

Understanding Epilepsy

What you need to know

When it comes to epilepsy, knowledge is power. Whether you've had epilepsy for years or you are newly diagnosed, the more you know, the more you can do to control epilepsy and live life on your terms

What is epilepsy?

Let's start with the basics: Epilepsy is a brain disorder in which people experience repeated seizures. It is a neurological condition that causes the brain to produce sudden bursts of electrical energy. Seizures can last from a few seconds to a few minutes and are characterized by a variety of symptoms. These can range from simple blank staring, to jerking limb movements to convulsions and a brief loss of consciousness.

What causes epilepsy?

Epilepsy can result from a birth defect, birth or head injury, brain tumor, or an infection in the brain. It can also be inherited. But for many people with epilepsy, a cause cannot be found. Epilepsy is not contagious.

Epilepsy can occur for the first time at any age.

What is a seizure?

A seizure is the abnormal electrical release of cells, called neurons, in the brain. This can cause different symptoms based on the location of the seizure and where the abnormal electrical activity spreads. Not all seizures are the same. They can range from tingling in a finger to grand mal (generalized) seizures, during which people lose consciousness, become stiff, and jerk.

What is the difference between seizures and epilepsy?

Seizures are a symptom of epilepsy. Epilepsy is the underlying tendency of the brain to release electrical energy that disrupts other brain functions. So the seizure is the *symptom* of this underlying condition. Having a single seizure does not necessarily mean a person has epilepsy.

What are the different types of seizures?

It is important you know the kind of seizures you have so you can seek the best treatment. Here is an overview of different types of seizures:

Partial seizures begin in a specific part of the brain. These include:

Simple Partial Seizure: A seizure that begins in a specific location in the brain but does not alter consciousness. May produce abnormal sensations, such as an unpleasant smell, or a motor movement, such as jerking of the arm.

Complex Partial Seizure: A seizure that begins in a specific location in the brain and alters consciousness, causing confusion.

Complex Partial With Secondary Generalization: Seizure that starts as complex partial but becomes a generalized seizure affecting both sides of the brain.

Aura: A warning that a seizure may begin, often described as a “funny feeling.” An aura is actually a small seizure that may develop into a larger seizure or disappear.

Generalized Seizures: A seizure that affects both hemispheres of the brain. These include:

Absence Seizure (Petit Mal Seizure): A type of generalized seizure usually seen in children, characterized by staring, accompanied by a 3-per-second spike-and wave pattern on the electroencephalograph. These seizures respond well to medication and most children outgrow them.

Atonic Seizure (drop attack): Type of generalized seizure characterized by sudden loss of muscle tone and strength; may cause the head to drop suddenly, objects to fall from the hands, or the legs to lose strength, with falling and potential injury.

Myoclonic Seizure: Seizure characterized by sudden jerking of the muscles, similar to the effect of being hit by a jolt of electricity.

Tonic-clonic (Grand Mal Seizure): An epileptic seizure characterized by a fall to the ground (tonic phase) followed by jerking movements (clonic phase).

Other types of seizures:

Febrile seizures: A seizure caused by a high fever in children under the age of 5. Most of these children do not develop epilepsy.

Status epilepticus: A condition of recurrent seizures on the same day or prolonged seizures requiring immediate medical attention.

Pseudoseizure: Clinically resembles an epileptic seizure but without epileptic discharges from the brain. Also called psychogenic or nonepileptic seizure, most often caused by severe psychosocial stress.

Epilepsia Partialis Continua: A rare seizure type that consists of repeated jerking lasting long periods of time. Often seen in Rasmussen's encephalitis.

Convulsion (Grand Mal Seizure): A seizure characterized by stiffening of the body and jerking, excess salivation (foaming at the mouth), and loss of control of urine, followed by a period of confusion.

Which doctors treat epilepsy?

In general, epilepsy is first discovered by a primary care doctor (e.g., pediatrician, internist, or family physician). If that doctor suspects epilepsy, he or she is likely to refer the patient to a *neurologist*, a doctor with special training in disorders of the brain, including epilepsy. Some neurologists have specific training in epilepsy and spend most of their time treating people with this disorder; they are called *epileptologists*.

How is epilepsy diagnosed?

An accurate account of what occurred is crucial. If possible, take notes and bring someone who saw you having the seizure with you to the neurologist's office. The neurologist or epileptologist will carefully review your medical history. Next, your neurologist may scan an image of your brain. This includes either a magnetic resonance imaging (MRI) scan or a computerized axial tomography (CAT) scan of the brain and an electroencephalogram (EEG, or brain-wave test). These tests can predict whether you are likely to have a second seizure and if you'll need treatment.

How can I better manage my epilepsy?

The more you take control, the better you can manage your epilepsy. Following doctors' orders and taking medication as it is prescribed is essential. Here are some tips:

- Don't stop taking your medication unless your doctor says to do so. Even if you feel that your seizures are stopped, remember that any changes in medication must come from your doctor
- If you miss a dose, consult your doctor. Medications must be taken at regular intervals; don't try to make up for a missed dose by taking it when you remember or doubling up the next time
- Plan in advance for your doctor appointments; list questions ahead of time as you think of them, and have them ready to ask at the appointment
- Keep track of your seizures, or have a family member chart them so you will know if they are increasing and tell your doctor about any changes
- Take your epilepsy medication regularly. If you have difficulty remembering, your pharmacy carries special containers that you can fill with your pills for the week to help you keep track.

Keep following up with your neurologist. If you are still having seizures or are having difficulty with side effects, you may need a change in your epilepsy medicine or dose.

Remember that your doctor is your best resource for information about your therapies and medications.

How many people in Canada have epilepsy?

Approximately 300,000 people in Canada have epilepsy. Epilepsy can occur in males and females at any age, but is most frequently seen in the very young and the elderly. There are more than twice as many people in Canada with epilepsy as the number with cerebral palsy, muscular dystrophy, multiple sclerosis, and cystic fibrosis combined.