

Seizure Disorder

BIRTH DEFECT RESEARCH FOR CHILDREN



What is A Seizure?

A seizure is a sudden attack triggered when neurons in the brain create abnormal electric discharges. Seizures may include: muscle spasms, mental confusion, uncontrolled body movements, and loss of consciousness.



Seizures



What causes a Seizure Disorder?

Seizures can be caused by many things:

- Damage to the central nervous system before, during, or just after birth.
- Defects in the brain, present at birth.
- Head injuries that can occur at any age.
- Poisons, including lead and alcohol.
- Diseases such as measles and encephalitis.
- Disorders of the circulatory system.
- Tumors, usually in the brain.
- Poor nutrition or disturbances in metabolism.

Different types of Seizures

Generalized Seizures begin with a discharge of neurons throughout the brain.

Absence Seizures also known as “petit mal epilepsy,” are the hardest kind to recognize because they are often mistaken for day-dreaming. This kind of seizure is most common among children ages 6-14. During an absence seizure a child may lose awareness and start to stare, blink or twitch for a few seconds. Absence seizures can occur anywhere from a dozen to a hundred times a day.

Tonic-Clonic Seizures sometimes called grand mal epilepsy may occur at any age. The onset of the seizure is marked by a loss of consciousness and stiffening of the body, followed by violent jerking of the limbs and irregular breathing. Tonic-clonic seizures usually last 1 to 2 minutes and may occur often (once a day) or seldom (once a year).

Partial Seizures begin with a discharge of neurons in just one part of the brain.

Simple Partial Seizures usually do not affect consciousness. A simple partial seizure may occur at any age and involve brief changes in how things look, sound, taste, or feel.

Complex Partial Seizures can occur at any age and involves confusion, loss of awareness, and aimless movements (lip-smacking, picking at something, etc.).

Less common types of Seizures

Audiogenic Seizures are epileptic seizures brought on by sound.

Febrile Seizures are convulsions associated with a high fever, often occurring in infants and children.

Jackknife Seizures also known as “infantile spasms,” appear in the first 18 months of life and are associated with general cerebral deterioration. Jackknife seizures are marked by shock-like contractions of a portion of muscle called myoclonus. Babies having these seizures will seem to reach up for support, extending their arms and legs, while bending and jerking their head, neck, and body.

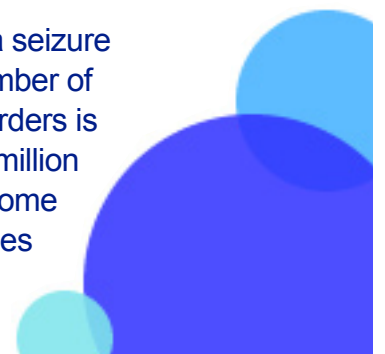
Myoclonic Seizures involve abnormal electrical activity throughout the brain which causes brief muscle jerks strong enough to throw a person to the ground.

Photogenic Seizures are epileptic seizures brought on by light.

Vitamin B (6) Dependency Seizures are caused by a genetic defect in the metabolism of B6. These seizures can be treated with high doses of B6.

How common are Seizure Disorders?

Since anyone can develop a seizure disorder at any time, the number of Americans with seizure disorders is relatively high. More than 2 million Americans are affected by some type of seizure disorder. Males are slightly more likely than females to have seizures



Seizures



related to head injuries in sports and work. Only 20% of all seizure disorders affect infants (birth to age 5). These are mainly due to problems in pregnancy, birth defects, injuries, infections, or fever. 30% of cases become evident between the ages of 5-25, and 50% of total cases appear in middle and late adulthood.

Helping a child with a Seizure Disorder

Diagnosis: A physician will use the following tools to make a diagnosis.

- 1) **Medical History** - a detailed description of the family health history including all seizures episodes.
- 2) **Physical Exam & Lab Tests** - tests to determine if the seizure is caused by a specific physical or metabolic disorder.
- 3) **Neurological Exam** - a thorough study of the nervous system. An electroencephalogram (EEG) may help identify abnormal brain activity. Other brain imaging techniques may be used to examine the internal structure of the brain.

Treatment: Three types of treatment are currently used for seizures.

- 1) **Drugs:** Most seizure disorders can be completely or partially controlled by drugs. Treatment with a single drug is preferable, but sometimes more than one is required. Recent research has found that some people, especially children, can eventually become free of seizures even without medication.
- 2) **Diet:** Some seizure disorders in children can also be controlled by a high-fat, low carbohydrate diet known as the ketogenic diet. If seizure medication caused serious side effects in your child, ask your doctor about the ketogenic diet as an option.
- 3) **Surgery:** In some cases removal of affected brain tissue can eliminate or reduce the number of seizures.

Fact Sheet by:

Birth Defect Research
Children, Inc.
www.birthdefects.org

