

Epilepsy In a Nutshell

Epilepsy is a common neurological disorder characterized by recurrent seizures caused by a brief disruption of electrical activity in the brain. Epilepsy is the most common neurological disorder in children and the second most common neurological disorder in senior citizens. One in ten Americans will experience a seizure at some point in their lifetime, and one in 33 will develop epilepsy by the age of 75.

Types of Seizures

There are more than 30 different types of seizures. A seizure can appear in any number of ways, many bearing no resemblance to the convulsions most people associate with epilepsy. Among the most common are:

Simple and Complex Partial. In these types, the seizure activity occurs in one part of the brain rather than affecting the entire brain at once. They can take any number of forms depending on where the seizure activity is located. Some common manifestations include random wandering, picking at clothing, and automatic muscle movements, although any behavior is possible. In simple partial seizures, individuals remain aware of their surroundings throughout the seizure. In complex partial seizures, individuals lose awareness of their surroundings and of sensory input, although they may appear to be conscious and may talk and/or move around. They will generally have no memory of what occurred during the seizure. Partial seizures usually last only a few minutes but may require recovery time.



Generalized Tonic Clonic (formerly known as Grand Mal). These convulsive seizures can be very dramatic, usually beginning with a stiffening of the body followed by shaking. There may also be changes in breathing and loss of bladder or bowel control. These seizures generally end after a few minutes, but the individual often needs significant recovery time.

Absence (formerly known as Petit Mal). Primarily childhood-onset, these seizures look like blank stares. The eyes may roll back a bit, after which appears the vacant stare. They last only a few seconds, often occur in clusters, and are easily mistaken for daydreaming.

Atonic (also called “Drop Attacks”). These seizures are characterized by a sudden loss of muscle tone, causing the person to collapse. After a few seconds to a minute, the individual regains consciousness and can stand and walk again.

Myoclonic. These seizures involve sudden, brief massive muscle jerks that may involve the whole body or just part of the body.

Epilepsy Treatments

Medication. There are more than a dozen medications used in the treatment of epilepsy. The majority of epilepsy patients will get seizure control with one or more medications. Patients for whom four or more medications have failed to work have only a 4% chance of getting seizure control with subsequent medication trials.

Surgery. Surgery may be indicated in cases where a seizure focus can be identified and the affected part of the brain can be resected without an unacceptable level of harm to the physical or cognitive functioning of the patient. Surgery is not an option for people with generalized seizures, i.e., where the seizure activity affects the entire brain.

Vagus Nerve Stimulation. This device consists of a pacemaker-like generator implanted in the left chest wall, with a lead attaching to the left vagus nerve. The device is programmed to deliver small electrical currents at regular intervals up the vagus nerve to the brain. It can also be triggered by a magnet if a seizure has already started or is about to begin. One-third to one-half of people with this device report some level of improvement.

Ketogenic Diet. A very strictly controlled and medically supervised treatment, this high-fat, low-carb, low-protein diet produces a state of ketosis that, in some cases, helps to control seizures. It is used primarily in children.

Seizure First Aid

For Generalized Tonic Clonic Seizures:

- Time the seizure.
- Roll the person on his/her side & place something soft under the head.
- Remove glasses and loosen tight clothing.
- Clear the area of hazards.
- Do NOT restrain or put anything in the mouth.

For Complex Partial Seizures:

- Time the seizure.
- Gently guide the person away from hazards.
- Do NOT restrain.

When to Call 911

- The seizure lasts more than 5 minutes or one seizure follows another without the person regaining conscious awareness.
- The person does not resume normal breathing after the seizure ends.
- There is an obvious injury.
- You do not know if the person has epilepsy.
- The seizure occurs in water.
- The person has diabetes or is pregnant.