

What is a stroke?



The following leaflets are available in this series.

The Stroke Association

What is a stroke?

Preventing a stroke

When a stroke happens

After a stroke

Stroke rehabilitation

The Stroke Association also produces factsheets on specific stroke issues. To find out how to order leaflets or factsheets, or for more information on strokes, phone **0845 3033 100**, email info@stroke.org.uk or visit our website at www.stroke.org.uk.

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‘I was having a great day at work and nothing seemed unusual. Suddenly the lights went out. Seven hours later I woke up in hospital. I couldn’t move my right side, and my speech had gone.’ *David Diston*



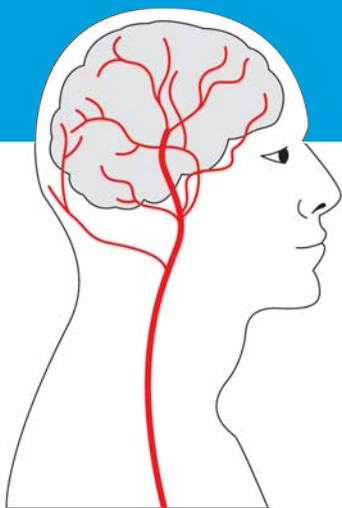
Every year, an **estimated 150,000 people** in the UK have a **stroke**. That’s one person every five minutes. Most people affected are over 65, but **anyone** can have a stroke, including children and even babies. Around **1000 people under 30** have a stroke each year.

A stroke is the **third most common** cause of **death** in the UK. It is also the **single most common** cause of severe **disability**. More than 250,000 people in the UK live with disabilities caused by a stroke.

It could happen to you, or someone you care for. If it does, you’ll want to know as much as you can about strokes. This leaflet explains **what a stroke is**, what **causes** it, and some of the **physical** and **psychological** effects it can have on people’s lives.



A stroke is a brain injury caused by sudden interruption of blood flow.



A stroke is a brain attack

A stroke is what happens when the **blood supply** to part of the brain is **cut off**.

Blood carries essential **nutrients** and **oxygen** to the brain. Without a blood supply, **brain cells** can be **damaged** or **destroyed** and won't be able to do their job.

Because the brain **controls** everything the body does, damage to the brain will affect **body functions**. For example, if a stroke damages the part of the brain that controls how limbs move, limb movement will be affected.

The brain also controls how we **think, learn, feel** and **communicate**. A stroke can also affect these mental processes.

A stroke is **sudden** and the effects on the body are **immediate**.

Infarction

Stroke can cause **brain tissue** to **die**, and this is called cerebral infarction. An infarct is an area of **dead tissue**. It can be tiny or affect a larger part of the brain.

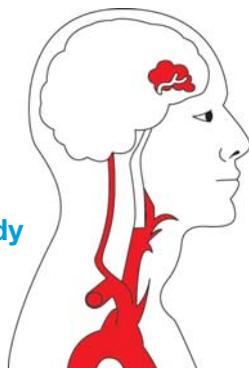
Blood flow to the brain can be cut off by:

- a **blockage (ischaemic stroke)**; or
- a **bleed (haemorrhagic stroke)**.

There are two main causes of stroke

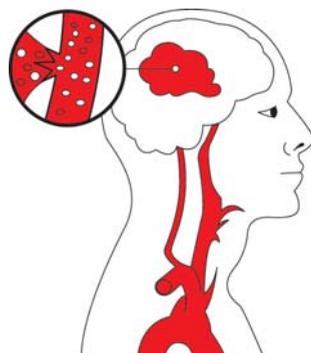
1 The most common type of stroke (over 80% of cases) is caused by a **blockage**. This is called an **ischaemic stroke**, which happens when a **clot blocks an artery** that carries blood to the brain. It may be caused by:

- a cerebral thrombosis, when a **blood clot** (thrombus) forms in a main artery to the brain;
- a cerebral embolism, when a blockage caused by a **blood clot**, air bubble or fat globule (embolism) forms in a blood vessel somewhere else in the **body** and is carried in the bloodstream to the brain; or
- a blockage in the tiny **blood vessels** deep within the **brain** (lacunar stroke).



2 The second type of stroke (up to 20% of cases) is caused by a **bleed**, when a blood vessel **bursts**, causing bleeding (haemorrhage) into the brain. This is called a **haemorrhagic stroke**. It may be caused by:

- an intracerebral haemorrhage, when a blood vessel bursts **within** the **brain**; or
- a subarachnoid haemorrhage, when a blood vessel on the **surface** of the brain bleeds into the area between the **brain** and the **skull** (subarachnoid space).



A stroke is a medical emergency.

If you see the signs of a stroke, act FAST and call 999.

The sooner someone receives treatment, the better their chance of recovery.

Common symptoms of a stroke

The first **signs** that someone has had a stroke are very **sudden**. Symptoms include:

- **numbness, weakness** or **paralysis** on one side of the body (signs of this may be a drooping arm, leg or lower eyelid, or a dribbling mouth);
- **slurred speech** or difficulty finding **words** or **understanding** speech;
- sudden blurred vision or **loss of sight**;
- **confusion** or unsteadiness; and
- a severe **headache**.



Use the Face–Arm–Speech Test (FAST)

Three simple checks can help you recognise whether someone has had a stroke or mini-stroke (transient ischaemic attack – TIA).

- F Facial weakness:** Can the person smile? Has their mouth or an eye drooped?
- A Arm weakness:** Can the person raise both arms?
- S Speech problems:** Can the person speak clearly and understand what you say?
- T Test these** symptoms.

If you see any of these signs, call 999 immediately.

‘I was walking to work and I lost the feeling in one leg, and I sort of collapsed. The following year, walking to work, I suddenly went blind in one eye. I stood still for five minutes to work out what was going on.’ *Claire Simpson*

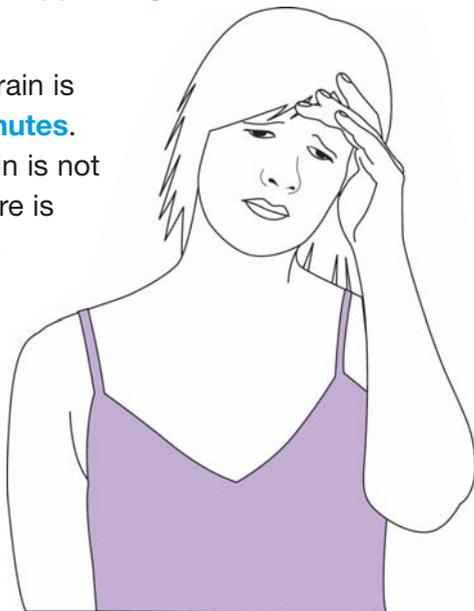


Transient ischaemic attack (mini-stroke)

A transient ischaemic attack (TIA), often called a **mini-stroke**, happens when the brain's **blood supply** is **interrupted** for a very brief time.

The **symptoms** are very similar to a stroke (such as weakness on one side of the body, loss of sight and slurred speech) but they are **temporary** – lasting a few **minutes** or **hours**, and then **disappearing** completely **within 24 hours**.

In a TIA, the affected part of the brain is **without oxygen** for just a **few minutes**. A TIA is a sign that part of the brain is not getting enough blood and that there is a **risk** of a more **serious stroke** in the future. So, you should **not ignore** signs of a TIA – get **medical help** as soon as you can.



**Never ignore a TIA (mini-stroke).
It's a warning sign.**



'At 29 I had my first stroke, I made a full recovery and doctors dismissed it as a one-off. But two years later it happened again. This time it was worse. I lost both sight and speech and I couldn't stand.' *Brad Francis*

A stroke can happen to anyone, but some people are more at risk

A stroke can happen with **no obvious cause** to people of **any age** – but there are factors known to increase the likelihood of it happening. Some of these factors are things that **can't be changed**. Other risks may be reduced by **lifestyle changes** or **medication**.

What cannot be changed

Sex

In people aged **under 75**, more **men** have strokes than women.

Age

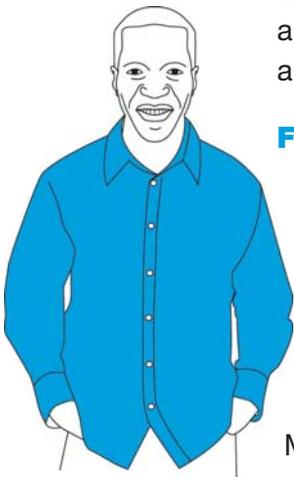
Strokes are more common in people **over 55**, and the risk continues to **rise with age**. Arteries harden and become 'furred up' by a build-up of **cholesterol** and other debris (atherosclerosis) over many years.

Family history

Having a **close relative** who has had a stroke increases the risk, possibly because conditions such as **high blood pressure** and **diabetes** tend to run in families.

Ethnic background

People from **Asian**, **African** and **African-Caribbean** communities are at greater risk of having a stroke. Medical conditions like diabetes and high blood pressure are also more common in people from these communities.





Smoking doubles your risk of having a stroke. The NHS Smoking Helpline can help you give up, phone 0800 022 4 332, or visit www.gosmokefree.nhs.uk.

What the doctor can help with

Medical conditions

If they are not treated, over time these conditions may damage the arteries.

- **High blood pressure** (hypertension)
- **Heart disease** and irregular heart beat (atrial fibrillation)
- **Diabetes**
- Other rare medical conditions, including blood-clotting disorders such as Hughes Syndrome.

What we can do to help ourselves

Diet – a diet high in **fatty** foods causes **cholesterol** to build up in the blood and the arteries to narrow. Too much **salt** can lead to high blood pressure. Being very **overweight** (obese) puts extra strain on the heart.

Too much alcohol – regular **heavy drinking** raises blood pressure. **Binge drinking** (drinking a lot of alcohol in a short time) can cause a blood vessel in the brain to burst.

Exercise – an **inactive lifestyle** can contribute to furring of the arteries. Regular **exercise** helps keep the heart and bloodstream **healthy**.

Reduce your risk

- Have your blood pressure checked regularly.
- Stop smoking.
- Take regular exercise.
- Avoid heavy drinking.
- Cut down on salt and fatty foods.
- Eat plenty of fruit and vegetables.



Smoking

Smoking causes higher blood pressure and makes the blood thicker. The **chemicals** in tobacco smoke are absorbed into the body, **damaging** blood vessel walls.



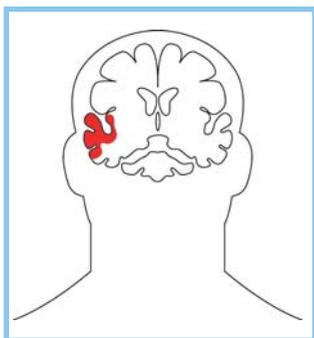
‘He woke up in the night feeling sick. He slept very heavily. When we woke him he was semi-conscious, drowsy and sleepy. When the doctor arrived he took one look at him and decided to get him to hospital.’ *Jacob Goodier was only three when he had a stroke.*

A stroke causes damage to the brain, which affects how the body works

Because a stroke is a **brain injury**, the effects, or symptoms, will depend on the **part of the brain** that is affected.

Every stroke is different and people who have a stroke are affected in **different ways**. For some, the symptoms are quite **mild** and last a **short time** (just a few minutes or hours in the case of a TIA or mini-stroke). Other strokes may cause more **severe** and **lasting damage**.

When a stroke happens, some **brain cells** are **damaged** and others **die**. Dead brain cells can’t start working again, but those just outside the area of the dead cells may recover as the swelling caused by the stroke goes down.



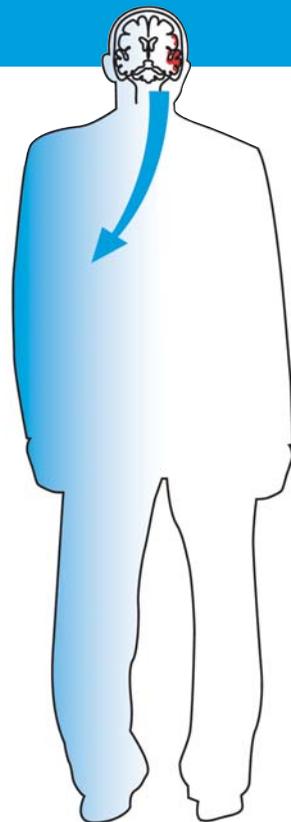
It’s also possible that **other parts** of the brain can learn to **take over** from areas that have died. Most recovery happens in the first few months, but people can **continue to recover** for several years after the stroke.

Language problems are more likely if the stroke is in the left side of the brain, and problems with perception are more likely if the stroke is in the right side of the brain.

Different parts of the brain control different parts of the body

The **right** half of the **brain** controls the **left** side of the **body** and vice versa. Common symptoms like weakness in parts of the body or not being able to use an arm or leg (**paralysis**) happen on the opposite side of the body to the stroke side of the brain.

In most people, the **left** half of the brain is responsible for language (**talking, understanding, reading** and **writing**), and the **right** half is responsible for perceptual skills (**making sense of what you see, hear** and **touch**) and spatial skills (**judging size, speed, distance** or **position** in space).

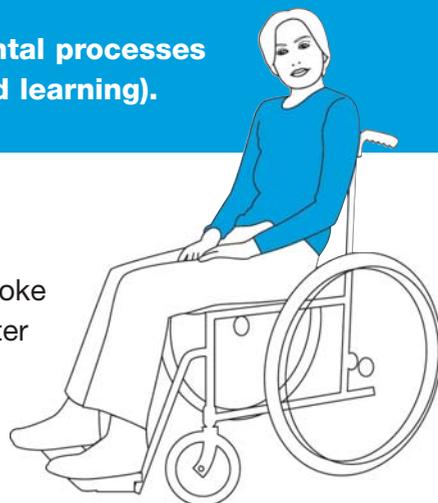


The **effects** of a stroke will depend on:

- the **part of your brain** that has been injured;
- **how bad** the **injury** is; and
- your general **health** when the stroke happens.

A stroke can cause loss of control over:

- **body functions (how the different parts of the body work); and**
- **cognitive functions (mental processes like thinking, feeling and learning).**



Common problems after a stroke

There are several **problems** or disabilities stroke survivors may face in the **first few weeks** after having a stroke. Most of these will **improve** over time as the **brain recovers**. In severe cases, they may cause long-term disability.

Weakness or paralysis

Weakness, clumsiness or **paralysis** (hemiplegia) is one of the most recognisable and most common symptoms of a stroke. It usually happens on **one side** of the body. Weakness or paralysis of an **arm or leg** is often made worse by stiffness (spasticity) of the **muscles** and **joints**.

Balance

Unsteadiness (loss of **balance**) can be caused by damage to the part of the brain that controls balance. Or it may happen because of **paralysis** resulting in **muscle weakness**.

Swallowing

About 50% of people have **difficulty** with **swallowing** after a stroke (dysphagia). This can be dangerous if food 'goes down the wrong way' and gets into the windpipe.



All stroke patients have a **swallow test** in hospital and are only allowed to drink and eat when it is shown they can swallow. Some people may need fluid thickeners and help with eating for a while.

‘John had just got in from work, and I asked him something. He answered me with a garbled response. I realised immediately that it was a stroke.’ Susie’s husband John had a stroke five years ago.



Sleep and tiredness

Most people suffer from extreme **tiredness** (fatigue) in the first few weeks after a stroke. Many also have **difficulty sleeping**, which makes them even more tired.

Speech and language

Many people experience problems with **speaking** and **understanding**, and with **reading** and **writing**. This difficulty with language is called aphasia.

When a person finds it **hard to understand** what is being said, it is called receptive aphasia.

Sometimes a person may understand what is being said but **can’t find the right words** to express what they want to say – this is called expressive dysphasia.

People often have a mixture of both types of aphasia.

Aphasia is most **common** with strokes that damage the **left side** of the brain.

The **exception** is in some **left-handed** people whose language area is on the **right side** of their brain.

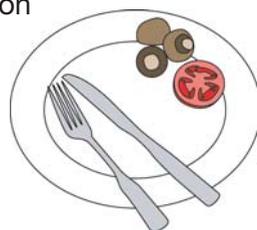


Stroke risk is much higher for people who have had a stroke or TIA (mini-stroke) before. About 10% of people who have had a stroke will have another one in the first year.



Eyesight

A stroke can damage the parts of the brain that **receive**, **process** and **interpret** information that the **eyes** send. Sometimes, people who have had a stroke may have **double vision** or **lose half** of their field of **vision** – they can see everything over to one side but are blind on the other. This can cause **clumsiness** and seemingly **odd behaviour** (like not eating food on one side of a plate).



Perception and interpreting

People may have difficulty **recognising** familiar objects or **knowing** how to use them. They may also have problems with skills like telling the time if the brain can't interpret what the eyes see.

Mental processes

A stroke often causes problems with mental processes such as **thinking**, **learning**, **concentrating**, **remembering**, making decisions, reasoning and planning. People may lose short-term memory, which makes it difficult to **pay attention** and **concentrate**.

Bladder and bowels

Difficulty **controlling** the **bladder** and **bowels** (incontinence) is not unusual after a stroke. Most people regain control in a few weeks.

The symptoms of a second stroke can be as varied as the first – it's unlikely that exactly the same part of the brain will be affected.



Mood swings

Emotional ups and downs are very likely after a stroke. **Depression, sadness,** anger, anxiety, low self-esteem and loss of confidence are **common**.

Sometimes, people find it **hard to control** their **emotions** and may cry, swear or laugh at inappropriate times. They may find that their inhibitions are lifted and their behaviour seems out of character.

Sensation

Some people have problems with sensation – they **feel too much or too little**. They may be very sensitive to **colour, sound** and **light**. Or they may not feel painful sensations like **heat** or **sharp** objects which can cause accidents and injuries.

Pain

Pain can be caused by the stroke (for example, shoulder pain and spasticity), or may be caused by problems the person had **before** the stroke being **made worse**.

Recovering from a stroke takes time

After an initial spurt of **recovery** in the first few weeks, the mending process is very **gradual**. It may take more than a year before the person has made the best possible recovery, and some people **continue to improve** over a much longer period.

The Stroke Association

Working for a world where there are fewer strokes and all those touched by stroke get the help they need.

Every five minutes someone in the UK has a stroke. A stroke doesn't discriminate. It can happen to anyone at any time in their life. Strokes are sudden and their consequences can be devastating.

The Stroke Association is the only UK charity solely concerned with helping everyone affected by stroke. Our vision is to have a world where there are fewer strokes and all those touched by stroke get the help they need.

Stroke Helpline: 0845 3033 100

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The Stroke Association is a UK-wide organisation with offices in Scotland, Wales, Northern Ireland and the nine English regions.

You can find more contact information on our website.

