

Seizures explained



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A seizure is a sign of a temporary disruption in the brain's electrical activity. Billions of brain cells pass messages to each other and these affect what you say and do. If the brain short circuits and these messages get mixed up it can cause a seizure.

There are many different types of seizures. What happens during a seizure depends on where the disturbance starts and how quickly it spreads in the brain.

Seizures vary in how often they happen and the length of time they last. Some seizures may be frightening to watch. Some may pass unnoticed except to someone who knows you well. It is also possible that only you will know when you are having a seizure. Most seizures are short and people can recover on their own.

Your GP or specialist will be able to tell you what type of seizure you have, so not everything in this guide will be relevant to you.

You may have a seizure for no obvious reason. Or you may find certain things seem to trigger your seizures. Common triggers include:

- forgetting to take your medication
- lack of sleep
- too much alcohol
- feeling ill or hot
- stress/boredom
- missing meals
- dehydration

You may have photosensitive epilepsy. This is when flashing or flickering lights trigger your seizures. This type of epilepsy is rare; it affects less than five per cent of people with epilepsy. Television is the most common source of such flashing and flickering. Your epilepsy specialist will be able to tell you whether you have photosensitive epilepsy.

Types of seizures

Seizures are divided into two main groups:

- partial seizures (also called focal seizures) happen in just one part of the brain
- generalised seizures affect the whole brain.

Partial (or focal)

Simple Complex Secondary Generalised

Generalised

Tonic - clonic Tonic Atonic Myoclonic Absence

Partial (focal) seizures

Partial seizures affect one part of your brain. This may happen because of a head injury, stroke or meningitis. The type of partial seizure you have will depend on the function of the affected part of the brain. The area most commonly affected is the temporal lobe. It deals with sound, speech, smell, emotion and parts of memory. Partial seizures may also start at the frontal and other lobes in the brain. Partial seizures are either simple or complex.

Simple partial seizures

These affect one area of the brain. You may feel an unusual movement (such as twitching in an arm), sensation or vision (for example seeing strange colours). You may feel 'dreamy', sick, or experience emotions such as fear or anger. You know the seizure is happening but you cannot stop it. You will be aware of what's going on. A simple partial seizure can act as a warning or 'aura' that a complex partial or secondary generalised seizure may follow. This allows you time to move to a safe, quiet place.



Complex partial seizures

These usually affect a larger area of the brain. You may experience strange feelings and lose your sense of time. You will appear unresponsive and 'switched off' from what is going on around you. You may behave in an unusual way. This could be smacking your lips, plucking at your clothes, or moving aimlessly around a room. Unlike simple partial seizures you will not be fully aware of what is going on. This could put you in danger, as you may, for example, walk onto a busy road during this type of seizure.

Secondary generalised seizures

A partial seizure can also spread in the brain and become a full generalised seizure. These secondary generalised seizures are usually tonic-clonic (see overleaf).

Generalised seizures

Generalised seizures affect the whole brain. There will always be some loss of consciousness. There are different kinds of generalised seizures. The most common ones are:

Tonic-clonic seizures

These used to be called 'grand mal' and are the most well-known type of seizures. You will lose consciousness and fall to the ground during this seizure. You will stiffen (the tonic phase) and then jerk (the clonic phase). Your breathing may become irregular and as a result you could turn slightly blue. You may also make grunting noises, bite your tongue or cheek, or be incontinent. After a couple of minutes the jerking normally stops and you will slowly recover. You may feel groggy, sleepy and confused for some time afterwards. You may also have a headache or sore arms and legs. Some people recover more quickly than others.

Absence seizures

These used to be known as 'petit mal'. These seizures are more common in childhood and adolescence. They happen more often in females than in males. During this type of seizure you will have a brief loss of consciousness, often for only a few seconds. You will stop what you are doing, remain still and stare into space. These seizures can take place many times a day. This type of seizure can often go unnoticed. It may even look like a child is day dreaming. This can have a serious effect on a child's concentration and learning.

Atonic seizures

Sometimes known as 'drop attacks'. They involve sudden loss of muscle tone. Your body will suddenly go limp and, if you are standing, you will fall to the ground. The seizure is short and you will usually get up quickly.

Tonic seizures

Your body will suddenly stiffen, and your breathing may become irregular. You may fall if you are unsupported.

Myoclonic seizures

These are sudden muscle spasms or jerks affecting your arms, head and sometimes your whole body. They commonly happen in the morning just after waking or when you are tired.



Most people will have only one type of seizure. But you can have more. People with severe learning disabilities often have two or more types of seizures.

Before treatment starts you need to have an accurate diagnosis of epilepsy.

You may have seizures when you are either asleep at night or during the day. Some people only have sleep seizures. Others have seizures both when awake and when they are sleeping.

Have a look at our 'First aid for seizures' guide. This will give you more information on different types of seizures and what you can do.

Medical emergencies

Between 60 and 70 per cent of people with epilepsy have their seizures well controlled. They become seizure free once they start anti-epileptic medication.

Any seizure which continues to last for more than five minutes is classed as a medical emergency. This usually requires emergency medication. Phone our Helpline if you want to talk to someone about this.

Emergency medication

Emergency medication can be given by the person named in your care plan, if you have one. This person needs to be trained on how to give emergency medication. Epilepsy Scotland provides this training. Please telephone our training department on 0141 427 4911 for more information.

Emergency medication can also be given by medical staff. Before they can do this, they will need legal consent from either yourself or from someone who can give legal consent on your behalf.

Emergency medication includes rectal diazepam. This is a gel given through a special tube into the anus (rectum). It can also be midazolam, which is given inside the cheek (buccal cavity) or through the nose.



Status epilepticus

Status epilepticus can happen in one of two ways:

- if you have a seizure, lasting more than 30 minutes, or
- if you have one seizure after another without recovering.

Status epilepticus is always a medical emergency.

Emergency medication must be given. This will usually stop the seizure. However, if the seizure continues, you will need to go to hospital. It is rare and is more likely to happen if you have uncontrolled seizures. Status epilepticus is more commonly linked to tonic-clonic seizures.

But it can occur in any type of seizure such as complex partial or absence seizures. If the seizures do not include jerking (non-convulsive), status epilepticus may sometimes be difficult to detect.



A small number of people with epilepsy die prematurely each year. In Scotland around 100 epilepsy-related deaths occur annually. Nearly half of these are sudden and unexpected (known as Sudden Unexpected Death in Epilepsy or SUDEP).

SUDEP affects mostly younger adults. There is little risk if you have partial seizures (simple or complex). The risk is also reduced if your epilepsy is well controlled. Our trained Helpline staff can talk through any concerns you may have. We can also give you more information on what to look out for and what you can do to reduce the risk of SUDEP occurring.



There is more information on:

- A guide to epilepsy – what you need to know
- A woman's guide to epilepsy
- Epilepsy – a guide for teachers
- A parent's guide to epilepsy
- Epilepsy in later life
- Epilepsy and memory
- An employer's guide to epilepsy
- Men and epilepsy
- Epilepsy and driving
- Diagnosing epilepsy
- Epilepsy and employment
- First aid for seizures
- Epilepsy and leisure
- Photosensitive epilepsy
- Epilepsy and treatment
- Emotional wellbeing
- Staying safe with epilepsy
- Caring for people with epilepsy and learning difficulties
- Sudden unexpected death in epilepsy (SUDEP)
- Brian learns about epilepsy (for pre-school children whose parent has epilepsy)

We also have a selection of guides designed for people with mild to moderate learning disabilities.

If you have questions after reading this leaflet, please call our helpline. Our trained staff are available during office hours and until 6pm on Thursdays.

If you would like this leaflet in a different format, large print or language, please call **0808 800 2200**.