



# Epilepsy Terminology

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**Epilepsy** is synonymous “with seizure disorder”. An “epilepsy” diagnosis is given when an individual has 2 or more unprovoked seizures.

**Seizure** – A surge in neuronal activity in the brain that can manifest in body movement or function, sensation, awareness or behavior. A seizure can last from a few seconds to status epilepticus, a continuous seizure that will not stop without intervention. Seizures are often associated with a sudden and involuntary contraction of a group of muscles and loss of consciousness. However, a seizure can also be as subtle as marching numbness of a part of the body, a brief or long term loss of memory, sparkling or flashes, sensing/discharging of an unpleasant odor similar to alcohol base being produced by internal organs, a strange epigastric sensation or a sensation of fear and total state of confusion which in some cases leads to death during seizure.

**Seizure classification** Seizure types are organized according to whether the source of the seizure within the brain is localized or distributed.

- Partial seizures begin with an electrical discharge from a limited area.
  - Simple partial seizures begin in the motor cortex of the frontal lobe and may include involuntary movements but the individual does not lose consciousness.
  - Complex partial seizures usually begin in the temporal lobe or frontal lobe may include involuntary movement but involves loss of consciousness.
  - Simple partial seizures with secondary generalization is a simple partial seizure that spreads to involve the entire brain causing the body to stiffen and muscle jerking.
- Generalized seizures begin with an electrical discharge that involves both sides of the brain at once.
  - Absence seizures involve an interruption to consciousness where the person experiencing the seizure seems to become vacant and unresponsive for a short period of time (usually up to 30 seconds). Slight muscle twitching may occur.
  - Myoclonic seizures involve an extremely brief (< 0.1 second) muscle contraction and can result in jerky movements of muscles or muscle groups.
  - Tonic seizures involve the loss of muscle tone, causing the person to fall to the ground.
  - Tonic-clonic seizures (formerly known as grand mal) has two parts, a tonic phase and a clonic phase. First the tonic phase of muscle stiffening followed by the clonic phase which means repeated jerking. During the seizure, the person loses consciousness; may drool; bite his cheek or lip; or lose bladder or bowel control. After the seizure, the person is usually confused and tired.
  - Status epilepticus refers to continuous seizure activity with no recovery between successive seizures. When the seizures are convulsive, it is a life-threatening condition and emergency medical assistance should be called immediately if this is suspected. A tonic-clonic seizure lasting longer than 5 minutes (or two minutes longer than a given person's usual seizures) is usually considered grounds for calling the emergency services.

## **Epilepsy statistics** according to the Epilepsy Foundation

- 200,000 new cases of epilepsy are diagnosed each year.
- Incidence is highest under the age of 2 and over 65.
- 45,000 children under the age of 15 develop epilepsy each year.
- Males are slightly more likely to develop epilepsy than females.
- Incidence is greater in African American and socially disadvantaged populations.
- Trend shows decreased incidence in children; increased incidence in the elderly.
- In 70 percent of new cases, no cause is apparent.
- 50 percent of people with new cases of epilepsy will have generalized onset seizures.
- Generalized seizures are more common in children under the age of 10; afterwards more than half of all new cases of epilepsy will have partial seizures.

**Anti-epileptic drugs (AEDs)** are medications used to treat seizures.

**Catamenial seizures** refers to seizure activity associated with a woman's menstrual cycle.

**Idiopathic epilepsy**, is epilepsy with an unknown cause.

**Intractable epilepsy** also called refractory seizures are seizures that are not controlled by AEDs.

**Epilepsy syndromes** are specific syndromes that are associated with one or more seizure types (however, not all seizures will be part of a syndrome).

Aicardi syndrome	Lennox-Gastaut Syndrome
Angelman syndrome	Migrating partial epilepsy in infancy
Benign epilepsy of childhood with occipital paroxysms	Myoclonic astatic epilepsy/Doose syn.
Benign myoclonic epilepsy in infancy	Ohtahara Syndrome
Benign partial epilepsy in infancy	Panayiotopoulos syndrome
Benign rolandic epilepsy	Pyridoxine dependency
Childhood absence epilepsy	Ramsay Hunt syndrome
Early myoclonic encephalopathy	Rasmussen syndrome
Electrical status epilepticus during slow-wave sleep	Rett syndrome
Epilepsy with myoclonic absences	Ring chromosome 20 syndrome
Eyelid myoclonia with absences	Severe myoclonic epilepsy in infancy including Dravet syndrome
Gelastatic epilepsy	Sturge-Weber syndrome
Generalized epilepsy with febrile seizure plus	West syndrome (infantile spasms)
Juvenile myoclonic epilepsy	
Landau Kleffner Syndrome	

**EEG** stands for Electroencephalography and in the broadest sense of the term, refers to the measurement of the electrical activity produced by the brain.

**MRI** stands for Magnetic resonance imaging and is primarily a radiology technique most commonly used to visualize the structure and function of the body.

**SPECT** stands for Single photon emission computed tomography is a nuclear medicine tomographic imaging technique using gamma rays. It is able to provide true 3D information.