

## What is epilepsy?

**Epilepsy is a condition of the brain where there is a tendency to have recurrent seizures.**

## What is a seizure?

The brain is made up of millions of nerve cells called neurons. They generate electrical impulses and messages to produce thoughts, feelings and movement. A seizure occurs when the normal pattern of these impulses is disrupted, caused by the neurons rapidly firing all at once. This can cause changes in sensation, awareness and behaviour, or sometimes convulsions, muscle spasms or loss of consciousness, depending on where the seizure starts and spreads in the brain. Seizures vary greatly and can last a few seconds to a few minutes. Most seizures are over in less than three minutes. **Not all seizures are considered epilepsy.**

**Under certain circumstances, anyone can have a seizure.**

## Can anyone develop epilepsy?

Epilepsy can affect anyone regardless of age, intelligence, gender, culture or background. It is a common brain condition affecting up to 3% of Australians.

## What causes epilepsy?

Anything that results in damage or scarring to the brain may lead to seizures and epilepsy. There are many causes for seizures and a thorough medical examination should be done to get an accurate diagnosis.

**At least 50% of people with epilepsy have no known cause for their seizure disorder.**

Some known causes of epilepsy include:

- Head injury
- Stroke or brain haemorrhage
- Lack of oxygen to the brain for a prolonged period (e.g. birth trauma, cardiac arrest, drug overdose)
- Brain infections (e.g. meningitis, encephalitis or brain abscess)
- Brain malformations
- Brain tumours
- Genetic factors
- Degenerative conditions affecting the brain (e.g. dementia)

## Recognising seizures

There are many different types of seizures. Three of the most common are:

- **Tonic clonic seizures**
- **Focal seizures**
- **Absence seizures**

# Fact Sheet: Epilepsy Facts

**Tonic clonic seizures** are the most recognised seizure type and can be frightening to witness. They usually begin with:

- A sudden loss of consciousness, sometimes with a vocal sound.
- If standing, the person will fall.
- The body becomes stiff (tonic), followed by jerking of the muscles (clonic).
- Breathing may be shallow or briefly suspended which may cause the lips and face to be grey/blue.
- The person will not respond when spoken to.
- Excess saliva may come of the person's mouth, with blood if they have bitten their tongue or the inside of their mouth.
- There may be loss of bladder or bowel control so the person may wet or soil themselves.
- The seizure usually lasts 2 minutes or less.
- It is often followed by a period of confusion, disorientation, agitation, headache, soreness and sleep.

**Focal seizures (formerly complex partial seizures)** vary greatly, depending on where they start and spread within the brain and are frequently not recognised as seizures by onlookers. Many of these seizures begin with:

- A vacant stare, loss of expression or a vague, confused appearance.
- Consciousness or awareness is altered and the person may or may not respond.
- If they do respond, it is usually inappropriate.
- Sometimes people have unusual and repetitive behaviour such as chewing, fidgeting, walking around or mumbling.
- The seizure can last from 30 seconds to 3 minutes.
- After the seizure, the person is often confused and may not remember anything that happened just before or during the event.

**Absence seizures** usually start in childhood (but can occur in adults) and are easily missed, or misinterpreted as daydreaming or inattentiveness.

- The seizure starts suddenly with the person stopping their activity.
- You will see staring, loss of facial expression and unresponsiveness.
- Sometimes eye blinking or upward eye movements are seen.
- The seizure can last from two to 20 seconds and ends abruptly.
- The person usually recovers immediately and resumes their previous activity, with no memory of what happened during the seizure.
- The seizures occur many times a day which may disrupt learning.

## Seizure Triggers

A seizure trigger, is something that is likely to "set off" a seizure.

Avoiding triggers can reduce the risk of seizures in people with epilepsy. Some known triggers for seizures are:

- Lack of sleep.
- Missed medication.
- Physical or emotional stress (extreme fatigue, exhaustion, conflict, anxiety emotional upsets).
- Hormonal fluctuations during the menstrual cycle.
- Other medications or over the counter medications.
- Illness or fever.
- Vomiting, diarrhoea and constipation.
- Alcohol or illicit drug consumption or abuse.
- Some rapid flashing lights or geometrical pattern changes (photosensitivity).
- Hot weather or becoming over heated.
- Boredom or over excitement.

**It may be worth keeping a seizure diary. This may show a pattern which may identify a possible avoidable trigger.**

## First aid for a tonic clonic seizure

- Stay with the person and time the seizure.
- Protect the person from injury especially the head.
- Only move the person if they are in danger.
- Place something soft under their head or support their head with your hands
- Gently roll the person onto their side after the jerking stops OR immediately if there is anything in their mouth.
- Monitor the person's breathing and face colour.
- Provide comfort and reassurance and reorientate the person to time and place
- DO NOT put anything in the person's mouth.



## First aid for a focal seizure (complex partial)

- Stay with the person and time the seizure
- Do not restrain, just gently guide the person to avoid danger
- After the seizure is over, provide comfort and reassurance and re orientate the person to time and place

## Dial 000 to call an ambulance if:

- You are in any doubt.
- The person is injured.
- The seizure occurs in water.
- You arrive after the seizure has started.
- The seizure lasts longer than 5 minutes (or longer than normal for that person).
- Another seizure quickly follows.
- The person is non-responsive for more than 5 minutes after the seizure.
- The person has breathing difficulties after the seizure stops.
- It is the first known seizure.



## A promising outlook

Coming to terms with the diagnosis of epilepsy may be difficult, but generally people with epilepsy can lead a full and active life. Even though seizures can be disruptive and impact on many aspects in life, the majority of people with epilepsy achieve good seizure control with regular medications and a sensible lifestyle. Many become seizure free.

Epilepsy does not need to limit expectations or achievements. A number of well-known people have epilepsy: Hugo Weaving (actor), Danny Glover (actor), Neil Young (singer), Prince (singer), Lil Wayne (rapper), Tony Grieg and Wally Lewis (sportsmen), to name just a few.

Medical treatment is improving all the time. In recent years many new medications and treatments have been researched and developed, and advances in technology are assisting with diagnosis.