

Seizures and epilepsy after stroke

Stroke Support Helpline: **0303 3033 100**
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This guide looks at seizures and epilepsy after stroke and how they can be diagnosed and managed.

A stroke sometimes causes seizures, either soon after the stroke or some time later. This can have a big impact on your life. It might feel like a lot to deal with on top of having a stroke, but your medical team should ensure you get any treatment you may need.

How common are post-stroke seizures?

A seizure is most likely to happen within the first few days after a stroke but can also happen months or years later. Around 5 in 100 people (about 5%) may have a seizure soon after a stroke.

You are more likely to have a seizure if you had a severe stroke, a haemorrhagic stroke, or a stroke in the cerebral cortex, the large outer layer of the brain where vital functions like movement, thinking, vision and emotion take place.

Overall, your risk of having a seizure goes down over time. If you have one seizure after a stroke, it does not necessarily mean you have epilepsy or will go on to develop it.

Some people have more than one seizure and may be diagnosed with epilepsy.

What is a seizure?

A seizure is a sudden, abnormal burst of electrical activity in your brain. It happens when the electrical signals between brain cells get disrupted. This sends abnormal signals to the nerves in your body, causing a seizure.

A stroke can trigger this burst of electrical activity by damaging the connections between some of your brain cells.

It's not very easy to predict who will have a seizure, but your medical team will be aware of the risk soon after a stroke. They will look out for signs of seizures and make sure you get any treatment you need.

How does a seizure look and feel?

Seizure can have many different symptoms. These include changes to vision, smell and taste, loss of consciousness, jerking movements or loss of awareness of your surroundings. For more information, see 'Types of seizure' later in this guide.

What is epilepsy?

Epilepsy means a tendency to have repeated seizures. People can develop epilepsy at any age. In about half of cases, there is no known cause.

Epilepsy can be due to a brain injury or other condition such as a stroke, an infection or a tumour in the brain. Overall, stroke is the cause in around 11 in 100 adults (11%) newly diagnosed with epilepsy, and the figure is higher in adults aged over 60.

Driving

If you have a seizure, you must stop driving and notify the DVLA immediately (or DVA if you live in Northern Ireland). You must also tell your insurance company. Contact your local driving assessment centre for advice about driving after stroke and epilepsy. Visit **drivingmobility.org.uk** to find your local centre. For more information about driving and seizures, visit **epilepsy.org.uk/driving**

How are seizures diagnosed?

Tests and scans for epilepsy include measuring the electrical activity in the brain, brain imaging and blood tests.

If you have already left hospital and think you may have had a seizure, contact your GP. You should be referred to see a specialist within two weeks. The specialist is usually a neurologist, an expert in the brain and nervous system. While you are waiting for the appointment, it's best to avoid any activities that could put you, or others, in danger if you have another seizure. For example, do not go swimming and have showers rather than baths. You must not drive if you have had a seizure.

You may not be able to remember the seizure, so if someone else saw it, they should visit the specialist with you. They could write down what happened or share a video of the seizure if they have one.

Keep a seizure diary recording the date and time of your seizures, what happened and any possible triggers, such as stress or drinking alcohol.

The specialist will ask you questions about what happened. This may be enough to make a diagnosis. Further tests may be needed, particularly if the seizure did not involve convulsions (shaking movements). These tests do not prove whether you have epilepsy, but they can give information about the possible cause, and the type of epilepsy you have.

Tests used in diagnosing epilepsy

Electroencephalogram (EEG)

A common test for epilepsy is an EEG. It's a painless test which involves placing sticky patches called electrodes on your scalp. These measure electrical activity in your brain and can identify any unusual patterns. The test only shows what is happening in your brain at the time it is done, so a normal EEG does not necessarily mean that you do not have epilepsy. An EEG usually takes about one hour and can be done at an outpatient clinic.

Electrocardiogram (ECG)

An ECG records the electrical activity of the heart. It can be used to check if your symptoms may have been caused by a heart condition. It's a painless test which involves sticking electrodes to your arms, legs and chest.

Magnetic resonance imaging (MRI) scan

An MRI scan can find problems inside the brain which might cause epilepsy, including the damage left by a stroke.

Blood tests and other checks

You may be given blood tests or other checks to look for health problems that can cause similar symptoms, such as diabetes, migraine and panic attacks.



How is epilepsy treated?

Treatments include:

- Medication
- Surgery
- Vagus nerve stimulation therapy
- Ketogenic diet.

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.

Medication

Anti-seizure medication (ASM), also known as anti-epileptic drugs (AEDs), can often reduce or stop seizures. The treatment you have will depend on:

- What type of seizures you have.
- Your age and sex.
- How frequent your attacks are.
- Other effects of your stroke, like swallowing problems.
- Other medication you are taking.

The medication works by changing the levels of chemicals in the brain. They are usually safe and reliable and can help you get on with everyday life.

Your doctor might start you on a low dose and increase it gradually to find the dose that works for you.

The medication can have side effects such as drowsiness, dizziness and confusion. Everyone is different, and some people do not get any side effects at all. If you do have side effects, speak to your doctor as you may be able to try a different type or combination of medications.

If you have symptoms like feeling unsteady, having poor concentration or vomiting, your dose could be too high and you should contact your GP or specialist.

Free prescriptions

If you take anti-seizure medication, this and all other NHS prescriptions are free of charge. In England, you may need to get an exemption certificate.

Surgery

Surgery may be an option if medication does not help you, and if your epilepsy is due to certain causes in your brain, such as scarring or stroke damage. Whether you can have surgery depends partly on where the problem lies inside your brain, and whether a surgeon can reach it safely. You will need to explore the possible risks and benefits with your doctor before choosing to go ahead.

Vagus nerve stimulation therapy

This treatment aims to reduce the abnormal electrical activity in your brain. It works by stimulating the vagus nerve, which travels from your brain and reaches several parts of your body including your heart and lungs. A small device is implanted on the vagus nerve in the neck. It sends regular electric signals which regulate electrical activity in the brain.

Ketogenic diet

This treatment is used for children (and occasionally adults) who do not respond to anti-seizure medication, and involves a high-fat, low-carbohydrate diet. This changes the way the brain uses energy, which may reduce seizures. It should only be used with the help of a specialist doctor and dietitian.

Epilepsy specialist nurses

You might have support from a specialist nurse, who can give you individual advice about managing your condition. They can carry out reviews and change your medication. They can answer questions and help you find the support you need.

Types of seizure

Seizures can vary, ranging from tingling sensations or 'going blank' for a few seconds, to shaking and losing consciousness. Some people have only one type of seizure, and some have more than one type.

The main types of seizure include:

Focal onset seizures

Some seizures only occur in part of the brain, known as focal onset seizures. There are two kinds of focal seizures: motor (physical signs like moving your arms or falling), and non-motor (affects senses, awareness and emotions).

Generalised onset seizures

A generalised seizure involves the whole brain and affects the whole body. Motor (physical) signs can include losing consciousness and muscle spasms. A non-motor seizure could be a brief period of absence or blankness, where the person stops moving and looks as if they are staring into space.

Complications of epilepsy

Sudden death in epilepsy (SUDEP) can lead to someone dying unexpectedly during an epileptic seizure, often in their sleep. SUDEP is rare, affecting about one in 1,000 adults with epilepsy a year. Taking anti-seizure medication as prescribed can reduce or prevent seizures, and reduce the chance of SUDEP. Support and information are available from SUDEP Action at sudep.org

Status epilepticus is a serious complication of epilepsy. It means someone has a seizure which lasts a long time (over five minutes) or has repeated seizures without recovering in between. It is a medical emergency and you need to get help straight away.



First aid for seizures

If you are looking after someone having an epileptic seizure:

- Protect the person from injury by removing any harmful objects nearby and cushioning their head.
- Loosen any tight clothing from around their neck.
- Look for any identity card or jewellery that might give you advice on what to do.
- Do not attempt to restrain the person or bring them round.
- Do not move them, unless they are in danger.
- Do not put anything into their mouth.
- After the seizure has finished, turn them on their side in the recovery position to help them breathe more easily.
- Do not give them anything to eat or drink.
- Be calm and reassuring. Stay with them until they have completely recovered.
- Make a note of the time the seizure happened and how long it lasted.

Call **999** if any of these things happen:

- You think it is the person's first seizure.
- One seizure follows another without the person recovering in between.
- The seizure lasts for more than two minutes longer than is usual for them.
- The seizure lasts for more than five minutes.
- The person is injured, does not regain consciousness, has breathing problems after the seizure, or seems to need urgent medical attention.

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 TIA and stroke. This includes family, friends and carers.

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

Driver Vehicle Licensing Agency (DVLA) (England, Scotland, Wales)

Website: gov.uk/dvla

DVLA Medical Enquiries tel: **0300 790 6806**

Contact the DVLA by phone or online to tell them about a medical condition that affects your driving such as stroke and seizures. The website also has information about medical conditions and driving.

Driver and Vehicle Agency (DVA) (Northern Ireland)

Website: nidirect.gov.uk/information-and-services/motoring

Tel: **0300 200 7861**

Email: dva@infrastructure-ni.gov.uk

Contact the DVA in Northern Ireland by phone or by email to tell them about a medical condition that affects your driving such as stroke and seizures.

Driving Mobility

Website: drivingmobility.org.uk

Tel: **0800 559 3636**

Provides individual advice and assessments for motorists with disabilities or health conditions.

Epilepsy Action

Website: epilepsy.org.uk

Helpline: **0808 800 5050**

Email: helpline@epilepsy.org.uk

Provides advice and information about epilepsy and downloadable seizure diaries. Has support groups where you can meet others with epilepsy.

Epilepsy Society

Website: epilepsysociety.org.uk

Helpline: **01494 601 400**

Provides information about living with epilepsy, plus information for families and carers. The helpline can offer emotional support and time to talk.

Epilepsy Scotland

Website: epilepsyscotland.org.uk

Helpline: **0808 800 2200**

Provides information, training for professionals and community support services to help people to live independently.

Epilepsy Wales

Website: epilepsy.wales

Helpline: **0800 228 9016**

Email: info@epilepsy.wales

Provides information, runs support groups and training, and works to raise awareness.

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**

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 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.

You know more than most just how shocking and confusing having a stroke is. We're here to support you and your family find the strength and determination to get back to life.

Learn more about stroke support: **stroke.org.uk**

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