

A seizure is a sudden disruption of the brain's normal electrical activity accompanied by altered awareness and/or other neurological and behavioral manifestations. Epilepsy is a condition characterized by recurrent seizures that may include repetitive muscle jerking, called convulsions.

Most seizures are benign, but a seizure that lasts a long time (2-5 minutes) can lead to status epilepticus, a life-threatening condition characterized by:

- continuous seizures
- loss of consciousness
- respiratory distress

Non-convulsive epilepsy can impair physical coordination, vision and other senses. Undiagnosed seizures can lead to conditions that are more serious and more difficult to manage.

TYPES OF SEIZURES

Some people who have epilepsy have more than one type of seizure.

Generalized Seizures

- A generalized epileptic seizure occurs when electrical abnormalities exist throughout the brain.
- A generalized tonic-clonic (grand-mal) seizure begins with a loud cry, before the person having the seizure loses consciousness and falls to the ground.
- The muscles become rigid for about 30 seconds during the tonic phase of the seizure and alternately contract and relax during the clonic phase, which lasts 30-60 seconds.
- The skin sometimes acquires a bluish tint and the person may bite his tongue, lose bowel or bladder control, or have trouble breathing.
- A grand mal seizure lasts between two and five minutes, and the person may be confused or have trouble talking when he regains consciousness (postictal state). He may complain of head or muscle aches, or weakness in his arms or legs before falling into a deep sleep.

Primary Generalized Seizures

- A primary generalized seizure occurs when electrical discharges begin in both halves (hemispheres) of the brain at the same time.
- Primary generalized seizures are more likely to be major motor attacks than absence seizures.

Absence Seizures

- Absence seizures usually begin with a brief loss of consciousness and last between one and 10 seconds.
- A person having a petit mal seizure becomes very quiet and may blink, stare blankly, roll his eyes or move his lips.

- A petit mal seizure lasts 15-20 seconds.
- When it ends, the person is able to resume whatever he was doing before the seizure began. He will not remember the seizure and may not realize that anything unusual has happened.
- Untreated, petit mal seizures can recur as often as 100 times per day and may progress to grand mal seizures.

Myoclonic Seizures

- Myoclonic seizures are characterized by brief, involuntary spasms of the tongue or muscles of the face, arms or legs.
- Myoclonic seizures most commonly occur when waking after a night's sleep.

Partial Seizures

- A partial seizure begins in an area called an epileptic focus, but may spread to other parts of the brain and cause a generalized seizure. A partial seizure does not involve the entire brain.

Simple partial seizures:

- Do not spread from the area where they start.
- Are characterized by symptoms that are determined by the part of the brain affected.
- The patient usually remains conscious during the seizure and can later describe it in detail.

Complex partial seizures:

- A distinctive smell, taste, or other unusual sensation (aura) may signal the onset of a complex partial seizure.
- Complex partial seizures begin as simple partial seizures, but move beyond the focal area and cause loss of consciousness.
- Complex partial seizures can become major motor seizures.
- Although a person having a complex partial seizure may not seem to be unconscious, he/she does not know what is happening and may behave inappropriately. He/she will not remember the seizure, but may seem confused or intoxicated for a few minutes after it ends.

Status Epilepticus

Status epilepticus is a state of prolonged, continuous seizures, during which the person and may have trouble breathing. Status epilepticus can be caused by:

- Suddenly discontinuation anti-seizure medication
- Hypoxic or metabolic encephalopathy (brain disease resulting from lack of oxygen or malfunctioning of other physical or chemical processes)
- Acute head injury
- Blood infection caused by inflammation of the brain or the membranes that cover it

You can read more information about seizures after brain injury provided by Traumatic Brain Injury Model Systems at: <http://www.msktc.org/tbi/factsheets/Seizures-After-Traumatic-Brain-Injury>