

WHAT IS EPILEPSY?

- Epilepsy is a common neurological condition that affects about 1 person in every 200.
- Epilepsy is a tendency to have recurrent seizures that originate in the brain.
- The brain is made up of billions of cells which process information from our senses, thoughts, emotions, memories and actions.
- Seizures are the result of a brief, temporary disruption to the usual activity of the brain.
- Such disruptions occur for a variety of reasons, not all of which can be identified.
- Reasons can include brain damage, scarring, chemical or hormonal imbalance, or tumours.
- Having a sensitive, vulnerable brain (low seizure threshold) is also a factor.
- There are many types of seizures – what happens before, during and after a seizure depends on which part of the brain is affected and how far the disruption spreads.
- Most seizures are over in a few minutes or less and the person recovers quickly.
- Epilepsy can affect anyone, of any age or race, either sex and from any walk of life.
- People with frequent seizures of any type may need constant supervision.
- However, the majority of people with epilepsy respond well to treatment and can get on with their lives.

SEIZURE TYPES

There are 3 broad categories.

Primary generalised seizures

The whole brain is affected by the disruption to its usual activity and consciousness is lost.

Seizures in this category include:

- Absences – the person looks blank for a few seconds and may not respond
- when spoken to or realise they have had a seizure. This type of seizure can happen repeatedly and can be mistaken for daydreaming.
- Tonic-clonic – the person stiffens, loses consciousness, convulses and may fall. Incontinence may happen.
- Tonic and atonic seizures, or drop attacks – the person may stiffen and fall heavily or lose muscle tone and crumple to the ground.
- Myoclonic – rhythmic, shock-like muscle jerks that can affect the whole body and can be strong enough to throw the person to the ground.

Partial seizures

Only part of the brain is affected and consciousness may be altered but not lost. Seizures in this category include:

- Simple partial seizure – the person may experience unusual sensations and/or movement in one part of the body, e.g. tingling or twitching.
- Complex partial seizures – awareness is disturbed or lost and the person may experience unusual feelings. They may be unaware of their surroundings and unable to respond when spoken to and their behaviour may appear strange.

Secondarily generalised seizures

The disruption starts in one part of the brain and spreads to the whole brain.

Status epilepticus is a condition in which seizures persist for 30 minutes or more. It can occur with all types of seizure but with tonic clonic seizures it is a medical emergency requiring immediate medical treatment. If a tonic clonic seizure lasts more than 5 minutes or if a second seizure occurs before the person has recovered, call for medical help.

Some seizures don't fit into these categories and are known as unclassified seizures. Some seizures occur as part of a syndrome – a set of symptoms occurring together.

Living with seizures

- Experiences of epilepsy and of having seizures vary from person to person.
- Some people's seizures only happen at night.
- Some people have seizures that are so subtle they may go unnoticed by others.
- Some seizures may be mistaken for other conditions, e.g. alcohol or drug-related behaviour.
- Some people's seizures follow a particular pattern; others have seizures that occur at random.
- It's possible to have more than one type of seizure.
- Warnings or "auras" are simple partial seizures.
- Sometimes seizures can be triggered by a range of factors, e.g. lack of sleep, missed meals, response to stress or anxiety, fever, flashing lights.
- Most seizures are over in a few minutes or less and the person recovers quickly, but it's not unusual to feel sleepy or have a headache afterwards and sometimes it can take up to a few days to feel back to normal.
- Sometimes several people in different generations of the same family can have epilepsy.

What causes epilepsy?

Sometimes the reason epilepsy develops is clear. It could be because of brain damage caused by a difficult birth; a severe blow to the head; a stroke; or an infection of the brain such as meningitis. Very occasionally the cause is a brain tumour. Epilepsy with a known cause is called 'symptomatic' epilepsy. For most people - six out of ten, in fact - there is no known cause and this is called 'idiopathic' epilepsy.

Triggers

Triggers are situations that can bring on a seizure in some people with epilepsy. Some people do not have any specific triggers for their seizures, but common triggers include tiredness and lack of sleep, stress, alcohol, and not taking medication

Less commonly, seizures can be triggered by flashing or flickering lights or patterns. This only affects up to 5% of people with epilepsy, and is called photosensitive epilepsy. It is standard to be tested for photosensitive epilepsy when you go through diagnosis. The test involves looking at sequences of light flashes during an EEG so that the doctors can see if your brain activity on the EEG recording changes when you are exposed to the light stimulation. If you are not sure whether you may be photosensitive, you can ask your GP or specialist whether you've had the test for it. Triggers for seizures are not the same as causes for epilepsy. A trigger for someone to have their first seizure may be a stressful situation, but the underlying cause for that person to start having seizures may be quite different.

Causes can include structural damage to the brain, from birth, from a stroke, or an infection such as meningitis, or through a head injury. Causes can also be genetic, for example a naturally low resistance to having seizures (a low seizure threshold), or another condition that makes a person more likely to develop seizures, such as Tuberous Sclerosis.\

Because epilepsy can develop at any time of life, it can sometimes be difficult to work out why seizures have started. If you have a seizure, it may seem to make sense that there must be a particular cause, such as stress, or alcohol, for example. However, the likelihood of having a seizure at some point may have been there already for you, and the stress or alcohol has triggered it.

How is epilepsy diagnosed?

There is no conclusive test for epilepsy, although tests such as the electroencephalogram (EEG) – which records brainwave patterns – can give doctors useful information. Epilepsy should be diagnosed by a doctor with specialist training in epilepsy. An epilepsy specialist will use their own expert knowledge, along with test results and the patient's or witness's accounts of the seizures, to make the diagnosis.

Because epilepsy is currently defined as the tendency to have recurrent seizures, it is unusual to be diagnosed with epilepsy after only one seizure. In the UK around one in 20 people will have a single seizure at some point in their life, whereas one in 103 people have epilepsy.

Treatment of epilepsy

Epilepsy is usually treated with anti-epileptic drugs (AEDs). They act on the brain, trying to reduce seizures or stop seizures from happening. Lots of people with epilepsy find that when they take their AEDs properly, they have fewer or no seizures. If AEDs don't work very well for a person, there are some other treatments that may be helpful. These include brain surgery, vagus nerve stimulation and the ketogenic diet.

Anybody suffering from Epilepsy or requiring more information, may like to try the following websites :

www.epilepsysociety.org.uk

www.epilepsy.org.uk

www.epilepsyresearch.org.uk

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