

**epilepsy
society**

seizures

An introduction to epileptic seizures



epilepsy society

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When you see this symbol, it means further information is available.

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helpline

01494 601 400

Monday to Friday 10am to 4pm
(national call rate)

an introduction to epileptic seizures

Any of us could potentially have a single epileptic seizure at some point in our lives. This is not the same as having epilepsy, which is a *tendency* to have seizures that start in the brain. This leaflet covers different types of epileptic seizure and what they can look like.

Whether you, or someone you know, has had a single seizure or has been diagnosed with epilepsy, it may help to identify the type of seizures that are relevant to you, and how you feel about them. Also, page 13 has information on what to do if someone has a seizure.



Call our helpline for information or time to talk. See back cover for contact details.

are all seizures the same?

There are different types of epileptic seizures, but they all start in the brain. There are other types of seizures which may look like epileptic seizures but they do not start in the brain.

Some seizures are caused by conditions such as low blood sugar (hypoglycaemia) or a change to the way the heart is working. Some very young children have 'febrile convulsions' (jerking movements) when they have a high temperature. These are not the same as epileptic seizures.

In this leaflet when we use the word 'seizure' we mean epileptic seizure.

the brain and epileptic seizures

The brain has millions of nerve cells which control the way we think, move and feel. The nerve cells do this by passing electrical signals to each other. If these signals are disrupted or too many signals are sent at once, this causes a seizure (sometimes called a 'fit' or 'attack').

The brain has many different functions. Mood, memory, movement, consciousness and our senses are all controlled by the brain, and any of these can be affected if someone has a seizure. They may feel strange or confused, behave in an unusual way, or lose some or all awareness during the seizure.

How epilepsy is described

You may see epilepsy described in two ways. One way describes the type of epilepsy, and another way describes the type of seizure.

The *type of epilepsy* depends on the cause of the epilepsy. For example, 'symptomatic epilepsy' means there is a known cause (such as a brain injury) and 'idiopathic epilepsy' means that the epilepsy is usually genetic or inherited.

The *type of seizure* depends on what happens to the person during the seizure. In this leaflet we look at the types of seizure and not the types of epilepsy.



See our leaflet *what is epilepsy?*

some facts about seizures

- Most seizures happen suddenly without warning, last a short time (a few seconds or minutes) and stop by themselves.
- Seizures can be different for each person.
- Just knowing that someone has epilepsy does not tell you what their epilepsy is like, or what seizures they have.
- Calling seizures ‘major’ or ‘minor’ does not tell you what happens to the person during a seizure. The names of seizures used in this leaflet describe what happens in a seizure.
- Some people have more than one type of seizure, or their seizures may not fit clearly into the types described in this leaflet. But even if someone’s seizures are unique, they may follow the same pattern for that person.
- Not all seizures involve convulsions (jerking or shaking movements). Some people seem vacant, wander around or are confused during a seizure.
- Some people have seizures when they are awake, called ‘awake seizures’. Some people have seizures while they are asleep, called ‘asleep seizures’ (or ‘nocturnal seizures’). The names ‘awake’ and ‘asleep’ do not explain the *type* of seizures, only *when* they happen.
- Injuries can happen during seizures, but many people don’t hurt themselves and don’t need to go to hospital or see a doctor.

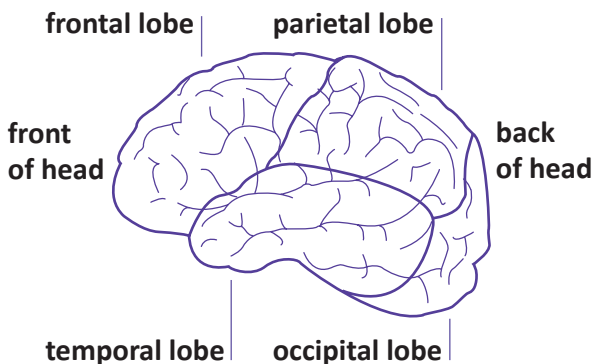
 See our leaflet *first aid*.

types of seizures

Seizures are divided into two main types: focal seizures (also called partial seizures) and generalised seizures. Epileptic seizures always start in the brain.

The brain has two sides called hemispheres. Each hemisphere has four parts called lobes. Each lobe is responsible for different things such as vision, speech and emotions.

One hemisphere of the brain (side view)



focal (partial) seizures

In focal seizures the seizure starts in, and affects, just part of the brain, sometimes called the 'focus' of the seizures. It might affect a large part of one hemisphere or just a small area in one of the lobes.

What happens during the seizure depends on where in the brain the seizure happens and what that part of the brain normally does.

Simple focal seizures (SFS)

In simple focal seizures (SFS) a small part of one of the lobes of the brain is affected. The person is conscious (aware and alert) and will usually know that something is happening.

Some people find their simple focal seizures (SFS) hard to put into words. During the seizure they may feel 'strange' but not be able to describe the feeling afterwards. This may be upsetting or frustrating for them.

SFS are sometimes called 'warnings' or 'auras' because, for some people, a SFS develops into another type of seizure. The SFS is then a warning that another seizure will happen (see **secondarily generalised seizures**, page 10).

Frontal lobe simple focal seizures may include:

- a strange feeling like a 'wave' going through the head; or
- stiffness or twitching in part of the body (such as an arm or hand).

Temporal lobe simple focal seizures may include:

- a 'rising' feeling in the stomach or déjà vu (feeling like you've 'been here before');
- getting an unusual smell or taste; or
- a sudden intense feeling of fear or joy.

Parietal lobe simple focal seizures may include:

- a feeling of numbness or tingling; or
- a sensation that an arm or leg feels bigger or smaller than it actually is.

Occipital lobe simple focal seizures may include:

- visual disturbances such as coloured or flashing lights; or
- hallucinations (seeing something that isn't actually there).

Complex focal seizures (CFS)

Complex focal seizures (CFS) affect a bigger part of one hemisphere (side) of the brain than a simple focal seizure.

The person's consciousness is affected and they may be confused. They might make strange or repetitive movements that have no purpose (called 'automatisms'). They may wander around, or behave strangely, and they may not be aware of what they are doing.

They might be able to hear you, but not fully understand what you say or be able to respond to you. They may not react as they would normally. If you speak loudly to them, they may think you are being aggressive and so they may react aggressively towards you.

CFS often happen in the temporal lobes ('temporal lobe epilepsy') but can happen in other parts of the brain.



Temporal lobe complex focal seizures may include:

- picking up objects for no reason or fiddling with clothing;
- chewing or lip-smacking movements;
- muttering or repeating words that don't make sense; or
- wandering around in a confused way.

These CFS may start with a simple focal seizure and may last around two or three minutes.

Frontal lobe complex focal seizures may include:

- making a loud cry or scream; or
- making strange postures or movements such as cycling or kicking.

These CFS usually last around 15 – 30 seconds.

Complex focal seizures in the **occipital** or **parietal lobes** are less common than in the temporal or frontal lobes. Like the simple focal seizures, CFS in the occipital or parietal lobes can affect the person's vision or senses.

These CFS usually last around 15 – 30 seconds.

After a complex focal seizure, the person may be confused for a while, sometimes called 'post-ictal' (after-seizure) confusion. It may be hard to tell when the seizure has ended. The person might be tired, and want to rest. They may not remember the seizure afterwards.

Secondarily generalised seizures

Sometimes focal seizures spread from one side (hemisphere) to both sides of the brain. This is called a secondarily generalised seizure because it starts as a focal seizure and then becomes generalised. When this happens the person becomes unconscious and will usually have a tonic clonic (convulsive or shaking) seizure. If this happens very quickly, they may not be aware that it started as a focal seizure.

generalised seizures

Generalised seizures affect both sides of the brain at once and happen without warning. The person will be unconscious (except in myoclonic seizures), even if just for a few seconds. Afterwards they will not remember what happened during the seizure.

Absences (sometimes called petit mal)

Absence seizures are more common in children than in adults, and can happen very frequently. During an absence the person becomes unconscious for a short time. They may look blank and stare, or their eyelids might flutter. They will not respond to what is happening around them. If they are walking they may carry on walking, but will not be aware of what they are doing.

In **typical absences**, the person becomes blank and unresponsive for a few seconds. Because the seizures are brief, they may not be noticed.

Atypical absences often last a bit longer than typical absences. They may have some physical movement with them, like a brief head nod.

Tonic and atonic seizures

In a **tonic** seizure the person's muscles suddenly become stiff. If they are standing they often fall, usually backwards, and may injure the back of their head. Tonic seizures tend to be brief and happen without warning.

In an **atonic** seizure (or 'drop attack') the person's muscles suddenly relax, and they become floppy. If they are standing they often fall, usually forwards, and may injure the front of their head or face. Like tonic seizures, atonic seizures tend to be brief and happen without warning. With both tonic and atonic seizures people usually recover quickly, apart from possible injuries.

Myoclonic seizures

Myoclonic means 'muscle jerk'. Muscle jerks are not always due to epilepsy (for example, some people have them as they fall asleep).

Myoclonic seizures are brief but can happen in clusters (many happening close together in time), and often happen shortly after waking.

In myoclonic seizures the person is conscious, but they are classified as generalised seizures. This is because the person is likely to have myoclonic seizures as well as other seizures (such as tonic clonic seizures).

Tonic clonic (convulsive) seizures (sometimes called grand mal)

These are the seizures most people think of as epilepsy.

At the start of the seizure:

- the person becomes unconscious;
- their body goes stiff, and if they are standing up they usually fall backwards;
- they may cry out; and
- they may bite their tongue or cheek.

During the seizure:

- they jerk and shake (convulse) as their muscles relax and tighten rhythmically;
- their breathing might be affected and become difficult or sound noisy;
- their skin may change colour and become very pale or bluish; and
- they may wet themselves.

After the seizure (once the jerking stops):

- their breathing and colour return to normal; and
- they may feel tired, confused, have a headache or want to sleep.

Clonic seizures

Clonic seizures are convulsive seizures but the person's body does not go stiff at the start.

what to do if someone has a seizure

How you can help someone during a seizure will depend on the type of seizures they have.

If they seem confused or vacant, stay with them, talk calmly and quietly, and gently guide them away from any danger.

During convulsive (tonic clonic) seizures

- try to keep calm;
- check the time to see how long the seizure lasts;
- move objects away from them if they are likely to hurt themselves;
- put something soft under their head to protect it;
- after they have stopped shaking put them gently into the recovery position;
- stay with them until they have recovered;
- don't hold them down;
- don't put anything in their mouth; and
- don't move them, unless they are in direct danger.

Usually the person does not need an ambulance.

 **See our leaflet *first aid*.**

 **See our factsheet *the recovery position*.**

 **See page 14 for when to call an ambulance.**

Call 999 for an ambulance if:

- it is the person's first seizure;
- they have injured themselves badly;
- they have trouble breathing after the seizure has stopped;
- one seizure immediately follows another with no recovery in between;
- the seizure lasts two minutes longer than is usual for them; or
- the seizure lasts for more than five minutes and you do not know how long their seizures usually last.

Status epilepticus

An individual's seizures usually last the same length of time each time they happen, and stop by themselves. However, sometimes seizures do not stop, or one seizure follows another without the person recovering in between. If this goes on for 30 minutes or more it is called 'status epilepticus', or 'status'.

Status is **not common**, but it can happen in any type of seizure and the person may need to see a doctor.

However, **status in a tonic clonic (convulsive) seizure is a medical emergency** and the person will need urgent medical help. Call for an ambulance after five minutes.



See box above for when to call an ambulance.

seizure triggers

Some people's seizures are brought on or 'triggered' by certain situations. Triggers can differ from person to person, but common triggers include lack of sleep, stress, alcohol and flickering lights (called photosensitive epilepsy). Knowing what triggers someone's seizures means that they might be able to avoid these situations.



See our factsheet *photosensitive epilepsy*.

Seizure diaries

Some people with epilepsy make a note of when their seizures happen in a seizure diary. This means they can see if their seizures change in length or frequency over time. If their seizures do change, it might be helpful for them to have their epilepsy reviewed by their doctor.



Contact us for a free *seizure diary*.



further information

Epilepsy Society information

First aid

Photosensitive epilepsy

Seizure diary

The recovery position

What is epilepsy?

Every effort is made to ensure that all information is correct. Please note that information may change after printing. This information is not a substitute for advice from your own doctors. Epilepsy Society is not responsible for any actions taken as a result of using this information.

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Epilepsy Society

Chesham Lane, Chalfont St Peter, Bucks SL9 0RJ

01494 601 300

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registered charity no. 206186