

# Diabetes and stroke

Stroke Support Helpline: 0303 3033 100  
or email: [helpline@stroke.org.uk](mailto:helpline@stroke.org.uk)

This guide explores the link between diabetes and stroke, with information about treatment and reducing your risk of a stroke.

## What is the link between diabetes and stroke?

Diabetes means you have too much sugar (glucose) in your blood. This can increase the risk of a stroke, because having too much sugar in your blood damages the blood vessels.

High blood sugar levels can:

- Make blood vessels become stiff.
- Cause a build-up of fatty deposits (atherosclerosis).

These changes can lead to a blood clot. If a clot travels to the brain, it causes a stroke.

### What can I do to stay healthy?

Although having high blood sugars over a period of time puts you at risk of a stroke, you can reduce your risk in several ways:

- Your healthcare team can help you understand and take any prescribed diabetes medications correctly.
- Attend your diabetes health checks. These monitor your blood sugar, blood pressure, cholesterol and kidney function.
- Get advice and support with healthy eating, being more physically active and stopping smoking.
- Join a free diabetes education course to help you manage your condition.

## What is diabetes?

Your body controls the amount of sugar in your blood with a hormone called insulin. Diabetes develops when your body is not able to produce enough insulin, or the insulin it does produce does not work properly.

There are two main types of diabetes.

- **Type 1 diabetes** means you cannot produce insulin. It often starts in childhood, but adults can get it too. It affects around 8% of people with diabetes.
- **Type 2 diabetes** means you do not produce enough insulin, or that your body cells are not responding to insulin. It is mainly an adult condition and it affects more than 90% of people with diabetes.

### Gestational diabetes

Some pregnant women can get a temporary form of diabetes called gestational diabetes. It usually stops after the baby is born, although it increases the mother's risk of developing type 2 diabetes in the future.

Visit [nhs.uk/conditions/gestational-diabetes](https://www.nhs.uk/conditions/gestational-diabetes) to read more about gestational diabetes.

## Am I at risk of diabetes?

### Type 1

You're more likely to develop type 1 diabetes if you have close family members with the condition.

### Type 2

This type of diabetes is linked to living with obesity or being overweight, but you can also get it if you are a normal weight. You're at higher risk of having type 2 if you have a close family member with the condition. It's more likely to start over the age of 40, but more younger people are also being diagnosed with the condition.

It's more common in people from black African, black Caribbean, South Asian and Chinese family backgrounds. People from these backgrounds can have a diabetes check from the age of 25.

You can try the Diabetes UK 'know your risk' tool to learn more about your own risk of type 2 diabetes. Visit [preventing-diabetes.co.uk](https://www.diabetes.org.uk/preventing-diabetes) to find the tool and details of a prevention programme.

## Diagnosing diabetes

Some of the most common symptoms of diabetes include:

- feeling thirsty a lot.
- needing to wee frequently, especially at night.
- tiredness.
- unexplained weight loss.
- often having thrush or other infections.
- blurred vision.

Diabetes is diagnosed by blood tests showing the amount of sugar (glucose) in your blood. Many people do not realise they have type 2 diabetes because it tends to develop slowly.

### Pre-diabetes

If a blood test finds your blood sugar is higher than normal, but not high enough to be diagnosed as type 2 diabetes, you might be told you have pre-diabetes. Many people can stop this progressing by getting support to eat healthy food, manage their weight and be more active. Ask your pharmacist or GP for advice.

Visit the Diabetes UK website at [diabetes.org.uk](https://www.diabetes.org.uk) for more detailed information about tests, diagnosis and treatments.

## Getting a diabetes diagnosis after a stroke

Because type 2 diabetes sometimes has no symptoms, you might only be diagnosed when you have tests after a stroke. Coping with this as well as the effects of your stroke can be difficult. On top of your stroke, you may need to think about diabetes medication, monitoring blood sugar and trying to make changes to your diet.

It can take time to adjust to the demands of managing your condition and it can feel overwhelming. But try to take it one step at a time. Speak to your GP about how you are feeling.

You should have an annual health check if you have diabetes, but you can contact your GP at any time. Your pharmacist can also give advice on medication and support with healthy eating, being more physically active and stopping smoking.

## Diabetes education

If you are diagnosed with type 2 diabetes, your GP can refer you for free diabetes education and support, such as a course or an app. These help you learn more about your condition and how to manage it. You might be able to meet other people with diabetes, and get advice from experts. Courses may be face-to-face or online.

Diabetes UK has information about diabetes education courses at [diabetes.org.uk/education](https://www.diabetes.org.uk/education).

In England, you can sign up at [healthyliving.nhs.uk](https://www.healthyliving.nhs.uk) for the NHS Healthy Living online support programme for people with type 2 diabetes.

## Living with diabetes

### Managing your condition

**Type 1:** people with type 1 diabetes are usually referred to a specialist care team. You need to replace the insulin your body cannot produce. This is done via insulin injections or an insulin pump. It's also important to manage your diet and aim to stay fit and active.

**Type 2:** if you are diagnosed with type 2 diabetes, you should have help from a team of health professionals including your GP. You may need medication, and you will have advice about your diet and staying active.

If you have either type of diabetes, you should have your blood sugar level checked regularly. Your blood pressure, cholesterol and kidney function should be checked at least once a year. Your annual diabetes review should usually include a foot check, and you should be offered diabetic eye screening every one to two years.

Contact your GP right away if you have any health problems in between these checks.

### Managing type 2 through diet and exercise

For people with type 2 diabetes, it may be possible to reach a normal blood sugar level by eating healthy food, managing weight and being more active. You'll need advice and support with achieving this, so do not stop taking any medication without speaking to your GP.

Other things you can do to help reduce your risk of stroke include stopping smoking and cutting down on alcohol. Many people find getting some information and having support from others can help them succeed.

Visit [stroke.org.uk/reduce-my-risk](https://www.stroke.org.uk/reduce-my-risk) for some practical tips for lifestyle changes.

## Quick guide to medication for type 2 diabetes

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.

Many people with type 2 diabetes need medication to help them manage their blood sugar. You might need to try different doses and combinations of medication to reach your target blood sugar level. Diabetes prescriptions are free of charge. In England, you need a medical exemption certificate if you're under 60.

Like all medication, diabetes treatments can sometimes cause side effects. Always read the patient information leaflet that comes with your medication to learn what to look out for.

Talk to your GP or pharmacist if you have any questions. They can give advice about side effects, and you may be able to try different types of medication. Do not stop taking your medication without speaking to your GP.

In England, you can ask your pharmacist if they offer the NHS New Medicines Service. This gives you three appointments to offer support with new medication and check on your progress.

### Metformin

#### What it does

This is the most common medicine given for type 2 diabetes. It helps to lower your blood sugar levels by reducing the amount of glucose your liver releases into the body. It also helps your body to respond better to the insulin it produces. It might be used with other medications to manage blood sugar.

#### Some possible side effects

It can sometimes cause stomach upsets. It is usually taken along with food, given in a low dose to start with and gradually increased, to avoid this.

### Sulfonylureas

#### What it does

This type of drug works by helping your pancreas to produce more insulin. It can be given in a low dose to start with and gradually increased. It might be used with other medications to manage blood sugar. Examples include glimepiride, gliclazide, tolbutamide, glibenclamide and glipizide.

#### Some possible side effects

It can lead to hypoglycaemia (low blood sugar), nausea, constipation and weight gain.

### SGLT2 inhibitors (sodium–glucose linked transporter 2)

#### What it does

This is a newer type of drug for type 2 diabetes. It works by increasing the amount of sugar excreted through your urine, to reduce the amount of sugar in your blood. An SGLT2 should be added to your current treatment plan if you develop, or are at risk of developing, heart failure or if you have heart disease.

Examples include dapagliflozin, canagliflozin, empagliflozin and ertagliflozin.

#### Some possible side effects

They can increase the chance of thrush or a bladder infection. Ketoacidosis is a rare side-effect which can be serious. Signs include dehydration and drowsiness.

### GLP-1 agonists (glucagon-like peptide 1 receptor agonists)

#### What it does

GLP-1 agonists are given by injection. They work by increasing the levels of incretins (hormones) which help boost insulin production when there are high blood sugar levels. They also reduce the amount of glucose being produced by the liver when it's not needed. GLP-1 agonists can help with weight loss and can reduce the risk of cardiovascular diseases.

Examples include dulaglutide, exenatide, liraglutide, lixisenatide and semaglutide.

#### Some possible side effects

They can affect your digestion, cause nausea and reduce appetite.

### DPP-4 inhibitors (gliptins)

#### What it does

These drugs prevent the breakdown of a naturally occurring hormone called GLP-1 which helps the body produce insulin when blood sugar levels are high and reduce glucose being released by the liver. Gliptins keep levels of GLP-1 higher in the blood to help reduce blood sugar, but without causing low blood sugar (hypoglycaemia).

Examples include alogliptin, linagliptin, sitagliptin, saxagliptin and vildagliptin.

#### Some possible side effects

They can cause headaches, constipation and diarrhoea.

### Insulin injections

Insulin is the main hormone that helps our bodies use glucose. It's the treatment for

people with type 1 diabetes, but it can also be used for type 2 diabetes if other medicines are not suitable or do not help to manage blood glucose. There are different types of insulin treatments available.

Your healthcare team will talk to you about the type of insulin they think is best for you. They will also teach you how to inject yourself and help you with any concerns you may have.

### Other medications

Less commonly used medications include:

- Acarbose slows down the absorption of carbohydrates from the gut which helps reduce a peak in blood sugar after a meal.
- Meglitinides (nateglinide and repaglinide) give a short-lived boost to insulin levels after eating.
- Pioglitazone is not usually used alone, and cannot be used by people with heart failure.

### Driving and diabetes

By law, if you're taking long-term insulin, or have severe hypoglycaemia (hypos, or low blood sugar) you need to inform the DVLA (DVA in Northern Ireland). The rules are different for car and large vehicle licences, so you need to make sure you know which rules apply to you. Find out more about diabetes and driving from Diabetes UK at [diabetes.org.uk/driving](https://diabetes.org.uk/driving)

## Where to get help and information

## From the Stroke Association

## Stroke Support Helpline

Our Stroke Support Helpline offers information and support for anyone affected by a stroke. This includes friends and family members.

Call us on **0303 3033 100**, from a  
textphone **18001 0303 3033 100**  
Email **helpline@stroke.org.uk**

## Read our information

Log onto **stroke.org.uk** where you can find easy-to-understand information, videos and an online community to support you. You can also call the Stroke Support Helpline to ask for printed copies of our guides.

## Other sources of help and information

**Diabetes UK**

Website: **diabetes.org.uk**

Helpline: 0345 123 2399

Provides detailed information and support to people living with diabetes, including details of local support groups and how to lead a healthy lifestyle.

**Diabetes Research and Wellness  
Foundation**

Website: [drwf.org.uk](http://drwf.org.uk)

Tel: 0239 263 7808

A charity that raises awareness of diabetes and provides information and support to people living with type 1 and type 2 diabetes.

## Stop-smoking services in the UK

## NHS Smokefree (England)

Website: [nhs.uk/better-health/quit-smoking](https://nhs.uk/better-health/quit-smoking)

Helpline: 0300 123 1044

## Help Me Quit (Wales)

Website: [helpmequit.wales](http://helpmequit.wales)

Helpline: **0800 085 2219**

## Stop Smoking Northern Ireland

Website: **stopsmokingni.info**

NHS inform (Scotland)

Website: [nhsinform.scot/quit-your-way-scotland](https://nhsinform.scot/quit-your-way-scotland)

Smokeline: **0800 848 484**

## Your notes

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### 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](mailto:feedback@stroke.org.uk)**

#### Accessible formats

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

#### Always get individual advice

This guide contains general information about stroke and diabetes. But if you have a problem, you should get individual advice from a professional such as a GP or pharmacist. Our Stroke Support Helpline can also help you find support. We work very hard to give you the latest facts, but some things change. We don't control the information provided by other organisations or websites.

The Stroke Association is the only charity in the UK providing lifelong support for all stroke survivors and their families.

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The Stroke Association is registered as a charity in England and Wales (No 211015) and in Scotland (SC037789). Also registered in the Isle of Man (No. 945) and Jersey (No. 221), and operating as a charity in Northern Ireland.