

epilepsy

An introduction to epileptic seizures

seizures



A large print text only version of
this leaflet is available from the
Epilepsy Helpline on:
01494 601 400
(Monday - Friday 10am - 4pm)

seizures

*“personality, mood, memory, movement,
consciousness and our senses are all
controlled by the brain. These can all be
affected if a person has a seizure”*

An introduction to epileptic seizures

This leaflet is an introduction to the different types of epileptic seizure and explains what they can look like.

Are all seizures the same?

There are different types of seizures and they can happen for many reasons. Some are caused by conditions such as low blood sugar (hypoglycaemia) or a change to the way the heart is working. Some look like epileptic seizures but have a different cause. These are called non-epileptic seizures.

→ *Contact the epilepsy helpline for more information about non-epileptic seizures. See back cover for contact details.*

What seizures all have in common is that they are sudden, short-lived and cause a change in the person's awareness of where they are, what they are doing, their behaviour or their feelings.

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.

What are epileptic seizures?

The brain is made up of 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. In some people, these signals suddenly get interrupted and this causes a seizure (sometimes called a 'fit' or 'attack'). Epileptic seizures always start in the brain.

The brain has many different functions. Personality, mood, memory, movement, consciousness and our senses are all controlled by the brain and can be affected if a person has a seizure. Epileptic seizures can vary greatly from one person to another.

How epilepsy is described

Doctors may describe epilepsy in two ways. Firstly they may describe the type of epilepsy, and secondly, the type of seizures.

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

→ See NSE leaflet '*epilepsy - what is it*' for more about the causes of epilepsy.

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

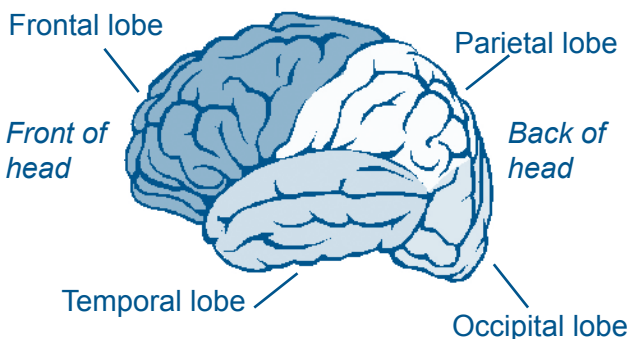
Some facts about seizures

- There are different types of epileptic seizure and how seizures affect one person can be different to how they affect someone else.
 - 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 the seizure. The names of seizures used in this leaflet describe what happens during the seizure.
 - Some people have more than one type of seizure. How often seizures happen and how long they last is usually fairly constant for each person, although this can change.
 - Not all seizures involve convulsions (jerking or shaking movements).
 - Some people have 'nocturnal seizures' which happen when they are sleeping (see page 13). Some people have seizures when they are awake, and some have seizures when they are awake and when they are asleep.
 - Most epileptic seizures happen suddenly, without warning, last a short time (a few seconds or minutes) and stop by themselves.
 - Injuries can happen during seizures, but most people do not hurt themselves and do not need to go to hospital or see a doctor.
- See NSE leaflet '*epilepsy - first aid*' for information about managing seizures.

Seizures and the brain

The brain has two halves 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



Types of seizure

Seizures are divided into two main types: partial seizures and generalised seizures.

Partial or focal seizures

In partial seizures the seizure starts in, and affects, just part of the brain. The seizure might affect all of one hemisphere or just a small area in one of the lobes. Partial seizures are sometimes called 'focal' seizures because the seizure affects just one area.

What happens during the seizure depends on which part of the brain the seizure affects, and what that part of the brain normally does.

Simple partial seizures

In simple partial seizures (SPS) only a small part of the brain is affected. The person is conscious (aware and alert) and will usually know that something is happening.

What happens to the person depends on where in the brain the seizure happens.

SPS in the **temporal lobe** might 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.

SPS in the **frontal lobe** might 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).

SPS in the **parietal lobe** might include:

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

SPS in the **occipital lobe** might include:

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

Some people find their SPS quite hard to put into words. During the seizure they may feel

'strange' but not able to describe the feeling. This can make the seizures quite upsetting.

SPS are sometimes called 'warnings' or 'auras' because, for some people, a SPS develops into another type of seizure. Then the SPS is a warning that another seizure is going to happen (see secondarily generalised seizures, page 10).

Complex partial seizures

A complex partial seizure (CPS) affects a bigger part of the brain than a SPS. In a CPS the person's consciousness is affected, they may be confused, and afterwards may have no memory of the seizure. They might be able to hear you, but might not fully understand what you have said or be able to respond to you. They might make strange or repetitive movements that have no purpose (called 'automatisms'). CPS often happen in the temporal lobes ('temporal lobe epilepsy') but can happen in other parts of the brain.

CPS in the **temporal lobe** might include:

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

These CPS may start with a SPS and last about two or three minutes.

CPS in the **frontal lobe** might include:

- making a loud cry or scream (although seizures are not painful); or
- making strange postures or movements such as cycling or kicking.

These CPS usually last around 15 - 30 seconds.

CPS in the **occipital** or **parietal** lobes are less common than temporal or frontal lobe CPS. Like the simple partial seizures, CPS in the occipital or parietal lobes can affect the person's vision or senses. These CPS are also brief, lasting around 15 - 30 seconds.

During a CPS the person is confused. You might notice them wandering around, their behaviour may look strange, and they may not be aware of what they are doing.

Because of this, they may not react to you as they would normally do, and may not understand how you are behaving towards them. If you speak loudly to them, they may think that you are being aggressive and so they may react aggressively towards you.

After the seizure, they might be confused for some time, sometimes called 'post-ictal' (after-seizure) confusion. It might not be very easy to tell when the seizure has ended. The person might feel tired and want to rest.

Secondarily generalised seizures

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

Generalised seizures

Generalised seizures affect all of the brain at once and can happen without warning. In all generalised seizures the person will be unconscious, even if just for a couple of seconds. Afterwards they will not remember what happened during the seizure.

Absences (sometimes called petit mal)

Absences are more common in children than 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. For example, if they are walking they may carry on walking, but will not be aware of what they are doing.

During **typical absences**, the person becomes blank and unresponsive for a few seconds. Because the seizures are so brief, they may go unnoticed.

Atypical absences often last a bit longer than typical absences. Atypical absences often have some physical movement with them such as 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 very brief and happen without warning. People usually recover quickly.

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 themselves. Like tonic seizures, atonic seizures tend to be brief and happen without warning. People usually recover quickly.

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.

Although in myoclonic seizures the person is conscious, they are classified as generalised seizures. This is because they do not usually happen on their own but alongside other seizures (such as tonic clonic seizures).

Tonic clonic ('grand mal') seizures

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 and want to sleep.
- *See inside back cover for how to help if someone has a tonic clonic seizure.*

Clonic seizures

Some people have convulsive seizures but their body does not go stiff at the start. These are called clonic seizures.

Nocturnal seizures

Some people have seizures when they are asleep. Because most of us sleep at night, these are called 'nocturnal seizures'. But nocturnal seizures can also happen during the day if the person is asleep. The name 'nocturnal seizures' does not say what type of seizures are happening, only that they happen when the person is asleep.

Unclassifiable seizures

Some seizures do not easily fit into the types of seizures explained above; they might have parts of different types of seizures in them or be unique to the person having them. These seizures may be called 'unclassifiable'.

Status epilepticus

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

Status 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 medical help.

→ *See inside back cover for more information about calling an ambulance.*

Triggers

Some people's seizures are brought on or 'triggered' by certain situations, which can differ from one person to another. Triggers can 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 *NSE factsheet 'photosensitive epilepsy'* for more information.

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 *NSE* for a free seizure diary.

Further Reading

NSE leaflets

epilepsy - first aid

epilepsy - non-epileptic seizures

epilepsy - photosensitive epilepsy

epilepsy - what is it?

See '*NSE information*' leaflet for details of all *NSE* leaflets, videos, DVDs and books.

How to help during a tonic clonic seizure:

- try to stay calm and note the time to see how long the seizure is lasting;
- move objects away from the person if there is a risk of injury. Only move the person if they are in a dangerous place;
- put something soft under their head;
- **do not** restrain them;
- **do not** put anything in their mouth - there is no danger of them swallowing their tongue during the seizure; and
- stop other people from crowding around.

When the convulsing has stopped:

- put them into the recovery position;
- wipe away any spit and if their breathing is difficult check their mouth to see that nothing is blocking their airway, like food;
- minimise any embarrassment. If they have wet themselves deal with this as privately as possible; and
- stay with them until they fully recover.

Usually there is no need to call for an ambulance. However, you should always dial 999 for an ambulance if:

- it is their 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 usual for them; or
- the seizure last for more than five minutes and you do not know how long their seizures usually last.

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Epilepsy Helpline

01494 601 400 (national call rate)

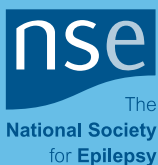
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information... time to talk... emotional support

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