Epilepsy

**Epilepsy is a condition that affects the brain and causes repeated seizures.**

Epilepsy is estimated to affect more than 500,000 people in the UK. This means that almost one in every 100 people has the condition.

Seizures

The cells in the brain, known as neurons, conduct electrical signals and communicate with each other in the brain using chemical messengers. During a seizure, there are abnormal bursts of neurons firing off electrical impulses, which can cause the brain and body to behave strangely.

The severity of seizures can differ from person to person. Some people simply experience an odd feeling with no loss of awareness, or may have a "trance-like" state for a few seconds or minutes, while others lose consciousness and have convulsions (uncontrollable shaking of the body).

Some people may only have a single seizure at some point during their life. If they do not have a high risk of having further seizures, they would not be regarded as having epilepsy.

What causes epilepsy?

Epilepsy can start at any age, but it most often begins during childhood.

It's often not possible to identify a specific reason why someone develops the condition, although some cases – particularly those that occur later in life – are associated with damage to the brain.

For example, epilepsy can be caused by [strokes](http://www.nhs.uk/conditions/Stroke/Pages/Introduction.aspx), [brain tumours](http://www.nhs.uk/conditions/brain-tumours/pages/introduction.aspx) and [severe head injuries](http://www.nhs.uk/Conditions/Head-injury-severe-/Pages/Introduction.aspx).

Some cases of epilepsy may be caused by changes in the brain that occur as a result of the genes you inherit from your parents.

How epilepsy is diagnosed

Epilepsy is most often diagnosed after you have had more than one seizure. This is because many people have a one-off epileptic seizure during their lifetime.

The most important information needed to make a diagnosis is a description of your seizures from yourself and someone who witnessed the event, but tests may also be carried out to help determine which areas of your brain are affected and look for a potential cause.

How epilepsy is treated

For most people with epilepsy, treatment with medications called anti-epileptic drugs (AEDs) is recommended. These medications cannot cure epilepsy, but they are often very effective in controlling seizures.

It can take some time to find the right type and correct dose of AED before your seizures can be controlled.

In a few cases, surgery may be used to remove a specific area of the brain that is affected or to install an electrical device that can help control seizures.

Living with epilepsy

While epilepsy is different for everyone, there are some general rules that can make living with the condition easier.

It's important to stay healthy through regular [exercise](http://www.nhs.uk/Livewell/fitness/Pages/Fitnesshome.aspx), getting enough sleep, eating a [balanced diet](http://www.nhs.uk/LiveWell/Goodfood/Pages/Goodfoodhome.aspx) and avoiding excessive drinking.

Advice is available from your GP or support groups to help you adjust to life with epilepsy.

Symptoms of epilepsy

**The main symptoms of epilepsy are repeated seizures. There are many different types of seizure, depending on the area of the brain affected.**

People with epilepsy can experience any type of seizure, although most people have a consistent pattern of symptoms.

Seizures can occur when you are awake or asleep.

Doctors classify seizures by how much of the brain is affected. There are:

* **partial (or focal) seizures** – where only a small part of the brain is affected
* **generalised seizures** – where most or all of the brain is affected

Some seizures do not fit into these categories and are known as unclassified seizures.

Partial seizures

There are two main types of partial seizure.

**Simple partial seizures**

Simple partial seizures are where you remain fully conscious throughout.

Symptoms of a simple partial seizure can include:

* a general strange feeling that is hard to describe
* a "rising" feeling in your tummy – sometimes likened to the sensation in your stomach when on a fairground ride
* an intense feeling that events have happened before (déjà vu)
* experiencing an unusual smell or taste
* a tingling sensation, or "[pins and needles](http://www.nhs.uk/conditions/Pins-and-needles/Pages/Introduction.aspx)", in your arms and legs
* a sudden intense feeling of fear or joy
* stiffness or twitching in part of the body, such as an arm or hand

These seizures are sometimes known as "warnings" or "auras", because they can be a sign that another type of seizure is on its way. This can give you time to warn people around you and make sure you are in a safe place.

**Complex partial seizures**

Complex partial seizures are when you lose your sense of awareness and can’t remember what happened after the seizure has passed.

The symptoms of a complex partial seizure normally involve apparently strange and random bodily behaviour, such as:

* smacking your lips
* rubbing your hands
* making random noises
* moving your arms around
* picking at clothes
* fiddling with objects
* adopting an unusual posture
* chewing or swallowing

During a complex partial seizure, you will not be able to respond to anyone else, and you will have no memory of the event.

Generalised seizures

There are six main types of generalised seizure.

**Absences**

Absence seizures, which used to be called petit mal, mainly affect children, but they also occur in adults. They cause the person to lose awareness of their surroundings, usually for up to 15 seconds. The person will seem to stare vacantly into space, although some people will flutter their eyes or smack their lips. The person will have no memory of the seizure.

Absences can occur several times a day. They may affect a child's performance at school, and can be dangerous if they occur at a critical time, such as crossing a busy road.

**Myoclonic seizures**

These types of seizures cause your arms, legs or upper body to jerk or twitch, as if you have received an electric shock. They often only last for a fraction of a second, and you will normally remain conscious during this time.

Myoclonic jerks often happen in the first few hours after waking up and can occur in combination with other types of generalised seizures.

**Clonic seizures**

These cause the same sort of twitching as myoclonic jerks, except the symptoms will last longer, normally up to two minutes. Loss of consciousness may also occur.

**Atonic seizures**

Atonic seizures cause all your muscles to suddenly relax, so there is a chance you may fall to the ground and there is a risk you could injure yourself.

**Tonic seizures**

Tonic seizures cause all your muscles to suddenly become stiff, which can mean you lose balance and fall over. Like atonic seizures, there is a risk of injury.

**Tonic-clonic seizures**

Tonic-clonic seizures or convulsions, which used to be known as grand mal, have two stages. Your body will initially become stiff and then your arms and legs will begin twitching. You will lose consciousness and some people will wet themselves. The seizure normally lasts a few minutes, but can last longer.

This type of seizure is what most people think of as an epileptic fit.

What to do if someone has a seizure

If you see someone having a seizure, there are simple things you can do to help.

**Tonic-clonic seizures**

If you are with someone who has a tonic-clonic seizure:

* protect them from injury by removing any dangerous or potentially harmful objects nearby, and cushioning their head with your hands or soft material
* do not restrain them or attempt to move them (unless they are in immediate danger) and don't put anything in their mouth
* stay calm, and stay with them until they regain consciousness

When the convulsions have stopped, put them into the [recovery position](http://www.nhs.uk/Conditions/Accidents-and-first-aid/Pages/The-recovery-position.aspx) until they have recovered.

**Other types of seizure**

If someone is having one of the other types of seizure:

* protect them from injury by removing any dangerous or potentially harmful objects nearby, and cushioning their head with your hands or soft material
* only attempt to move them if they are in immediate danger
* stay with them and comfort them until they have fully recovered

**When to call an ambulance**

It will not usually be necessary to call an ambulance after a seizure. However, you should call 999 if:

* the seizure has not stopped after five minutes
* the person has more than one seizure without recovering in between
* you know it is the person's first seizure
* the person is injured, has breathing problems, or needs emergency medical attention for any other reason
* the person’s behaviour after a seizure is unsafe

Status epilepticus

Status epilepticus is the name for any seizure that lasts longer than 30 minutes, or a series of seizures where the person does not regain consciousness in between. This is a medical emergency and requires treatment as soon as possible.

You can be trained to treat status epilepticus if you care for someone with epilepsy, but if you haven't had any training, it is important to call 999 for an ambulance immediately if you suspect status epilepticus.