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Introduction

Epilepsy is not a single condition. Sometimes you might hear people talk about ‘the epilepsies’. This is because there are many different types of epilepsy. Epilepsy can start at different times for different people. And the different types of epilepsy can produce different signs and symptoms.

To keep things simple, in this information we talk about epilepsy, rather than the epilepsies.

Having epilepsy always means that you have a tendency to have epileptic seizures. It is not necessarily a life-long diagnosis. And doctors may consider that you no longer have epilepsy if you go without seizures for a long enough time.

Epilepsy Action has more information about the definition of epilepsy.

Epileptic seizures explained gives a brief explanation of the most common types of epileptic seizure. Epilepsy Action has information about many different aspects of epilepsy, including seizure triggers and epilepsy syndromes. Contact: epilepsy.org.uk

Seizures

Electrical activity is happening in our brain all the time. A seizure happens when there is a sudden burst of intense electrical activity in the brain. This is often referred to as epileptic activity. The epileptic activity causes a temporary disruption to the way the brain normally works, so the brain’s messages become mixed up. The result is an epileptic seizure.

How seizures affect you depends on the area of your brain affected by the epileptic activity. For example, some people lose consciousness during a seizure but other people don’t. Some people have strange sensations, or parts of their body might twitch or jerk. Other people fall to the floor and convulse. This is when they jerk violently as their muscles tighten and relax repeatedly.

Seizures usually last between a few seconds and several minutes. After a seizure, the person’s brain and body will usually return to normal.

Some people only ever have seizures when they are awake. Other people only ever have them when they are asleep. Some people have a mixture of both.

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The causes of epilepsy

In around six out of 10 people, doctors don’t know the cause of their epilepsy. For many of these people, it seems that it is just something in the way they are made that makes them more likely to have seizures. Some people do have a cause for their epilepsy. Sometimes it is caused by damage to parts of the brain which can be brought about by:

- A difficult birth
- A brain infection, such as meningitis
- A stroke
- A serious brain injury

You might have another condition where epilepsy is quite common. Two such conditions are tuberous sclerosis and cerebral palsy.

When seizures start

Seizures can start at any age, but are most common in children and older people. Certain seizure types are more likely to start at certain times of life. For example, children are more likely than adults to have absence seizures, and older people are more likely than children to have focal (partial) seizures.

When epilepsy has gone away

A person will no longer be considered to have epilepsy if they:

- Had an epilepsy syndrome that only affects people of a certain age, but are now past that age. An example is benign rolandic epilepsy, or
- Have not had a seizure for 10 years, and had no epilepsy medicine for five years

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Seizure classification
The International League Against Epilepsy (ILAE), a world-wide organisation of epilepsy professionals, has put together a list of the names of different seizure types. This is called the ILAE seizure classification.\textsuperscript{10} The names and information given about different types of seizures in this booklet are based on this classification. The ILAE regularly looks at seizure classifications, so the names may change over time.

Some people use different words to describe seizures. But it is important for doctors to give seizures the right names. This is because specific medicines and treatments can help some seizure types but not others.\textsuperscript{11}

Seizure triggers
Some things make seizures more likely for some people with epilepsy. These are often called ‘triggers’.\textsuperscript{12} Triggers are things like stress, not sleeping well or drinking too much alcohol. Some people say they have more seizures if they miss meals. Not taking your epilepsy medicine is another common trigger. A small number of people with epilepsy have seizures triggered by lights that flash or flicker.

Not everyone has seizures triggers, but for those who do, avoiding triggers lowers the risk of having a seizure.

Seizure types
There are many different types of seizure. They can happen in any part of the brain. Some seizures are generalised, meaning they affect both halves of the brain. Others are focal, meaning they affect a small part of the brain. The brain is responsible for all the functions of our mind and body. What happens to someone during a seizure will depend on where in their brain the seizure is happening.

Focal (partial) seizures
In focal seizures, epileptic activity starts in just part of the person’s brain.\textsuperscript{13} You might be aware of what is going on around you in a focal seizure, or you might not. Different areas of the brain (lobes) are responsible for controlling all of our movements, body functions, feelings or reactions. So, focal seizures can cause many different symptoms.\textsuperscript{14}

\textsuperscript{10} Revised terminology and concepts for organization of seizures and epilepsies: Report of the ILAE Commission on Classification and Terminology,(2010) Berg et al . Epilepsia 2010;51 (4) 676-685
Seizures can start in any of these lobes. What happens during a seizure will be different, depending on which lobe, and which part of the lobe, the seizure starts in. Each person will have their own experiences and symptoms during a focal seizure.

**Temporal lobes**

The temporal lobes are responsible for many functions, including hearing, speech, memory, emotions, and learning.

People who have temporal lobe seizures may stay partially conscious during a seizure. Or they may lose consciousness. They often don’t remember what happened to them during a seizure.

Temporal lobe seizures usually last between 30 seconds and two minutes. Some of the signs and symptoms of temporal lobe seizures include:

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• Feeling frightened
• Having a deja-vu experience, that is a feeling that what's happening has happened before
• Having a strange taste, or smelling something that isn’t there
• Having a rising sensation in the stomach
• Staring
• Lip smacking
• Automatic behaviours such as staring, lip smacking, repeated swallowing, chewing or more complex tasks, such as dressing or undressing.

After a temporal lobe seizure, you might be confused and find it difficult to speak for a short time.  

Frontal lobes
The frontal lobes are responsible for making decisions, solving problems, behaviour, consciousness, and emotions. If you have frontal lobe seizures, you may have unusual symptoms that can be mistaken for a mental health problem or a sleep disorder. Frontal lobe seizures usually last less than 30 seconds and often happen during sleep.

Signs and symptoms of frontal lobe seizures may include:

• Moving your head or eyes to one side
• Not being aware of your surroundings, or having difficulty speaking
• Screaming, swearing or laughing
• Having unusual body movements, such as stretching one arm, while bending the other, as if you were posing like a fencer
• Having repeated movements, such as rocking, pedalling or pelvic thrusting

Parietal lobes
Parietal lobes are involved with:

- Processing information from the different senses in the body (seeing, hearing, touching, tasting and smelling)
- Processing language
- Writing
- Maths skills

Parietal lobe seizures last between a few seconds and a few minutes. They affect about one in 20 people with epilepsy.

Signs and symptoms of parietal lobe seizures may include:

- Having feelings of numbness, tingling, heat, pressure, electricity and, rarely, pain
- Having a ‘marching’ sensation that starts in your face, goes to your hand, then your arm, and down your leg (this is called a Jacksonian seizure)
- Having sexual sensations
- Feeling like your body is distorted, and that your arms or legs are in a weird position or are moving, when they are not
- Feeling that a part of your body is missing or doesn’t belong to you
- Feeling dizzy or as if you, or the area around you, is spinning
- Seeing things that are not there, or seeing things differently from how they really are. For example objects might seem too close, too far away, too large, too small, slanted, moving or otherwise not right
- Having difficulty understanding spoken words or language, difficulty reading or doing simple maths

Occipital lobes
The occipital lobes process information related to vision. They affect between one in five and one in 10 people with epilepsy. They last for seconds.


Some of the signs and symptoms of occipital lobe seizures are:

- Seeing things that are not there
- Not seeing as well as usual, or not being able to see at all
- Seeing an image that is replayed again and again
- Feeling as if your eyes are moving
- Having eye pain
- Having sideways eye movements that you can’t control
- Having rapid rhythmic eye movements where your eyes move quickly in one direction, and then slow down in the other direction. This is called nystagmus
- Having fluttering eyelids

**Focal seizures that act as a warning of a generalised seizure**

The epileptic activity that causes a focal seizure can sometimes spread through the brain and develop into a generalised seizure. If this happens, the focal seizure acts as a warning of a generalised seizure and is sometimes called an aura. The aura is usually brief, lasting a few seconds or so, although in rare cases, auras can last for minutes, hours, or even days. Once the epileptic activity spreads to both halves of your brain, you quickly have a generalised seizure, usually a tonic-clonic, tonic or atonic seizure.

Warnings can be very useful. They might give you time to get to safe place or let someone else know that you are going to have a seizure. Sometimes, the epileptic activity spreads to both halves of your brain so quickly that you appear to go straight into a generalised seizure.

**Generalised seizures**

In these seizures, you have epileptic activity in both hemispheres (halves) of your brain. You usually lose consciousness during these types of seizure, but sometimes it can be so brief that no one notices. The muscles in your body may stiffen and/or jerk. You may fall down.

The following is about the different types of generalised seizures.

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34 [http://www.hopkinsmedicine.org/healthlibrary/conditions/nervous_system_disorders/epilepsy_and_seizures_85,P00779/](http://www.hopkinsmedicine.org/healthlibrary/conditions/nervous_system_disorders/epilepsy_and_seizures_85,P00779/)
**Tonic-clonic seizures**

There are two phases in a tonic-clonic seizure: the ‘tonic’ phase, followed by the ‘clonic’ phase.\(^{35}\)

During the tonic phase, you lose consciousness, your body goes stiff, and you fall to the floor. You may cry out.

During the clonic phase, your limbs jerk, you may lose control of your bladder or bowels, bite your tongue or the inside of your cheek, and clench your teeth or jaw. You might stop breathing, or have difficulty breathing, and could go blue around your mouth.\(^{36}\) After a tonic-clonic seizure, you might have a headache and feel sore, tired and very unwell. You might feel confused, or have memory problems. You might go into a deep sleep. When you wake up, minutes or hours later, you might still have a headache, feel sore and have aching muscles.\(^{37}\)

**Tonic seizures**

The symptoms of a tonic seizure are like the first part of a tonic-clonic seizure. But, in a tonic seizure, you don’t go on to have the jerking stage (clonic). You may cry out.\(^{38}\)

**Atonic seizures**

Atonic seizures are also called drop attacks. If you have atonic seizures, you will lose all muscle tone and drop heavily to the floor.\(^{39}\) These seizures are very brief and you will usually be able to get up again straight away.\(^{40}\) However, you might hurt your face, nose or head when you fall.

**Myoclonic seizures**

These are usually isolated or short-lasting jerks that can affect some or all of your body.\(^{41}\) They are usually too short to affect your consciousness. The jerking can be very mild, like a twitch, or it can be very forceful.\(^{42}\)

Myoclonic seizures often only last for a fraction of a second and you might have a single jerk or clusters of several jerks.\(^{43}\)


\(^{41}\) Prof John Paul Leach, Consultant Neurologist, Glasgow, personal communication 31 January 2014

\(^{42}\) Prof John Paul Leach, Consultant Neurologist, Glasgow, personal communication 31 January 2014
Absence seizures
Absence seizures usually develop in children and adolescents. The two most common types of absence seizure are typical and atypical.

Typical absences
If you are having a typical absence seizure, you will be unconscious for a few seconds. You will stop doing whatever you were doing before it started, but will not fall. You might appear to be daydreaming or ‘switching off’ or people around you might not notice your absence. You might blink and have slight jerking movements of your body or limbs. In longer absences, you might have some brief, repeated actions. You won’t know what is happening around you, and can’t be brought out of it.

Some people have hundreds of absences a day. They often have them in clusters, and they are often worse when they are waking up or drifting off to sleep.

Atypical absences
These absences are similar to, but not the same as, typical absences. They last longer. You will have less loss of consciousness, and may have a change in muscle tone. You might be able to move around, but you will be clumsy, and need some guidance and support. You may be able to respond to someone during an atypical absence seizure.

People who have atypical absences usually have learning disabilities, other seizure types, or other conditions that affect their brain.

Status epilepticus
Most seizures are brief or last for a few minutes. However, sometimes a seizure can last for longer. If seizure activity lasts for 30 minutes or more, it is called status epilepticus.

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can be a single seizure. Or it can be repeated seizures (clusters) that last for more than 30 minutes, without the person recovering fully in between.

It can happen with any type of seizure.

Tonic-clonic status is a medical emergency and usually needs to be treated in hospital. In rare cases, status epilepticus can cause brain damage or death. Epilepsy Action has more information about status epilepticus.

**Todd’s paresis (sometimes called Todd’s paralysis)**

Todd’s paresis is a temporary weakness or paralysis in a hand, arm or leg. It affects some people after they have had a focal or generalised seizure.

Todd’s paresis affects the area of the body that was involved in the seizure. The weakness can be very mild, or it can completely paralyse that part of the body, or affect vision. Todd’s paresis usually occurs in just one side of the body. It can last from minutes to hours, before going away.

**Conclusion**

In this booklet, we have looked at the most common types of seizures and the areas of the brain where they happen. It’s important to remember that everybody’s seizures are individual to them. Even if your seizures appear to be similar to someone else’s, it doesn’t mean that they have the same cause, or should be medically treated in the same way.

If you need more information about your epilepsy, speak with your epilepsy specialist nurse, GP, or consultant.

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If you would like to see this information with references, visit the Advice and Information references section of our website. If you are unable to access the internet, please contact our Epilepsy Helpline by email at helpline@epilepsy.org.uk.

**About this information**

This information is written by Epilepsy Action’s advice and information team, with guidance and input from people living with epilepsy and medical experts. If you would like to know where our information is from, or there is anything you would like to say about the information, please contact us at epilepsy.org.uk/feedback.

Epilepsy Action makes every effort to ensure the accuracy of information but cannot be held liable for any actions taken based on this information.

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We hope you have found this information helpful. As a charity, we rely on donations to provide our advice and information. If you would like to make a donation, here are some ways you can do this.

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- Text **ACT NOW** to **70700** (This will cost you £5 plus your usual cost of sending a text. Epilepsy Action will receive £5.)
- Send a cheque payable to Epilepsy Action to the address below.

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**Epilepsy Helpline**

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