



# Glossary of Epilepsy Terms

**Absence seizure:** (also known as "*dialectic seizure*" or "*petit mal seizure*") a seizure that causes a brief loss of awareness. During an absence seizure, the patient stops any activity and stares blankly. Rarely, there may be some blinking.

**Anticonvulsant:** an antiepileptic drug used to control both convulsive and nonconvulsive seizures.

**Atonic seizure:** a seizure that causes a sudden loss of muscle tone, particularly in the arms and legs, and often causes the patient to fall.

**Aura:** a warning or initial symptom at the beginning of a seizure, experienced by the patient, but not visible to observers. Auras may progress to become focal or even generalized seizures, or they may exist alone.

**Clonic seizure:** repetitive, rhythmic jerks that involve all or part of the body.

**Complex partial seizure:** a seizure that includes impairment of awareness, for example, patients seem to be "out of it" or "staring into space." Unintentional movements or other movements are frequently a part of the seizure.

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**Corpus callosum:** a band of nerve fibers located deep in the brain that connects the two halves (hemispheres) of the brain. The corpus callosum helps the hemispheres share information.

**Corpus callosotomy:** an operation that cuts the corpus callosum and interrupts the spread of seizures from one hemisphere of the brain to the other. Callosotomies may be complete, or may involve only a portion of the corpus callosum. Although seizures generally do not completely stop after this procedure, they usually become less severe.

**EEG-video monitoring:** Continuous simultaneous recording of brainwaves and video observation of the behavior accompanying the EEG. This technique, carried out at comprehensive epilepsy centers, is employed to diagnose epilepsy and localize the seizure focus. The results are useful to determine therapy -- medical or surgical.

**Epilepsy:** a chronic medical condition marked by recurrent epileptic seizures. Patients may have single seizures as a result of fever, drug withdrawal, or trauma, for example, but are not labeled as having epilepsy if seizures do not recur.

**Epileptogenic zone:** the region of the brain responsible for the abnormal electrical

electroencephalogram, typically around 20 electrodes are temporarily pasted to the scalp.

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**Electroencephalogram (EEG):** a diagnostic test that measures brainwaves, the electrical impulses in the cerebral cortex. This test helps a doctor to diagnose epilepsy.

**Epilepsy surgery:** a neuro-surgical procedure to prevent further seizures, usually accomplished by resecting the epileptogenic zone. Successful in eliminating seizures in a large majority of patients, depending on the type of epilepsy identified during EEG-video monitoring.

**Extratemporal cortical resection:** an operation to cut out (resect) brain tissue that contains a seizure focus. "Extratemporal" means the tissue is located in an area of the brain other than the temporal lobe, most often the frontal lobe.

**Functional hemispherectomy:** a procedure in which portions of one hemisphere of the brain which is not functioning normally are removed, and the corpus callosum is split. This interrupts the communications among the various lobes and between the two hemispheres and prevents the spread of seizures.

**Hemisphere:** one half of the cerebrum, the largest part of the brain.

**Generalized seizure:** a seizure that occurs all through the brain.

**Grand-mal seizure:** an older term for a seizure in which the patient loses consciousness and collapses. The patient also has body stiffening and violent jerking, and then often goes into a deep sleep. Also known as a *generalized convulsion*.

**Ketogenic diet :** a treatment for epilepsy intended to maintain the starvation or fasting metabolism for a long period in order to create ketones, byproducts of fat-burning metabolism . Seizures often lessen or disappear during periods of fasting. The diet is very high in fat and low in carbohydrates and is most often recommended for children ages 2 through 12 who have been diagnosed with a generalized type of epilepsy, and who have failed to respond to a variety of medications.

**Lesionectomy:** surgery to remove isolated brain lesions that are responsible for seizure activity.

**Lobe:** one of the sections of the cerebrum, the largest part of the brain. The lobes are divided into four paired sections (frontal, parietal, occipital, and temporal). The seizure focus is usually located in one of the lobes.

**Lumbar puncture :** a diagnostic procedure in which the fluid surrounding the spinal cord (cerebrospinal fluid) is withdrawn through a needle and examined in a lab. Also known as

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**Multiple subpial transection:** a surgical procedure to help control seizures that begin in areas of the brain that cannot be safely removed (areas that control movements or speech). The surgeon makes a series of shallow cuts (transections) in the brain tissue to interrupt the movement of seizure impulses.

**myoclonic seizure:** a seizure that consists of sporadic jerks, usually on both sides of the body. Patients with these seizures may drop or involuntarily throw objects.

**Neurologist:** a doctor who specializes in the treatment of epilepsy and other disorders of the brain and nervous system.

**Neuron:** a single nerve cell. The brain is made up of billions of neurons. Many neurons malfunctioning together are necessary to produce a seizure.

**Nonepileptic event:** an event that resembles a seizure but is actually produced by another condition, such as Tourette syndrome or heart rhythm disturbances (arrhythmias). Certain psychological conditions can also bring on a nonepileptic event.

**Partial seizure:** (also known as a "focal seizure") a seizure that occurs in a limited area in only one hemisphere of the brain. This type of seizure is more amenable to treatment with surgery than are generalized seizures.

**Responsive neurostimulation device:** RNS consists of a small neurostimulator implanted within the skull under the scalp. The neurostimulator is connected to one or two wires (called electrodes) that are placed where the seizures are suspected to originate within the brain or on the surface of the brain. The device detects abnormal electrical activity in the area and delivers electrical stimulation to normalize brain activity before seizure symptoms begin.

**Seizure:** an event of altered brain function caused by abnormal or excessive electrical discharges in the brain. Most seizures cause sudden changes in behavior or motor function.

**Seizure focus:** the area of the brain in which a seizure starts.

**Status epilepticus:** a prolonged seizure (usually defined as lasting longer than 30 minutes) or a series of repeated seizures without regaining consciousness. Status epilepticus is a medical emergency and medical help should be obtained immediately.

**Temporal lobe resection:** a surgical procedure in which brain tissue in the temporal lobe is cut away (resected) to remove the seizure focus.

**Tonic seizure:** a seizure that is characterized by stiffening of the muscles, sustained for more than a few seconds.

**Tonic-clonic seizure:** a seizure marked by loss of consciousness, falling, stiffening, and jerking. This is the hallmark of a generalized motor seizure, which used to be called a "grand mal seizure."

**Vagus nerve:** a small cranial nerve that passes through the neck and is connected to various areas of the brain and other organs in the body, including the stomach, heart , and lungs.

**Vagus nerve stimulation:** a surgical treatment for epilepsy involving implantation in the neck of an electrode on the vagus nerve. The electrode is connected to a pacemaker that is placed under the skin in the chest. While the VNS is usually programmed to cycle continuously, the patient can turn the stimulator on, using a small magnet placed over the pacemaker , if he or she feels a seizure coming on.

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