

SEIZURE DISORDERS

SYMPTOMS OR BEHAVIORS

- Blackouts or periods of confused memory
- Episodes of staring or unexplained periods of unresponsiveness
- Involuntary movement of arms and legs
- Fainting spells followed by incontinence or excessive fatigue
- Odd vocalization, distorted perceptions, episodic feelings of fear that cannot be explained
- Head dropping
- Sudden loss of muscle tone
- Episodes of rapid eye blinking or rolling upward
- Inappropriate movements of mouth or face accompanied by blank expression
- Aimless, dazed behavior, including walking or repetitive movements that seem inappropriate to environment
- Excitement in the child
- Disturbed or lost consciousness, lip-smacking, mumbling, wandering, picking at clothes, or automatic behavior repetition



ABOUT THE DISORDER

Epilepsy is not a disease, but the occurrence of repetitive seizures, which is a symptom of underlying dysfunction of the brain. Seizures are sudden, uncontrolled episodes of electrical discharges in some of the nerve cells of the brain. There are two different categories of seizures: partial – starting in one limited region of the brain with variable degrees of spread, and generalized – simultaneously involving widely spread cortical regions over both brain hemispheres. Some children have both types of seizures, called mixed seizure disorder. About 70% of the cases do not have an identifiable cause.

Conditions that can cause secondary seizures include head injury, high fever, infections, lesions, and can occur with other medical conditions.

Types of Seizures

- **Partial Seizures:**

Partial seizures are divided into two groups. The division is based on the degree to which consciousness is impaired:

1. Simple partial seizures are limited to a small region of one cortical hemisphere. The specific area of the brain where each seizure begins determines what it will look or feel like (body jerk, visual or memory disturbances, anger, fear, excitement). The person maintains normal alertness and memory of the event.
2. Complex partial seizures usually begin in a small area of the temporal lobe or frontal lobe and then spread to the other hemisphere, altering consciousness. These seizures usually last from 30 seconds to 2 minutes with the person feeling tired and confused afterwards.

- **Generalized Seizures:**

1. Absence (formally referred to as petit mal seizures) cause a brief loss of consciousness. Absence seizures can appear to arise simultaneously in broad regions of the brain. They are characterized by brief loss (usually less than 30 seconds) of consciousness. If untreated, these can occur hundreds of times a day and may significantly interfere with learning.
2. Myoclonic seizures result in sudden jerks of the body, arms, shoulders, neck or upper legs which may be relatively mild and confined to individual muscle groups or may be a massive jerk which can throw the child to the ground. *Infantile spasms, which occur between 3 and 12 months of age, are believed to be an immature form of myoclonic seizures and are relatively rare.
3. Atonic seizures (sometimes referred to as drop seizures) result in a sudden loss of muscle tone. The person may fall to the ground without warning. Individuals with atonic seizures may need to wear a protective helmet due to potential injuries from falls.
4. Tonic Clonic seizures (formerly referred to as petit mal seizures) are the most common seizure type in children. Each seizure has two phases: a tonic phase (sustained stiffening) and a clonic phase (repeated jerking). This type of seizure may arise focally (partial) or diffusely from both hemispheres (generalized). The person has no memory of the event and a period of sleep is usually required for recovery.

An electroencephalogram (EEG), which is the tracing of brain electrical activity recorded by electrodes placed on the scalp, is generally used to help diagnose the seizure disorder. Medical treatment for seizure disorders consist of anticonvulsant medications, ketogenic diet and/or surgery. Additional needs include development of an emergency medical plan with the physician's name/phone number, hospital and parent number. Safety precautions need to address any restricted activities and/or those requiring close supervision (i.e., swimming, diving, climbing, or contact sports). Medications taken at home or school and possible side effects that may interfere with learning should be identified. An important psychological consequence of epilepsy is low self-esteem, self-image, and social relationships.

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EDUCATIONAL IMPLICATIONS

1. Studies show that despite normal intelligence, 33-70% of children with epilepsy experience learning or other school concerns.
2. Some concerns include:
 - side effects of medication
 - memory problems including storage and retrieval
 - difficulty with attention/concentration
 - distractibility
 - impulsiveness/disruptiveness
 - delay in response time
 - delays in processing and comprehension
 - concerns with abstract reasoning
 - organizational skills
 - performance inconsistencies
 - change in personality/relationships
 - reduced visual and motor functioning
 - inconsistent school attendance
 - lethargy/fatigue
 - potential for injury during seizures

INSTRUCTIONAL STRATEGIES AND CLASSROOM ACCOMMODATIONS

- Allow modifications (extra time for assignments, every other problem, no time limits, alternative ways to test and get information, resource room)
- Decrease memory demands, use recognition rather than recall tasks (i.e. multiple choice, word banks, matching, open book tasks, take-home)
- Pre-teach concepts, prior to introduction to whole classroom
- Use an assignment notebook or daily reporting system
- Use checklists utilized to break down large tasks into smaller ones
- Use visual and verbal cues to help child attend
- Use a buddy systems for notes, group work, teacher outlines
- Facilitate friendship/social skills group to practice conversational skills, provide support, and promote self-esteem
- Provide a calm environment/atmosphere (avoiding sudden light or sounds)
- Instruct classmates about epilepsy to decrease fear and misunderstanding, and to promote acceptance of the child with the seizure disorder
- Develop an emergency health plan for recognizing and responding to the child's seizures
- Provide alternate activities if student has activity restrictions due to seizures

RESOURCES

Gillette Children's Hospital
200 E University Avenue
St. Paul, MN 55101
(612) 291-2848

Epilepsy Foundation of Minnesota
1600 University Ave West Ste 805
St. Paul, MN 55104
(651) 287-2300
<http://www.efm.nonprofitoffice.com>

Minnesota Epilepsy Group
310 Smith Ave N Ste 300
St. Paul, MN 55102-2383
(651) 941-5290
Fax (651) 241-5948
<http://www.mnepilepsy.org>

Epilepsy Foundation
4351 Garden City Dr
Landover, MD 20785-7223
1-800-332-1000
<http://www.epilepsyfoundation.org>

Books:

Batshaw, Mark L., MD, [Children with Disabilities](#)

Hill, Jennifer Leigh, [Meeting the Needs of Students](#)

[The School Nurse's Source Book of Individual Health Care Plans, Volume I](#)
Mary Kay B. Haas and Mary Willors, 1993