

Healthy eating and stroke

Stroke Helpline: 0303 3033 100
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Eating a healthy, balanced diet can help reduce your risk of a stroke. This guide suggests some simple ways you can change your diet to reduce your blood pressure, stay a healthy weight, and lower cholesterol.

If you have had a stroke or transient ischaemic attack (TIA or mini-stroke), you should be given some advice about healthy eating. People with swallowing problems should have advice from a speech and language therapist and dietitian on healthy and safe ways to eat and drink. If you have trouble eating enough to keep your weight up, ask your GP or dietitian for help. If you need to reduce your weight, you can get advice from your GP, and there are some great resources online such as NHS OneYou and NHS Choices.

Five healthy eating tips to help reduce your risk of stroke

1. Fruit and vegetables should make up a third of your daily diet. Eat at least five portions a day.
2. Starchy foods should make up another third of your daily diet. Go for more wholegrains in foods like brown rice, wholegrain bread and breakfast cereals.
3. Aim to eat some protein every day. Healthy sources of protein can be found in fish, pulses, nuts and seeds, lean meat and meat alternatives like tofu and textured vegetable protein.
4. Cut down on full-fat milk, cream and cheese, fatty meat, processed meats, and solid fats like butter and margarine.
5. Limit salt to a teaspoon day (or 6g). This includes hidden salt in ready-made and processed foods.

Look inside this guide for some practical tips for changing your diet.

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. Try gradually increasing the number of portions you eat. You could start taking a piece of fruit to work, add a salad to your lunch or try making a simple homemade vegetable soup.

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, or three heaped tablespoons of fruit salad
- 30g or one heaped tablespoon of dried fruit counts as a portion.
- A glass of fruit juice (150ml) counts as a maximum of one daily portion. This is because it is low in fibre and contains a lot of natural sugars, which may affect blood sugar levels.
- For vegetables, one portion is three heaped tablespoons whether raw, cooked or tinned. A dessert bowl of salad 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, which work to prevent damage to your arteries. You don't need to take supplements to get enough antioxidants unless they are prescribed by your doctor. It's a good idea to try to eat a range of foods containing the vitamins you need. To get more antioxidants, aim to eat a variety of different coloured fruit and vegetables. You could try carrots, apricots, berries, broccoli or red peppers.

The mineral potassium can help prevent high blood pressure. Eating more fruit and vegetables is a good way to increase your potassium levels. Bananas, nuts, mushrooms and potatoes are rich sources, but all vegetables and fruit contain potassium. Over-the-counter potassium supplements should only be taken on medical advice, as they can be harmful if you have kidney problems or take some types of blood pressure medication.

Tips for eating five a day

- Replace crisps and chocolate with healthy snacks, like a piece of fruit, raw carrot sticks with some humous, or some dried fruit and unsalted nuts.
- Choose a colourful variety of fruits and vegetables. This will help you to get a range of vitamins and minerals including antioxidants. Think about green leafy vegetables, orange and red fruit and vegetables like carrots and peppers, and dark purple foods like aubergines and blueberries. Potatoes are classed as a starchy food, not a vegetable, but the skin provides useful fibre and potassium.
- Canned fruit and veg count towards your five a day. Choose fruit in juice rather than syrup, and vegetables in water without salt or sugar.
- Frozen vegetables and fruit are full of the same nutrients and fibre as fresh. Try adding some frozen berries to porridge, or frozen chopped vegetables to a home-made pasta sauce.

Fibre

Fibre is vital for lowering cholesterol, keeping blood sugar levels stable, and managing your weight. Adults should aim to eat 30g of fibre every day.

Fibre is found in plant-based foods, not meat or dairy. The amount of fibre in food can often be found on the label. You may hear the terms insoluble and soluble fibre being used.

- Soluble fibre delays the time it takes for you to digest food, making you feel fuller for longer. It can regulate blood sugar levels and help reduce cholesterol. It does this by binding to excess cholesterol and fatty substances in the gut, stopping them from going into your bloodstream. One kind of soluble fibre is beta-glucan, which is found in grains like oats, barley and rye. Fruit, vegetables, beans, pulses and peas are other good sources of soluble fibre.
- Insoluble fibre shortens the time it takes for food to move through the bowel, and can also improve the balance of good bacteria in the gut. This can improve the health of your gut. To boost your intake, eat the skin on fruit and vegetables. Go for wholegrain varieties of starchy foods like pasta and bread, and cook potatoes with the skin on.

Wholegrains

Wholegrains are linked to a lower risk of stroke. They can also help us avoid type 2 diabetes, heart disease and weight gain.

To make white flour or white rice, the brown outer skin of the grain is removed. This skin is where most of the fibre, vitamins and minerals are stored. So that's why wholegrain foods tend to contain more vitamins and minerals than refined products like white bread and white pasta.

Wholegrains are a good source of B-vitamins and folic acid, as well as both types of fibre.

Tips for eating more wholegrains

- Start off by adding wholegrains into some of your main meals. Try brown rice instead of white, brown pasta and wholewheat couscous.
- Look for wholegrain breakfast cereals.
- Choose wholegrain bread, and try bread made with rye and other grains.
- Oats can help lower cholesterol. Oat bran, rye and barley all help too. Try eating a couple of oatcakes as a snack, or adding barley into a stew.

If you are unable to eat gluten or wheat, alternative grains include buckwheat, corn, rice, quinoa and millet.

Protein

You need roughly two portions of protein every day. As a guide, one portion of protein is the amount that will roughly cover the palm of your hand. For most people, this is about 70g of meat, 140g fish, or two medium eggs.

Protein is found in food like meat, fish, eggs, pulses and beans, dairy products, nuts, and meat alternatives like soya products.

Aim to keep your intake of saturated fat low by choosing lean cuts of meat and taking the skin off poultry.

Aim for one or two servings of fish per week including one of oily fish like mackerel, salmon or trout.

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 also contain vitamins and minerals, and three heaped tablespoons can count as a maximum of one of your five a day.

Nuts are a source of protein as well as healthy fats. They are high in calories, so you only need a small handful.

Fat

We all need some fat in our diet because it is a valuable source of energy and it helps the body absorb certain nutrients. It can also provide substances called essential fatty acids that the body can't make itself.

Types of fat and what they do

- **Unsaturated fats** are mainly found in fish and in plant-based foods, like nuts and seeds or the oils that come from them. You may see words like 'polyunsaturated' and 'mono-unsaturated' on food labels. Unsaturated fats tend to be oils, not solid fats. Eating small amounts of unsaturated fats can help you reduce cholesterol, and avoid blocked arteries and blood clots which can cause strokes.
- **Omega 3 and omega 6 fatty acids** are types of polyunsaturated fat, known as essential fatty acids. They tend to be found in oils from fish or plants. They play an important role in the body, helping to keep artery walls healthy, and regulating blood clotting. They play a part in lowering blood pressure and having a steady heart rate. They can help reduce the risk of a stroke and heart attack by improving levels of 'good' cholesterol and reducing 'bad' cholesterol. A good source is oily fish, but they are also found in nuts and seeds such as walnuts and flax seeds, and soya products.
- **Saturated fats** are usually solid, like butter, lard or coconut oil. They can raise cholesterol in your blood, which can lead to blocked arteries and an increased risk of stroke.

Saturated fats are mainly found in meat and dairy products, including fatty cuts of red meats, many processed meat products (like sausages and meat pies), butter, cream and cheese. Palm oil, coconut oil and ghee are also high in saturated fat.

- A good way to reduce your risk of stroke is to reduce the amount of saturated fat you eat and replace it with small amounts of unsaturated fats such as vegetable or nut oils. Some foods also contain healthy fats, like salmon, sardines and avocado.
- **Trans fats** are artificial fats which are mostly found in processed foods like cakes, biscuits and margarine. Trans fats can raise the 'bad' cholesterol and reduce the 'good' cholesterol in your blood and increase your risk of stroke and heart disease. They are made from liquid oils that are turned into a solid fat by a process called hydrogenation. They are usually called hydrogenated fats on food labels.

Use the label

Food labels and packets are a good way of knowing 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.
- To cut out trans fat, avoid foods that have hydrogenated fat and hydrogenated vegetable oil on the list of ingredients.

What is cholesterol?

Cholesterol is a vital substance in our bodies, but if there is too much in your blood it can cause heart disease and stroke. Cholesterol is a fatty material called a lipid, which is found naturally in your blood.

Cholesterol is a major part of all our body cells, the tiny 'building blocks' which we are made of. It also plays a part in our digestive and hormone systems.

Where cholesterol comes from

Your body produces most of the cholesterol it needs in the liver. Eating too much saturated fat leads to the liver producing more cholesterol than you need. This enters your bloodstream, and can cause build-ups of fatty deposits in your arteries, known as atherosclerosis.

Arteries can become narrowed and stiff because of the deposits. This can eventually lead to a clot forming and travelling to the brain, causing a stroke.

You don't need to avoid eating foods that contain cholesterol, such as eggs and seafood. But you should try to keep the overall amount of fat you have low, especially saturated and trans fats.

Triglycerides

Triglycerides are another type of fat found in your blood. Triglycerides are made in your liver but you can also find them in food like meat and dairy. Like cholesterol, it can cause deposits in the arteries.

'Good' and 'bad' cholesterol

Cholesterol moves around the body by attaching itself to proteins in the blood. This mixture of cholesterol and protein is called a lipoprotein, and there are two types. Each type has an important role, but it's important to have the right balance of both in your body.

'Bad' cholesterol

LDL (low density lipoprotein) has the job of moving cholesterol to where it's needed in your cells. But if there is too much LDL cholesterol in your blood, it can end up as fatty deposits in your arteries, increasing your risk of stroke.

'Good' cholesterol

HDL (high density lipoprotein) has the job of taking cholesterol away from the cells and back to the liver where it is destroyed. Because of this, it is known as good cholesterol, and you should aim to increase your levels of HDL. See 'Tips for lowering your cholesterol'.

What causes high cholesterol?

For many people, high cholesterol levels are a result of eating too much saturated fat, and not enough unsaturated fats. There are other causes such as:

- smoking
- drinking too much alcohol
- being overweight
- not exercising enough
- familial hypercholesterolaemia

Familial hypercholesterolaemia

Some people also have high cholesterol because of an inherited genetic condition called **familial hypercholesterolaemia (FH)**. This is when you have a very high level of cholesterol in your bloodstream which is not caused by diet or lifestyle.

In the UK, it is likely that about 120,000 people have FH, but most don't know they have it. If you have a history of early deaths from stroke or heart disease in your family it is vital to have a cholesterol test. FH can be treated with cholesterol lowering drugs. If your cholesterol is over 7.5mmol/L you will be assessed for FH.

How is cholesterol measured?

Cholesterol levels are checked with a blood test. For one type of test (a full lipid profile test), you can't eat or drink anything other than water for 12–14 hours before the test. A blood test can give information about your doctor what your total levels of cholesterol, lipoprotein and triglycerides.

Cholesterol is measured in mmol/L, which is the amount of cholesterol per litre of blood. Your total cholesterol level should be below 5mmol/L. The LDL (bad cholesterol) should be below 3mmol/L. This is the amount of cholesterol per litre of blood.

The balance of total cholesterol to HDL is worked out from your cholesterol level divided by your HDL level. This ratio should be below four.

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. It is important to get your cholesterol checked every year if you are on cholesterol-lowering medication.

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, visit your GP or practice nurse to ask for a test.

Your cholesterol results are used as part of an assessment of your overall risk of stroke and heart attack. Depending on your other risk factors such as your weight, smoking, diabetes, high blood pressure and family history, the doctor will advise you on ways to reduce your risk. This might include statins as well as healthy eating and exercise.

Cholesterol-lowering treatments

This guide can only give general information. You should always get individual advice about your own health and any treatment you may need from a medical professional such as a GP or pharmacist.

Statins

Statins are the main type of medication given to reduce the risk of stroke and heart attack. Statins reduce the levels of 'bad' cholesterol being produced by the liver. This helps prevent fatty deposits (atherosclerosis) forming on the walls of your arteries. They also reduce the chances of atherosclerosis causing a stroke or heart attack.

If you have had a stroke caused by a clot (ischaemic stroke) or a transient ischaemic attack (TIA or mini-stroke), you will be prescribed a statin to help prevent another stroke or TIA. The aim will be to reduce your bad cholesterol by around 40%.

Types of statin

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. If you have had an intracerebral haemorrhage you won't normally be given a statin. Always read the information which comes with your medication or ask your doctor or pharmacist if you are unsure.

If you have any concerns about side effects, your GP can advise you on different types or different doses to try. 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.

Other lipid-lowering drugs

There are other types of lipid-lowering drugs available to people with high cholesterol who can't take statins. However, these may not be given to someone who has had a stroke. The main alternative to statins are selective cholesterol absorption inhibitors such as Ezetimibe, which may be given for familial hypercholesterolaemia (FH).

Products that lower your cholesterol

Plant sterols and stanols are naturally found in a wide range of foods such as vegetable oils, nuts, seeds, whole grains, fruits and vegetables. They can help reduce cholesterol in your blood when taken as supplements. You can buy dairy products like yoghurt and cream cheese fortified with stanols and sterols. Although these can be expensive, eating some every day can help to lower your cholesterol.

You can use them alongside cholesterol-lowering medication, but don't stop taking any cholesterol medication you may be taking. Although sterols and stanols can reduce cholesterol, they do not reduce your stroke risk in the same way as statins.

Tips for lowering your cholesterol

- Cut down on foods 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 foods high in fibre such as oats, beans, peas, pulses, nuts, fruit and vegetables.
- Eat oily fish such as salmon, mackerel, sardines, trout or tuna.
- Eat five or more portions of fruit and vegetables a day.
- Use olive oil for salad dressings, or an oil that is high in polyunsaturated fats like sunflower oil.
- Cholesterol from eggs, liver and kidneys and some seafoods has little effect on your blood cholesterol levels.
- On top of diet, you can help reduce your risk of stroke by keeping active and exercising stopping smoking and cutting back on alcohol.

Sugar

Some foods and drinks contain a lot of added sugar, but you may not always realise which ones. You can put on weight if you have more sugar than your body needs. Excess calories are stored as fat. This increases your risk of stroke, heart disease and type 2 diabetes.

Foods which often contain added sugar include:

- Fizzy drinks and squash.
- Ready-made pasta sauces.
- Popular cereals like muesli, cornflakes and granola.
- Tomato ketchup and baked beans.
- Some foods sold as 'low fat' contain extra sugar.

You should aim to eat no more than 30g of sugar a day (the equivalent of seven teaspoons of sugar). This may sound a lot, but one can of fizzy drink may contain more than eight teaspoons.

Check the label

Food labels will tell you how much sugar is in food. It may be listed as sugar or 'carbohydrates from sugar'. Other names for sugar include glucose, fructose, dextrose, agave syrup, honey and corn syrup. If one of these are near the top of the ingredients list, it means the food contains a lot of sugar. Many labels use a traffic light system to show if foods are high in sugar, fat and salt. Red means high, amber is medium and green is low.

Salt

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.

Salt and high 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. A clot can travel to the brain and cause a stroke (ischaemic stroke).

High blood pressure also puts a strain on the walls of the arteries inside the brain, which 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 guide F06, 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, or about a teaspoon.

There is a large amount of hidden salt found in 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 or sodium content on the nutritional labels on foods.

To find out how much salt is in food, look for a nutrition table on the packaging. This gives the amount of energy, salt, sugar and other things in a product. Salt could be listed as salt, or may be listed as sodium. Sodium is always a smaller number than salt.

- **A high amount of salt** is more than 1.5g per 100g, or 0.6g sodium.
- **A low amount of salt** is 0.3g per 100g, or 0.1g sodium.

Tip: If you can only see a figure for sodium, multiply it by 2.5 to get 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. One easy way to eat less 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 cut down on salt

- Remember the maximum daily intake recommended for adults is just one teaspoon of salt.
- 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.
- Choose tinned fish in spring water instead of brine.
- Beware of added salt in foods like:
 - Bread, which can have as much salt in one slice as a packet of crisps and can provide up to 20% of your daily salt intake.
 - Breakfast cereals like cornflakes, which can be high in salt.
 - Crisps, salted nuts and other salty snacks.
 - Cheese, butter and margarine.
 - Processed meat like bacon and sausages.
 - Ready-made meals and soups.
 - Baked beans and ready-made pasta sauces.
 - Tomato ketchup and other sauces.
 - Pickled foods.

Tips to help you lose weight

- Eat balanced meals with plenty of vegetables, salad, wholegrain starches and fruit, but low in salt, fat and sugar.
- Eat at least five portions of fruits and vegetables a day.
- Try to cook your own food if you can, as you will know what's in it, and you can keep fat, sugar and salt low.
- Keep takeaways for occasional treats.
- Choose low fat options for milk, cheese, yoghurts, spreads and salad dressings.
- Choose lean cuts of meat and trim off visible fat. Replace fatty cuts of red meat with leaner things like chicken and turkey, and remove the skin.
- Look at food labels to check the fat and sugar 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 and activity 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.

Food and medication

Some types of medication can be affected by the foods you eat. If you take statins, ask your pharmacist if you need to avoid drinking grapefruit juice. If you take warfarin, speak to your GP before changing your diet.

Food labels

Most pre-packed foods have a nutrition label on the packaging. These labels must include information on energy (calories), protein, carbohydrate, sugars, fat, saturated fat and salt. They may provide additional information on fibre. All nutrition information is provided per 100g or 100ml, and sometimes per portion of the food.

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

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

The more green lights, the healthier the food.

Did you know?

Ingredients are listed from the largest amounts first to the smallest amounts last. So the lower down the list of ingredients something is, the less is in the food. If sugar is near the top of the list, it's likely to be a high-sugar food.

Where to get help and information

From the Stroke Association

Talk to us

Our Stroke Helpline is for anyone affected by a stroke, including family, friends and carers. The Helpline can give you information and support on any aspect of stroke.

Call us on **0303 3033 100**, from a textphone **18001 0303 3033 100** or email **info@stroke.org.uk**.

Read our publications

We publish detailed information about a wide range of stroke topics including reducing your risk of a stroke and rehabilitation. Read online at **stroke.org.uk** or call the Helpline to ask for printed copies.

My Stroke Guide

My Stroke Guide is the stroke support tool and online community from the Stroke Association. Log on at **mystrokeguide.com**.

Other sources of help and information

British Dietetic Association

Website: **bda.uk.com**

Tel: **0121 200 8080**

Provides factsheets on various aspects of diet and nutrition.

British Nutrition Foundation

Website: **nutrition.org.uk**

Tel: **020 7557 7930**

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

Consensus Action on Salt and Health (CASH)

Website: **actiononsalt.org.uk**

Tel: **020 7882 5941**

A charity that provides information on salt and its effects on health.

Heart UK

Website: **heartuk.org.uk**

Helpline: **0845 450 5988**

A charity that provides information on high cholesterol and treatments. Their helpline is staffed by specialist nurses and dietitians.

NHS One You

Website: **nhs.uk**

The website for the Public Health England One You campaign. It offers advice on how you can watch what you eat and explains the positive effects of eating well.

Weightwise

Website: **bdaweightwise.com**

Provides hints and tips to help you manage your weight.

About our information

We want to provide the best information for people affected by stroke. That's why we ask stroke survivors and their families, as well as medical experts, to help us put our publications together.

How did we do?

To tell us what you think of this guide, or to request a list of the sources we used to create it, email us at feedback@stroke.org.uk.

Accessible formats

Visit our website if you need this information in audio, large print or braille.

Always get individual advice

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