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 get epilepsy?

Epilepsy can affect anyone regardless of age, intelligence, gender, culture or background. It is a common brain condition affecting up to 1-2% 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
- Conditions affecting the brain (e.g. Alzheimer’s disease)
- Chronic alcohol or drug abuse

Recognising seizures

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

- Tonic clonic seizures
- Complex partial seizures
- Absence seizures
**Tonic clonic seizures (previously called ‘grand mal’)** are the most recognised seizures and can be frightening to see. They begin with a sudden loss of consciousness and often with a cry out. If standing, the person will fall to the ground. The body becomes stiff (tonic), shortly followed by jerking of the muscles (clonic). Breathing is shallow or temporarily suspended causing the lips and complexion to look grey/bluish. Saliva may come of the person’s mouth with blood if they have bitten their tongue, and there may be loss of bladder control. The seizure usually lasts approximately two minutes or less. It is often followed by a period of confusion, agitation and sleep. Headaches and soreness are also common afterwards.

**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. Common behaviours include chewing, fidgeting, taking off clothes, walking around or mumbling. Complex partial seizures can last from 30 seconds to three minutes. After the seizure, the person is often confused and may not remember anything about the event.

**Absence seizures (previously called ‘petit mal’)** usually start in childhood (but can occur in adults) and are easily missed, or misinterpreted as daydreaming or inattentiveness. They start suddenly and are characterised by staring, loss of expression, unresponsiveness, stopping any activity they are doing. Sometimes eye blinking or upward eye movements are seen. They end abruptly and can last from two to 20 seconds. The person usually recovers immediately and resumes their previous activity, with no memory of the event. People with absence seizures have normal intelligence, but because the seizures occur many times a day, they can create gaps and disrupt learning if not managed. Children often outgrow this seizure type by puberty.

**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.
- Common triggers for seizures are:
  - Lack of sleep
  - Missed medication
  - Physical stress (extreme fatigue or exhaustion)
  - Emotional stress (e.g. conflict, death, fear and anxiety, emotional upsets, money concerns)
  - Hormonal fluctuations during the menstrual cycle
  - Drugs (e.g. too much antiepileptic medication)
  - Fever associated with colds and infections
  - Alcohol or drug consumption or abuse
  - Some flashing lights
  - Boredom or over excitement

**First aid for seizures**

- Stay calm and keep the person safe.
- Remove hazards or anything that may cause injury.
- Only move the person if they are in danger.
- For a tonic clonic seizure, put something soft under the person’s head or support their head with your hands.
- Gently guide the person away from obstacles if they are having a complex partial seizure.
Check the time the seizure begins and record how long it lasts.
When the jerking stops, gently roll the person onto their side into the recovery position
Stay with the person and comfort them as they regain consciousness. Ask them a few questions so you know they have actually regained consciousness.
DO NOT put anything in the person’s mouth.
DO NOT try to restrain the person.

Dial 000 to call an ambulance if:
You are in any doubt.
The seizure occurs in water.
You arrive after the seizure has started.
Injury has occurred.
There is food, drink or vomit in the person’s mouth during the seizure.
The jerking lasts longer than five minutes (or longer than normal for that person).
Another seizure follows quickly without recovery from the previous seizure.
A complex partial seizure lasts longer than 15 minutes.
The person has breathing difficulties after the jerking stops.
The person is pregnant and is having a tonic clonic seizure.
It is the first known seizure.

A promising outlook

Generally people with epilepsy can lead a full and active life. The majority of people with epilepsy achieve good seizure control with regular antiepileptic medications and a sensible lifestyle. Many become seizure free.

Epilepsy does not need to limit expectations or achievements. A number of great achievers have had epilepsy: Hugo Weaving (actor), Danny Glover (actor), Neil Young (singer), Prince (singer) and Wally Lewis (sportsman), to name just a few.

Medical treatment is improving all the time. In recent years many new medications have been developed and advances in technology are allowing for more specific diagnoses. Doctors now recognise that many conditions involving seizures occur and differ in outlook and treatment.

This information is given to provide accurate, general information about epilepsy. Medical information and knowledge changes rapidly and you should consult your doctor for more detailed information. This is not medical advice and you should not make any medication or treatment changes without consulting your doctor.