

# Epilepsy Fact Sheet

## What is Epilepsy?

Epilepsy, which may be called a seizure disorder, is a neurological disorder that causes people to have recurrent seizures. Seizures are sudden, and involve brief uncontrolled electrical activity in the brain which cause convulsions, changes in an individual's behavior, and/or unconsciousness.

- Epilepsy is not contagious.
- Epilepsy is not a mental illness.
- Epilepsy is not a mental impairment.

## Who has Epilepsy?

Approximately 3 million Americans have epilepsy, and over 150,000 new cases are diagnosed in the United States each year. Over 60,000 Minnesotans have epilepsy, and approximately 1 in 26 people will develop epilepsy at some point in their lives. It affects children and adults, men and women, and people of all races, religions, ethnic backgrounds, and social classes. While epilepsy is most often diagnosed either in childhood or after the age of 65, it can occur at any age.

## How is Epilepsy Diagnosed?

Patient history, neurological examination, blood work, and other clinical tests are all important in diagnosing epilepsy. Eyewitness accounts of someone having a seizure may also be helpful in assisting a physician determine the type of seizures involved. The electroencephalograph (EEG) is the most commonly used test in diagnosing epilepsy. An EEG provides a continuous recording of electrical activity in the brain during the test. Some patterns of activity are unique to particular forms of seizures. In some situations, physicians may also use CT scans, MRIs, and PET scans to look at the internal structure and function of the brain. These tests can help determine the cause of someone's seizures.

## What Causes Epilepsy?

In 70% of epilepsy cases, the cause is unknown. Potential causes of epilepsy include:

- Head Trauma
- Stroke
- Infections
- Genetics
- Brain Structure Abnormalities

## How to Handle a Seizure

- Stay calm.
- Track the time.
- Direct the person away from hazards or remove objects that may present a danger.
- If the person is having a convulsive seizure, turn them on their side and cushion the head.
- Remove glasses and loosen tight clothing.
- Do NOT put anything in the mouth. Do NOT restrain.
- Remain present until the person regains conscious awareness.
- Follow the individual's seizure action plan, if available.



## When to Call 911

Most seizures are not medical emergencies, but an ambulance should be called if:

- The seizure lasts longer than five minutes or a second seizure starts shortly after the first ended.
- The person does not resume normal breathing after the seizure ends.
- There is no medical ID and no known history of seizures.
- There is an obvious injury.
- The person is pregnant or has diabetes.
- The seizure happens in water.
- The person requests an ambulance.
- When these medical conditions exist: brain infection, heat exhaustion, poisoning, hypoglycemia, high fever and head injury.

## How Is Epilepsy Treated?

- **Medication:** Most people achieve varying levels of seizure control on one or more of the many medications currently approved for the treatment of epilepsy.
- **Surgery:** Several types of surgery may be used for patients whose seizures do not respond to medication. The most common are lobectomy and cortical resection. These may be used when all or part of the affected lobe of the brain can be performed on without damage to vital functions.
- **Implant Devices:** Implant devices are used to treat seizures in people with uncontrollable or drug-resistant epilepsy. These can help reduce the frequency and severity of seizures, but are not expected to stop seizures completely. Implant devices include Vagus Nerve Stimulation (VNS), Responsive Neurostimulation (RNS), and Deep Brain Stimulation (DBS).
- **Ketogenic Diet:** Used primarily in children, this medically-supervised high fat, low carbohydrate, low protein diet has been shown to benefit as many as two-thirds of the children who maintain it.

## Types of Seizures

Seizures can take many different forms, often not resembling the convulsions that most people associate with epilepsy. There are over 40 different types of seizures. Common types include:

- **Generalized Tonic Clonic (Grand Mal):** Convulsions, muscle rigidity, jerking.
- **Absence (Petit Mal):** Blank stare lasting only a few seconds, sometimes accompanied by blinking or chewing motions.
- **Focal Impaired Awareness (Complex Partial):** Random activity where the person is out of touch with their surroundings.
- **Focal Aware (Simple Partial):** Jerking in one or more parts of the body or sensory distortions that may or may not be obvious to onlookers.
- **Atonic (Drop Attacks):** Sudden collapse with recovery within a minute.
- **Myoclonic:** Sudden, brief, massive jerks involving all or part of the body.

