

Neurology Department



Seizures and Epilepsy



National
Neuroscience Institute

SingHealth

Understanding Seizures and Epilepsy

A seizure is an abnormal electrical discharge of a group of brain cells. It can cause different symptoms, depending on the location of the seizure and the spread of the electrical activity through the brain.

A person has epilepsy when he/she has more than one episode of seizures, or has a high risk of having recurrent seizures.

People who suffered a stroke, brain injury, infection or tumour can have epilepsy. In around half the cases, a cause cannot be found.

Triggers of seizures in patients with epilepsy include stress, lack of sleep, menstruation, concurrent infection and skipping medications.

Types of Seizures

There are 2 main types:

Focal Seizures

- Usually affects only one part of the body
- Results in sensory, motor or autonomic disturbances
- The patient may be conscious or unconscious

Generalised Seizures

- May start as a focal seizure and spread throughout the whole brain
- Loss of consciousness usually lasting 30 seconds to 5 minutes
- Usually rhythmic muscle jerking lasting 1 to 2 minutes
- May cause tongue biting, incontinence and difficulty in breathing

If a person experiences continuous seizures for more than 3 - 5 minutes; or on and off seizures without regaining consciousness in between, call 995 or go to the Emergency Department immediately. He/she is having a serious seizure and this is a medical emergency.

Diagnosing Seizures and Epilepsy

Epilepsy is diagnosed based on information of events that happened during the attack. Tests may be ordered to confirm the diagnosis, type and cause.

- **Electroencephalogram (EEG)**

This test records the electrical activity of the brain through electrodes attached to the patient's head. The patient may be asked to perform simple tasks during the EEG recording.

- **Computerised Tomography (CT) and Magnetic Resonance Imaging (MRI)**

Either form of imaging may be required to look for structural causes of seizures.

Preventing Seizures and Epilepsy

REDUCE risk of seizures:

- Take prescribed anti-epileptic medications regularly
- Avoid over-consumption of alcohol/alcohol binges
- Seek early treatment for illness and fever
- Reduce stress levels
- Get sufficient sleep and rest

Prevent complications of seizures by **AVOIDING** the following:

- Swimming unsupervised or in open waters
- Activities at height
- Bathing in a bathtub
- Activities involving open fire and hot surfaces
- Activities involving heavy machinery and firearms
- Driving. Seek the advice of your doctor

Treating Seizures and Epilepsy

Anti-epileptic medications are the first-line of treatment. Different types of medication may be prescribed. The more common side effects include sleepiness and dizziness.

Patients with focal seizures and are not responding to medications may consider surgery.

Managing Seizures and Epilepsy

Keep a seizure diary to record the number, type and triggers of seizures. This will help your doctors assess the effectiveness of medications.

When someone is having a seizure:

- Remain calm
- Protect the person from harm
- Turn the person to the side
- Observe the type and duration of seizure
- **DO NOT** restrain the person unless there is danger
- **DO NOT** put anything in the mouth
- **DO NOT** crowd around the person

Support for Seizures and Epilepsy

Singapore Epilepsy Foundation

The Singapore Epilepsy Foundation provides support for epilepsy patients and their caregivers, and increases public awareness of epilepsy.

For more information, contact **6334 4302** or visit **www.epilepsy.com.sg**.

Epilepsy Care Group (Singapore)

The Epilepsy Care Group (Singapore) provides education and counseling for epilepsy patients and their caregivers, while promoting public awareness.

To find out more, contact **6358 0566** or visit **www.epilepsycare.org**.

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