

What is it?

Seizures are abnormal electrical discharges that occur in the brain. They occur when brain cells abnormally misfire, causing an alteration or brief interruption of the brain's electrical activity. Seizures can be caused by infections, head trauma, meningitis, metabolic/endocrine dysfunction or tumors, or even factors unknown and they are the most common neurological disease in pediatrics. Seizures cause a loss of awareness and uncontrolled body movement. Types of seizures will present very differently based on the part of the brain affected. Medications used to treat seizures are based on the type of seizure the child has. Other management therapies can also include a ketogenic diet and vagus nerve stimulation. It is important to gather as much student specific information as possible including type of partial or generalized seizure, the symptoms, duration, level of consciousness and postictal period symptoms in order to keep the student safe.



Phases of seizure

Pre-ictal: time before a seizure

Ictal: time during a seizure

Post-ictal: time after a seizure

Types of seizures

- ⇒ *Partial seizures:* One part of brain affected; most common. Non-convulsive.
 - Simple: Person knows what is happening but is unable to control it; consciousness not impaired. May involve uncontrolled movement, emotion or sensations.
 - Complex: Does not know what is happening, may appear confused during and after. May start with a blank stare before progressing to chewing, picking, fumbling and mumbling.
- ⇒ *Generalized seizures:* Both sides of brain affected. Produce a loss of consciousness.
 - Absence: Often occurs in people under the age of 20. These seizures can last 2- 15 seconds and may occur up to 100 times a day. Can present with blank staring, lip smacking, twitching of face or muscles.
 - Atonic: Causes a sudden fall or “drop attack” as part of body suddenly goes limp. Injury more common from fall.
 - Tonic-clonic: Also known as a grand-mal seizure, most common form. Whole body is affected causing stiffening of limbs, jerking of face and limbs and even breathing difficulties. Usually lasts 1-3 minutes.
 - Myoclonic: Quick, involuntary twitching or jerking. Usually lasts 1-2 seconds.

Symptoms/Characteristics

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|---------------------------|----------------------|--|
| • Headache | • Body stiffening | • Periods of rapid eye blinking or staring |
| • Staring | • Appearing confused | • Loss of bowel and or bladder function |
| • Jerking of arms or legs | • Wandering | • Extreme tiredness |
| • Falling for no reason | • Chewing | • Breathing problems |

Triggers

- | | |
|----------------------|-------------------------------|
| • Missed medications | • Physical/emotional stress |
| • Heat | • Poor eating habits |
| • Illness | • Too much caffeine |
| • Lack of sleep | • Female hormone fluctuations |

Safety tips

- ⇒ Stay calm.
- ⇒ Protect from hazards and remove nearby objects. Do not restrain.
- ⇒ If in chair, ease to floor. Position to minimize harm.
- ⇒ Stay with the student. Note seizure characteristics, time, etc.
- ⇒ Provide reassurance and support.
- ⇒ Do not put anything in mouth including food, drink, medicines.
- ⇒ Can place padding under head for protection.
- ⇒ Loosen tight clothing.
- ⇒ Lay on side, ensuring open airway post seizure.

Suggested school accommodations

Problems in school performance have been identified in areas of attention, concentration, memory, and organizational skills. Emotional and behavioral issues are also more prevalent in students with epilepsy. Such difficulties can include depression, anxiety, ADHD, aggression and irritability. School performance is affected because learning is not occurring during or after a seizure when a child is fatigued and/or confused. Medications can also contribute to fatigue and memory problems. Effective seizure management can create a supportive learning environment where a student can be most successful. When school staff is educated and prepared, they can respond appropriately and reduce fear.

- Educate staff for a safe environment
- Provide comfort and rest after a seizure
- Assess need for a protective helmet
- Clearly written and posted classroom rules
- Visual aids
- Use of assignment book for memory
- Preferential seating to reduce distractions
- Divide larger tasks into smaller, organized tasks
- Small group instruction
- Repeat information and over-learning techniques
- Repeat back instructions
- Allow rest breaks as fatigue is common side effect of seizure and medication
- Provide a private area to rest or recover after a seizure

Information for nurses



Medications

	<i>Routes</i>
• Diastat	• Rectal
• Versed	• Buccal
• Ativan	• Nasal

SHNIC school nurses information:

Specific health issues for individual health care plans

- Diagnosis including type of seizure, description of, typical length, characteristics, triggers, warning signs, how often seizures occur, and student's behavior following a seizure
- Current medication list for home and school
- Orders for emergency medications, when to administer, dose, route
- Note if seizures are controlled
- Seizure action plan, when to call 911
- Documentation/log of seizures
- Orders for hidden device like a vagus nerve stimulator, how to use/manage
- Safety precautions for ambulating, transitioning in hallways, wearing a helmet, etc.
- Return to class protocol
- Rest period following seizure
- Education of staff for safe environment
- Prepare transportation/bus route accordingly

Resources & Manuals

Epilepsy Foundation- School nurse training program

<http://www.epilepsy.com/get-help/services-and-support/training-programs/managing-students-seizures-school-nurse-training>

CHOC Epilepsy Center– School Nurse Guide

www.choc.org/userfiles/file/EpilepsyHandbook.pdf

Epilepsy U– Epilepsy education, news and networking

<http://epilepsyu.com/>

Epilepsy Association– Be smart about Epilepsy

Manual for personnel to assist students with epilepsy & managing epilepsy in the schools

<http://www.epilepsyinfo.org/besmart/download/BeSmart.pdf>

Epilepsy Foundation– Seizures in school Video

https://www.youtube.com/watch?v=8NrQ_O1fwiU