many foods and drinks contain a lot of added sugar, which means they're high in calories. You can put on weight if you consume more sugar than your body needs, as excess calories are stored as fat. This then increases your risk of stroke, heart disease and type 2 diabetes. Foods high in added sugar include:

- fizzy drinks and squash
- cakes, biscuits and chocolate
- sugar-coated cereals
- jam and marmalade.

It is recommended that you consume less than 60g of sugar a day (the equivalent of 12 teaspoons). This may sound a lot but one can of fizzy drink can contain up to eight teaspoons.

Food labels will tell you how much sugar there is in food. It may be listed as sugar or 'carbohydrates from sugar'. If sugar is at the top of the ingredients list, you will know that the food contains a lot of sugar.

- A **high amount of sugar** is more than 15g per 100g.
- A **low amount of sugar** is 5g or less per 100g.

Fat

There are different types of fat in food. Eating too much of the wrong type can raise your cholesterol levels and increase your risk of stroke. If you eat foods that contain too many saturated or trans fats, you can also put on weight. Being overweight raises your risk of serious health problems, such as type 2 diabetes, high blood pressure, heart disease and stroke.

However, not all fat is bad. We all need some fat in our diets because it is a valuable source of energy and it helps the body absorb certain nutrients. It also provides essential fatty acids that the body can't make itself.

What are the 'good fats' in food?

- **Unsaturated fats are better for our health.** They are mainly found in fish and in plant-based foods, like nuts and seeds or the oils that come from them. You may see names like 'polyunsaturated', 'mono-unsaturated' and 'Omega fatty

acids' – these are different types.

- **Omega 3** is a type of fatty acid. It is found in seeds, but the best source is believed to be oily fish such as salmon or mackerel. It's particularly important in reducing stroke risk as it can prevent blood clots, lower cholesterol and lower blood pressure.

What are the 'bad fats' in food?

Saturated fats are mainly found in meat and dairy products, including fatty red meats, meat products (like sausages and meat pies), full-fat butter, cream and cheese, or processed foods that contain these. Palm oil, coconut oil, coconut cream and ghee are also high in saturated fat.

Trans fats are made from liquid oils that are partially processed (or hydrogenated). Like saturated fats, trans fats can raise your cholesterol levels. They are found in processed foods like margarine, cakes, biscuits and pastries.

Too many saturated and trans fats can cause fatty substances called plaque or atheroma to clog the arteries. This can lead to hardening and narrowing of the arteries, a condition called **atherosclerosis**, which increases your risk of stroke. Cutting down on the amount of fat in your diet and replacing 'bad fats' with 'good fats' can help reduce this risk. Checking food labels and packets is a good way of finding out what the fat content is in food before you buy it.

- Foods that have a high fat content have more than 20g per 100g.
- Foods that have a low fat content have 3g or less per 100g.

What is cholesterol?

Cholesterol is a type of fat found naturally in your blood. It is produced mainly in the liver. However cholesterol is also absorbed from foods you eat such as red meat, high fat cheese, butter, and eggs. Cholesterol helps your body to digest food, make hormones and build cell walls. Your liver can produce all the cholesterol your body needs. However foods that contain saturated fats and trans fats contain additional cholesterol.

Saturated and trans fats contain triglycerides. These are also made in your liver and intestines and your body uses them for energy. However if your body doesn't need to use this fat, it's stored as fatty tissue.

Cholesterol is transported around the body by lipoproteins. There are **good and bad types**:

LDL (low density lipoprotein) is the **bad** type of cholesterol. If there is too much LDL cholesterol in your blood, it can slowly build up in your arteries making them narrower, which increases your risk of stroke and heart disease.

HDL (high density lipoprotein) is the **good** type of cholesterol. It helps to remove excess cholesterol from your bloodstream and returns it to the liver where it is broken down and passed out of the body.

What causes high cholesterol?

For many people, having high cholesterol is the result of eating too much food that's high in saturated fat. There are other causes such as:

- smoking
- drinking too much alcohol
- being overweight
- not exercising enough, and
- fixed factors which include, age, ethnic group or family history of heart disease or stroke.

Some people also have high cholesterol because of an inherited genetic condition called **familial hypercholesterolemia (FH)**. This is when you have a higher level of bad cholesterol in your bloodstream. In the UK about 1 in 500 people have FH, which increases your risk of stroke.

How is cholesterol measured?

Your cholesterol levels may be checked with a blood test. If your doctor requires a detailed test (called a full lipid profile test), you will be asked not to eat or drink anything (other than water) for 12-14 hours before the test. The results will tell your doctor what your total levels of cholesterol, lipoprotein and triglycerides are.

In the UK, it is recommended that **your total cholesterol levels should be below 5mmol/L** and your LDL (bad cholesterol) level should be below 3mmol/L. This is the amount of cholesterol per litre of blood. **If you have already had a stroke, your total cholesterol level should be below 4mmol/L** and your LDL level below 2mmol/L.

How often you should get your cholesterol levels checked will depend on your age and whether you have other health conditions. Your doctor will be able to advise you. You should get your cholesterol checked every year if you are over 40, overweight or have a family history of stroke, high blood pressure

or other medical conditions such as heart disease or diabetes.

What treatments are available?

If you have high cholesterol, **your doctor may recommend a low fat diet and plenty of exercise**. If your cholesterol levels have not gone down after several months, your doctor may advise you to take medication. They will consider all aspects of your health when choosing which type of medication is best for you.

Statins are a type of medication that can lower your cholesterol. They help prevent fatty deposits forming on the walls of your arteries and may also help reduce those that are already there.

There are many types of statins that your doctor can prescribe. More common ones are Simvastatin, Fluvastatin or Atorvastatin. Your doctor will decide which is the best one for you. This will depend on your medical history and your target cholesterol level. If you are taking Simvastatin or Atorvastatin, you should avoid eating grapefruit or drinking grapefruit juice as it can cause side effects. Always read the information that comes with your medication and ask your doctor if you are unsure.

If you are prescribed statins, you will usually be advised to make some lifestyle changes too, such as following a low fat diet and, if necessary, losing weight, giving up smoking or reducing the amount of alcohol you drink. You may also need advice from a dietitian – your doctor may refer you to one. There are other types of cholesterol-lowering drugs that your doctor may also consider. These include:

- niacin
- bile acid resins
- fibrates, or
- selective cholesterol absorption inhibitors.

If you have had a **stroke** caused by a blockage (ischaemic stroke) or a **TIA**, you will be prescribed a statin regardless of your cholesterol level. This is to help prevent another stroke or TIA. The aim will be to keep your cholesterol level at 4mmol/L or below.

If you have **diabetes** you may be prescribed a statin to help reduce your risk of stroke or heart disease. If you have diabetes your cholesterol level should be 4mmol/L or below. (See our factsheet, *F15, Diabetes and stroke* for more information.)

If you are **overweight or obese** you may be prescribed a statin because of your increased risk of stroke and heart disease.

Products that lower your cholesterol

Plant sterols are naturally found in a wide range of foods such as vegetable oils, nuts, seeds, wholegrains, fruits and vegetables. Scientific studies suggest that eating 2g of plant sterols each day can reduce LDL (bad cholesterol) by 6%.

Sterols can also be found in specially-developed products, such as margarine, drinks and yoghurts. Although these can be expensive, eating some every day can help to lower your cholesterol. However, they should not replace cholesterol-lowering medication prescribed by your doctor, but can be used in addition to them.

Tips on lowering your cholesterol

- Cut down on foods that are high in saturated fat, such as:
 - full-fat dairy milk, cheese, cream, yoghurt and butter
 - fatty meat, meat products and lard
 - pastries, biscuits and cakes
 - foods high in coconut oil, palm oil or ghee.
- Eat more foods that are high in fibre such as oats, beans, peas, pulses, nuts, fruit and vegetables.
- Eat oily fish such as salmon, mackerel, sardines, trout, pilchards or fresh tuna.
- Eat five portions of fruit and vegetables a day.
- Use olive oil for salad dressing, but cook other foods with rapeseed oil (it's healthier at higher temperatures).
- Cholesterol from eggs, liver and kidneys and some seafoods has little effect on your cholesterol levels.
- Exercise regularly – this helps improve the balance of fats in your blood.
- Drink sensibly and give up smoking. See factsheets *F13, Alcohol and stroke* and *F19, Smoking and the risk of stroke* for more information.

Why eat less salt?

Eating a lot of salt can **increase your blood pressure**. Salt contains sodium which helps to keep your body fluids at the right level. If you have too much salt, the amount of liquid

your body stores increases and this raises your blood pressure.

High blood pressure (hypertension) is the **single biggest risk factor for stroke**. It causes the walls of your arteries to harden and narrow, which increases the risk of blood clots forming. High blood pressure also puts a strain on the walls of your blood vessels. This increases your risk of a blood vessel bursting and bleeding into the brain (a haemorrhagic stroke). By reducing the amount of salt you eat, you can lower your blood pressure and your risk of stroke. See our factsheet *F6, High blood pressure and stroke* for more information.

How much salt do I need?

You should **eat no more than 6g of salt a day**.

There can be a large amount of hidden salt found in some processed and ready-made foods. 75% of the salt we eat is already in everyday foods such as bread, breakfast cereal and ready meals. Many other everyday foods have a high salt content like tinned and packet soup, crisps, bacon and sausages. A quick and easy way to keep track of the amount of salt you are eating is by reading the salt (and sodium) content on the nutritional labels on foods:

- A **high amount of salt** is more than 1.5g per 100g (0.6g sodium).
- A **low amount of salt** is 0.3g per 100g (or 0.1g sodium). If you can only see a figure for sodium, multiply it by 2.5 to find out the amount of salt.

When comparing two similar products, try to go for the one with the lowest salt content –

small changes can make a big difference.

An easy way to cut down on salt is to stop adding it to your food during cooking and at the dinner table. If you regularly add salt to food when cooking, try adding less or using herbs, spices, garlic or lemon juice to add flavour instead.

Tips to help you to cut down on salt

- Remember the maximum daily intake recommended for adults is just one teaspoon of salt. This is roughly 6g (or 2.5g of sodium).
- Take salt off the dinner table.
- Don't add salt when cooking – instead flavour meals with garlic, chilli, herbs, spices, lemon or lime juice.
- Make your own sauces, pickles or chutney to control how much salt goes in.
- Beware of added salt in foods like:
 - bread and breakfast cereals
 - crisps and other salty snacks
 - cheese, butter and margarine
 - meat products like bacon and sausages
 - ready-made meals and soups
 - smoked fish and baked beans
 - ketchups and sauces in jars.

Food labels

Most pre-packed foods have a nutrition label on the packaging. These labels usually include information on energy (calories), protein, carbohydrate and fat. They may

provide additional information on saturated fat, sugars, sodium, salt and fibre. All nutritional information is provided per 100 grams and sometimes per portion.

Some nutritional labels use the traffic light colour-coding system (red, amber, green). This tells you at a glance if the food contains high, medium or low amounts of fat, saturated fat, sugars and salt.

- Red means high.
- Amber means medium.
- Green means low.

The more green lights, the healthier the food.

Many processed foods contain high amounts of fat, sugar and salt. The lower down the list of ingredients they are, the healthier the food is. Food labels can sometimes be confusing, but they are useful for checking the amount of fat, sugar and calories in food.

Tips to help you to lose weight

- Eat balanced meals that are high in vegetables, salad, wholegrain starches and fruit, but low in salt, fat and sugar.
- Eat at least five portions of fruit and vegetables a day.
- Takeaways should only be occasional treats.
- Choose low fat options for milk, cheese, yoghurt, spreads and salad dressings.
- Choose lean cuts of meat and trim off visible fat. Replace some red meat with leaner varieties like chicken and turkey, and remove the skin.

- Look at food labels to check the fat content.
- Steam, grill, bake, poach or simmer, rather than frying your food.
- Try to eat only as much as you need. If you consume more calories than your body needs, then the extra energy is usually stored as fat.
- Use smaller plates and bowls to help control your portion sizes.
- Try to do some form of exercise every day. This can help you burn off calories or maintain your body weight.
- Drink sensibly and keep within recommended alcohol limits.
- Speak with your GP, practice nurse or dietitian before starting any new diet.

Useful organisations

All organisations are UK wide unless otherwise stated.

Stroke Association

Stroke Helpline: 0303 3033 100

Website: stroke.org.uk

Email: info@stroke.org.uk

Contact us for information about stroke, emotional support and details of local services and support groups.

www.nhs.uk/livewell/5aday

The NHS Choices 5 A Day website tells you about the benefits of eating at least five portions of fruit and vegetables a day.

www.nhs.uk/Change4Life/

The NHS Choices Change 4 Life website

supports families to make lifestyle changes. There are recipes and hints and tips on how to eat well and get active.

British Dietetic Association

Tel: 0121 200 8080

Website: www.bda.uk.com

They provide factsheets on various aspects of diet and nutrition.

Freelance Dietitians

Website: www.dietitiansunlimited.co.uk

Find a registered dietitian working in private practice on this website (from The British Dietetic Association).

British Nutrition Foundation

Tel: 020 7240 0696

Website: www.nutrition.org.uk

They provide information on nutrition and healthy eating based on nutrition science.

CASH (Consensus Action on Salt and Health)

Tel: 020 7882 5941

Website: www.actiononsalt.org.uk

They provide information on salt and its effects on health, including links to obesity and blood pressure.

Coeliac UK

Helpline: 0845 305 2060

Website: www.coeliac.org.uk

The charity supports people with coeliac disease – they provide information on gluten-free diets.

Heart UK – The Cholesterol Charity

Helpline: 0845 450 5988

Website: www.heartuk.org.uk

They provide information on high cholesterol and treatments. Their helpline is staffed by specialist nurses and dietitians.

Healthy eating and stroke

Institute for Optimum Nutrition

Website: www.ion.ac.uk

The charity provides information and education on nutrition.

The Vegetarian Society

Tel: 0161 925 2000

Website: www.vegsoc.org

They provide recipes and information on vegetarian food and healthy eating.

Weightwise

Website: www.bdaweightwise.com

This website provides hints and tips to help you manage your weight.

Weight Concern

Tel: 020 7679 1853

Website: www.weightconcern.org.uk

They offer information and support programmes to tackle the causes of excess weight.

Disclaimer: The Stroke Association provides the details of other organisations for information only. Inclusion in this factsheet does not constitute a recommendation or endorsement.

Produced by the Stroke Association's Information Service.

For sources used, visit stroke.org.uk

© Stroke Association

Factsheet 08, version 1.1 published

October 2013 (next review due June 2015).

Item code: **A01F08**



The Stroke Association is a charity. We rely on your support.

Text **STROKE 5** to **70300** to donate £5. 100% of your donation goes to the Stroke Association. Find out how your support helps at stroke.org.uk/savelives

The Stroke Association is a company limited by guarantee, registered in England and Wales (No 61274).

Registered office: Stroke Association House, 240 City Road, London EC1V 2PR. Registered as a charity in England and Wales (No 211015) and in Scotland (SC037789). Also registered in Northern Ireland (XT33805), Isle of Man (No 945) and Jersey (NPO 369).