

# Diabetes and stroke

Stroke 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 on treatment and reducing your risk of a stroke.

## What is the link between diabetes and stroke?

Diabetes means you have too much sugar 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 diabetes puts you at risk of a stroke, you can reduce your risk in several ways:

- Taking any diabetes medication regularly (see our 'Quick guide to diabetes medication' on **page 4**).
- Attending your diabetes health checks. These monitor your blood sugar, blood pressure, cholesterol and kidney function.
- Getting advice and support with any lifestyle changes you might need.
- Joining a free diabetes education course to help you manage your condition.

## Getting a diabetes diagnosis after a stroke

Because diabetes often 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 tough. 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 be easy to feel overwhelmed. 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 local pharmacist can also give advice on medication and support for lifestyle changes.

## Diabetes education

If you are diagnosed with 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, on video or online.

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

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

### What is diabetes?

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

There are two main types of diabetes.

- Type 1 diabetes means you can't produce insulin. It often starts in childhood, but adults can get it too. It affects around 10% of people with diabetes.
- Type 2 diabetes means that you don't produce enough insulin, or that your body cells aren't responding to insulin. It is mainly an adult disease, and it affects around 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.

Read more about diabetes in pregnancy [nhs.uk/conditions/gestational-diabetes](https://nhs.uk/conditions/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 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.

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

In England, you can try the NHS diabetes 'know your risk' tool to learn more about your own risk and join the 'Healthier You' diabetes prevention programme. Learn more about the programme online [preventing-diabetes.co.uk](https://preventing-diabetes.co.uk).

## Diagnosing diabetes

Many people do not realise they have diabetes because it tends to develop slowly.

Some of the most common symptoms of diabetes are thirst, needing to pee frequently, tiredness, weight loss and often having thrush or other infections.

Diabetes is diagnosed by blood tests showing the amount of sugar (glucose) in your blood.

### Pre-diabetes

If a blood test finds your blood sugar is higher than normal, but not high enough to be diagnosed as diabetes, you might be told you have pre-diabetes.

Many people can stop this progressing by making some lifestyle changes such as losing weight and being more active. Ask your pharmacist or GP for advice.

For more detailed information about tests and diagnosis, visit the Diabetes UK website [diabetes.org.uk/diabetes-the-basics](https://diabetes.org.uk/diabetes-the-basics).

## Living with diabetes

### Managing your condition

**Type 1:** People with type 1 diabetes are referred to a specialist care team. They will take insulin, manage their 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. You should have your blood sugar level checked regularly and your blood pressure should be checked at least once a year.

### 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, losing weight and being more active. You'll need advice about achieving this, so don't stop taking any medication without speaking to your GP.

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

Visit [stroke.org.uk/reduce-my-risk](https://stroke.org.uk/reduce-my-risk) for 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 control 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.

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. Don't 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 a series of appointments to check on your progress and offer the support you need.

#### Metformin

##### What it does

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

##### Possible side effects

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

#### Sulfonylureas

##### What it does

This type of drug works by helping your pancreas to produce more insulin. It's given in a low dose to start with and gradually increased. It might be used with other medications to control blood sugar.

##### Some possible side effects

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

Examples include glibenclamide, glimepiride, gliclazide, tolbutamide and glipizide.

#### 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. It can help with weight loss and reducing blood pressure, improving kidney function, and are used to help reduce the risk of heart problems.

##### Some possible side effects

It 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  
(glucagon-like peptide-1 receptor agonists)**

**What it does**

GLP-1 agonists are given by injection, and boost insulin production when there are high blood sugar levels. It also reduces blood sugar levels without the risk of hypoglycaemia (low blood sugar).

GLP-1 agonists can help with weight loss, and can reduce the risk of cardiovascular diseases.

**Some possible side effects**

It can affect your digestion, and reduce appetite.

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

**Gliptins (DPP-4 inhibitors)**

**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. Gliptins keep levels of GLP-1 higher in the blood to help reduce blood sugar, but without causing low blood sugar (hypoglycaemia).

**Some possible side effects**

It can cause headaches, constipation and diarrhoea.

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

**Insulin injections**

Insulin is the main hormone that helps our bodies absorb sugar. It's used by people with type 1 diabetes, but it can also be used for type 2 diabetes if other medicines no longer work. There are different types of insulin treatments available.

Your care team will talk to you about the type of insulin that 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. It often causes gut problems like bloating, wind and diarrhoea.
- Meglitinides (nateglinide and repaglinide) give a short-lived boost to insulin levels after eating. They can cause hypoglycaemia (low blood sugar).
- Pioglitazone is not usually used alone, and can't 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 may 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 [diabetes.org.uk/driving](https://diabetes.org.uk/driving).

### Where to get help and information

#### From the Stroke Association

##### Helpline

Our Helpline offers information and support for anyone affected by a stroke. This includes friends and carers.

Call us on **0303 3033 100**, from a textphone **18001 0303 3033 100**  
Email [helpline@stroke.org.uk](mailto:helpline@stroke.org.uk).

##### Read our information

Get more information about stroke online at [stroke.org.uk](http://stroke.org.uk), or call the Helpline to ask for printed copies of our guides.

##### My Stroke Guide

The Stroke Association's online tool My Stroke Guide gives you free access to trusted advice, information and support 24/7. My Stroke Guide connects you to our online community, to find out how others manage their recovery.

Log on to [mystrokeguide.com](http://mystrokeguide.com) today.

### Other sources of help and information

#### Diabetes UK

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

Helpline: **0345 123 2399**

Provides 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 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](http://nhs.uk/better-health/quit-smoking)

##### Help me quit (Wales)

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

Helpline: **0800 085 2219**

##### Stop Smoking Northern Ireland

Website: [stopsmokingni.info](http://stopsmokingni.info)

##### NHS inform (Scotland)

Website:

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

Smokeline: **0800 848 484**



### 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. But if you have a problem, you should get individual advice from a professional such as a GP or pharmacist. Our 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.

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