

Seizures usually involve temporary changes in behaviour and movement. Sometimes these changes can be subtle, or they may not follow a usual seizure pattern. This can make epileptic seizures challenging to diagnose.

There are a number of common events that can mimic or be confused with seizures, and vice versa.

Here we discuss the most common medical events that can be mistaken for seizures.

Fainting

This is a sudden and short-lived loss of consciousness due to a sudden decrease in blood flow to the brain.

Fainting is most commonly confused with epilepsy because sometimes the person can have jerks, twitching or convulsive movements during a faint.

Up to 50% of children and adolescents, and 6% of the general population, experience episodes of fainting. Fainting is easily diagnosed from an eyewitness description. There are many possible causes and triggers, and a good history of the episode can often help to differentiate between a faint and a seizure.

When someone has jerks, or what seems to be a seizure immediately following a faint, it is often called convulsive syncope. For the average onlooker, convulsive syncope can be difficult to distinguish from a seizure. It is usually short lived and very easy to manage. It may happen again with future faints, but it is not linked with epilepsy.

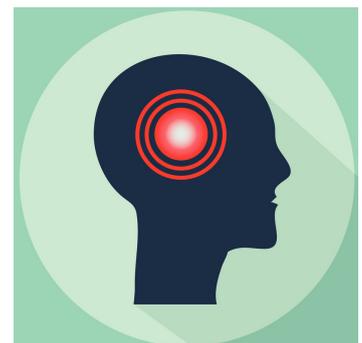
For more about fainting and how to manage them <https://www.healthdirect.gov.au/fainting>

Migraine

Migraine is very common. Just like seizures, there are different types of migraine, and some present with an “aura” which can be mistaken as other conditions like seizures or stroke. Some people who have a migraine don't even have a headache associated with their migraine. Also, migraines can have similar triggers to seizures.

Migraine symptoms can include:

- visual disturbances or hallucinations
- blind spots
- numbness or tingling sensations in the limbs
- one sided paralysis
- nausea and/or vomiting
- extreme sensitivity to light and sound
- the person may feel tired, irritable, depressed and have difficulty concentrating



Other reasons why migraine attacks may be confused with epileptic seizures:

- Fainting may occur during the migraine.
- Some types of migraine may begin with loss of consciousness and other symptoms, and then be followed by headache.
- Visual or sensory changes may be mistaken for focal seizures.

However, migraines usually last a lot longer than seizures. It should also be noted that EEG changes may be seen in people who have migraine.

For more information about migraine go to <https://www.healthdirect.gov.au/migraine>

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Transient ischaemic attacks (TIA's)

These are sometimes called 'mini strokes' and, as the name suggests, are only temporary. They occur because of a short period with not enough blood supply to certain areas of the brain, and usually resolve within 24 hours.

The person can experience weakness and sensory changes, such as numbness and tingling, and often these symptoms are what may be confused with seizures. TIAs usually last longer than seizures and loss of consciousness is rare.

For more information on TIAs <https://www.healthdirect.gov.au/transient-ischaemic-attack-tia>

Sleep disorders

Like seizures, sleep disorders (some are called sleep parasomnias) can be characterised by confusion, unusual behaviour and abnormal movements.

Sleep disorders that may be confused with seizures include night terrors, sleep walking, movement disorders, bed wetting, sleep apnoea, REM sleep behaviour disorders and narcolepsy.

For more information on sleep and sleep disorders go to:

- Sleep Disorders <https://www.healthdirect.gov.au/sleep-disorders>
- Sleep <https://www.healthdirect.gov.au/search-results/sleep>

Drop attacks

These are sudden falls to the ground without warning while walking or standing. They occur during tonic or atonic seizures; however they also can happen with other conditions such as:

- Meniere's Disease - which affects the inner ear and balance <https://www.healthdirect.gov.au/menieres-disease>
- Narcolepsy - a sleep disorder <http://brainfoundation.org.au/disorders/narcolepsy>
- Cardiac conditions, blood pressure drops or fainting

Dizzy spells

Dizzy spells can be caused by any number of circumstances, including the conditions listed in 'drop attacks' section above.

For more information about dizziness <https://www.healthdirect.gov.au/dizziness>

Movement disorders

This describes a group of neurological disorders that involve the muscles and movement systems of the body.

Tics and involuntary movements may sometimes be confused with myoclonic seizures or focal aware seizures. However, movement disorders do not cause loss of consciousness or EEG changes: although some conditions may respond to antiepileptic medication.

There are many different causes of movement disorders including Parkinson's Disease, Huntington's Chorea, Tourette's Syndrome, sleep disorders and essential tremor.

For more information go to:

- Movement Disorders <https://www.healthdirect.gov.au/movement-disorders>
- What are movement disorders <http://www.news-medical.net/health/What-are-movement-disorders.aspx>

Fact Sheet: Events that can be confused with Epilepsy

Breath holding attacks

These are common in children aged 18 months to 6 years. They usually occur after the child has become frightened, hurt or upset. The child may initially cry, or just open their mouth like they are about to cry but make no noise. This is the (involuntary) breath-holding period. They can then become pale, limp, faint, arch their back or jerk their limbs.

Sometimes breath-holding can lead to a seizure, but this is not considered epilepsy.

For more information about breath holding attacks and what to do. <https://www.schn.health.nsw.gov.au/parents-and-carers/fact-sheets/breath-holding-spells>

Daydreaming

Daydreamers can appear vacant, stare unintentionally and not respond for a short time. In children this is common and can be confused with absence seizures. The difference is that daydreamers will respond to touch or loud noises while someone having an absence seizure will not.

Cardiac events

These occur when the heart isn't functioning properly. Examples are when a person has an irregular heart rate or clogging of the arteries which can cause dizziness or blackouts, depending on the severity of the condition.

Febrile convulsions

A febrile convulsion is a seizure that happens in babies, toddlers and children when they have fever. This is because the developing brain of a toddler or child is more sensitive to fever than an adult brain. There also appears to be a tendency for these seizures to run in families.

Between 2-4% of children have one or more febrile convulsions by the age of five years. Approximately two thirds of these children will only have the one seizure, while others will have a seizure with following fevers. For most children the risk of developing epilepsy is no different from that of the general population and their intellect and development is not affected.

A small proportion of febrile seizures are more complex - that is, when they last longer than 15 minutes; more than one seizure in a short period; or if seizures have focal features. In this group the risk of developing epilepsy is slightly higher.

For more information about febrile convulsions <https://www.healthdirect.gov.au/convulsions>

Panic attacks

These are also known as anxiety attacks. Common symptoms include:

- Increased heart rate
- Sweating
- Feeling faint
- Dizziness
- Difficulty in breathing
- Smothering sensation
- Chest pain
- Feelings of anxiety
- Sense of unreality
- Nausea
- Feelings of impending doom
- Fear of loss of control

During a panic attack some people genuinely believe they're having a heart attack or on the verge of death. Panic attacks can occur at any time. They usually last a lot longer than seizures. An attack generally peaks within 10 minutes, but some symptoms may last much longer.

Typically, it is possible to identify these attacks from the person's descriptions of what happened. Occasionally focal seizures may cause similar symptoms.



For more information about panic attacks <https://www.healthdirect.gov.au/panic-attack>

Concussion (impact convulsions)

Very occasionally, seizures can occur within seconds of a head impact. These seizures are non-epileptic and occur as a direct consequence of the impact. They are not associated with any structural brain injury and do not lead to further seizures or epilepsy. The person is managed as you would for someone with concussion.

For more information go to <https://www.healthdirect.gov.au/concussion>

Rage attacks (episodic dyscontrol syndrome)

These are sudden explosive outbursts that appear often and without warning, are out of control and totally out of context to any triggering event in the environment. The events seem out of character and are sometimes attributed to epilepsy.

There can be many different reasons why someone has these outbursts. In practice, rage that occurs with, before or after an epileptic seizure is unprovoked and usually not directed at anyone in particular.

For more information go to <https://www.cedars-sinai.edu/Patients/Health-Conditions/Rage-Attacks.aspx>

Psychogenic Non Epileptic Seizures (PNES)

These are characterised by a change in a person's behaviour, perception, thinking or feeling which can resemble, or be mistaken for, a seizure. However, these seizures do not have the EEG changes that are seen with an epileptic seizure. This seizure type has an emotional or psychological cause rather than a physiological one and can be seen in people with or without epilepsy. Around 1 in every 6 people who go to a specialist epilepsy centre for investigation of poorly controlled seizures have PNES.

For more information see: EAA Seizure Smart Factsheet - Psychogenic Non-epileptic Seizures <https://www.epilepsy.org.au/wp-content/uploads/2017/08/Fact-Sheet-Psychogenic-Non-epileptic-Seizures.pdf>

Test for seizures

The best way to find out if any event is a seizure is to record it on a video EEG. Unfortunately capturing the event can be difficult, as they are often sporadic, short-lived and unpredictable, and many people don't have access to these services.

Therefore, a careful description of what happened is extremely valuable. Diagnosis is more difficult without this eyewitness description. Sometimes a home video of the event can also help.

It is important to obtain a correct diagnosis to avoid being treated with medication unnecessarily. Unfortunately, sometimes this does happen. In these cases, the chosen treatment does not work mainly because it is not the right one for the condition.

If a person does not respond to antiepileptic medications, further tests may be needed to explore other possible diagnoses. Sometimes a doctor may decide to wait and see if a similar event occurs again before undertaking further testing.

For more information: Conditions similar to epilepsy <http://www.webmd.com/epilepsy/conditions-similar-to-epilepsy>