

Seizures and School

What is a seizure?

The human brain controls everything our body does. It is made up of billions of nerve cells that continually communicate through electrical and chemical signals. A seizure occurs when there is a temporary change or disruption in the normal pattern of electrical signals in the brain. The location of the brain where this disruption happens, determines the type of seizure and the symptoms the person has during their seizure.

For students known to have a seizure disorder, a seizure is not necessarily a medical emergency. Usually, the person just needs time for the brain to settle back into regular functioning, generally taking seconds to minutes. The most important consideration is ensuring the student remains safe as they can experience loss of voluntary muscle control and/or impaired cognitive functioning.

What is epilepsy?

Seizures can occur for a number of reasons, the most usual cause being epilepsy. Epilepsy is a chronic brain disease in which reoccurring, unprovoked seizures occur and is common, affecting approximately 1 in 100 people. Most people with epilepsy are otherwise healthy with average intelligence.

Epilepsy can be caused by brain trauma, infections, brain injury at birth, abnormal brain development, genetics or a stroke, but about 50% of the time, the cause is never known. A person cannot catch epilepsy from someone who has it and it is not a mental disorder. In most individuals with epilepsy (60-70%), regular use of daily seizure medication provides good seizure control.

It is important to note, an individual can have seizures and not have epilepsy. This is usually caused by an underlying medical issue, such as a severe low blood sugar, head injury, brain tumor or fever. In these instances, 911 needs to be contacted immediately.

Triggers (things can cause a seizure)

When you have epilepsy, a seizure can be triggered by a variety of factors such as flashing lights, stress, menstrual cycle/ hormonal changes, illness, fatigue, excessive alcohol consumption or withdrawal, and street drugs. Forgetting to take prescribed seizure medication or not adjusting the medication dose as an individual grows, can contribute to seizure activity. Keeping track of and avoiding personal triggers can help to prevent or reduce the frequency of seizures for someone with epilepsy.

The effects of epilepsy at school

Children with epilepsy usually have normal intelligence, but some may not do well academically. When this is the case, the cause for the academic concern needs to be investigated. Epilepsy can negatively impact learning as it can contribute to absenteeism, short-term memory problems, fatigue, irritability, being bullied, anxiety, depression and low self-esteem. Frequent seizures or seizure medication side effects can also affect school performance.

Usually students with epilepsy can do everything other students do but school staff should check the student's seizure plan of care to determine if there are any restrictions, i.e. height climbing or sport limitations, and increased supervision with meals or while navigating stairs.

Types of seizures

Seizures are categorized by medical professionals by identifying the part of the brain affected by the seizure. It is not necessary to know the different type of seizures as school staff because the first aid response is the same for them all. Depending on the area of the brain that is impacted by the irregular electrical activity, seizures can present differently and vary greatly between individuals.

Seizures can be classified as convulsive or non-convulsive. Convulsive seizures are characterized by stiffening, falling, and jerking motions during the seizure. Non-convulsive seizures are characterized by staring blankly, confusion, unresponsiveness, or repetitive or purposeless movements. It is possible for a non-convulsive seizure to spread to other areas of the brain and to then result in a convulsive seizure. Seizures can change in duration, frequency and intensity as someone ages.



General seizure first aid for a student with seizures caused by epilepsy

Although seizures can be scary to witness, they are painless and usually end on their own. The top priority is student safety. Below are the steps to support someone during an epileptic seizure.

1. Remain calm, stay with the student and provide reassurance.
2. Time the seizure to determine how long it lasts.
3. Protect the student from injury:
 - If it is safe to do so (for staff and students) lower the student to the floor if they are not already there and position them on their side. For students in a wheelchair, refer to their plan of care
 - Place padding around the head
 - Do not restrain
 - Do not put anything in their mouth.
4. Contact 911 if the seizure lasts for 5 minutes or more, or as outlined in the **seizure plan of care**.
5. Administer **rescue medication** if prescribed, as outlined in the seizure plan of care.
6. Call parents/guardians as soon as possible or as directed in the seizure plan of care.
7. Keep them on their side if they are unresponsive.
8. After the seizure ends, keep the environment calm and quiet and continue to provide reassurance. Check for other injuries and allow the student to rest. A student may bite their tongue, so bleeding from the mouth is not uncommon. Do not give food or drink until they are fully recovered.

A short public video produced by the Epilepsy Society outlining seizure management first aid can be viewed at https://www.youtube.com/watch?v=XyDHG02phs0&feature=emb_imp_woyt .

A poster outlining general seizure first aid can be found at:

https://www.epilepsy.com/sites/core/files/atoms/files/SFA%20Flier_HQ_8.5x11_PDF.pdf

Always call 911 if a seizure occurs and:

- It lasts longer than five minutes (unless otherwise indicated in the student's seizure plan of care)
- If consciousness and/or regular breathing does not return
- They have repeated seizures without regaining consciousness
- If confusion persists for longer than one hour
- They do not have epilepsy
- Results in an injury
- They have diabetes
- They have a seizure in water
- They are pregnant

Seizure Plan of Care

Any students who have experienced convulsive and/or non-convulsive seizures in the past 24 months and/or are currently on seizure management medication, require a seizure plan of care for school. These plans, along with seizure training for school staff, help to ensure student safety.

Rescue Medication

Some students are prescribed a rescue medication to be administered by non-medical people to help stop a seizure when it lasts for a certain length of time (usually 5 minutes). If a student is prescribed a rescue medication, it will be outlined in their seizure plan of care. Included will be the name of the medication, when to give it, and how to give it. School staff should receive student specific training by the SHP Nurse before administering this medication. Refer to **Appendix A** for commonly used rescue medication instruction sheets.

After a Seizure has Ended

Often a student will require time to recover. They may be very tired and disoriented, depending on the type and length of the seizure. Awareness is often regained slowly following a convulsive seizure. Having a safe and quiet place for the student to recover while someone observes and provides reassurance is recommended. The student may need to sleep for a few minutes to a few hours or may have to go home. This will be outlined in their seizure plan of care or staff can make this decision in consultation with the parents/guardians.

Status Epilepticus

This is a serious medical emergency. Status epilepticus occurs when someone is in a continuous seizure state for an extended period of time, or there is one seizure after another without time for the person to recover in between. If this occurs, the individual needs immediate medical care and 911 must be called.

Documentation

Any seizure activity should be documented and include; a description of the seizure, the duration, and activities or behavioral changes noticed prior to and following. These details can help to provide the student's health care provider with information regarding the type of seizure, seizure triggers and can contribute to medical management decisions. Staff can use the epilepsy society's seizure record to record this information which can be found at https://www.epilepsy.com/sites/core/files/atoms/files/721SED_MySeizureEventDiary_05-2019-B_0.pdf. Please note, some students may use an app to record seizure activity. School staff are not permitted at any time to download apps on personal devices to record student health information. Interventions by staff should be recorded. If applicable, document that the rescue medication was given on the student's Administration of Medication Record.

Seizure Checklist

If you will be supporting a student who has seizures and/or has a seizure plan of care, please complete the following:

Task	Date Completed
Review DEECD on line seizure video accessible through the google drive.	
Familiarize yourself with student's Seizure Plan of Care.	
Review seizure first aid video at https://www.youtube.com/watch?v=XyDHG02phs0&feature=emb_imp_woyt	
Complete student specific training with SHP Nurse if student has a rescue medication prescribed. Be aware of the name and location of medication, how to administer it and the expiry date.	
Review the emergency response for seizures.	



Appendix A

Administration of Buccal Ativan for Seizures

Ativan (Lorazepam) is a medication given to stop seizures. When given the buccal route (in the pocket between the gums and the cheek), it is quickly absorbed into the mucous membrane of the mouth and then the blood stream. Prior to administering Ativan for seizures, school staff require annual training from a health care provider. Medication should be stored safely out of the reach of children (but accessible in an emergency) in a cool dry place out of sunlight.

Equipment:

Ativan medication, gloves, medication administration record and student's plan of care.

Procedure:

1. Double check you have the right medication and it has a current expiry date.
 2. Administer as outlined on the prescription label. Refer to the student's plan of care for more detailed directions regarding seizure management.
 3. Put on gloves and remove the required dose from the prescription bottle, checking to ensure you have the *right* medication, at the *right* dose for the *right* student, confirming with the prescription label.
 4. Gently pull the student's lip out from the gums and place medication in the pocket between the gum and cheek. Avoid their teeth, during a seizure the teeth may clamp shut, injuring your fingers. Gently rub the outside of the cheek over the area where the Ativan was placed for about 30 seconds.
 5. Note the time the medication was given.
 6. Once the medication has dissolved or the seizure has stopped, place the student on their side in recovery position until they have fully recovered or 911 arrives.
*It can take 2 – 3 minutes for Ativan to stop the seizure.
1. Call 911 if the seizure does not stop within 5 minutes of giving the medication, if you haven't already done so, *as directed in the student's plan of care.*
 1. Document administration of the medication on the Medication Administration Form.

Possible Side Effects of the Medication

- Nausea and/or vomiting
- Decreased respiratory effort (depth and frequency of breathing is lower than normal).
- Drowsiness, dizziness, unsteady gait and confusion.
- Hyperactivity
- Agitation

If side effects persist or there are problems with breathing, contact 911 if you have not already done so.



Administration of Intranasal Midazolam

Midazolam is a medication that calms the central nervous system to stop seizures. When given intranasally (in the nose), it is quickly absorbed into the blood stream. Prior to administering midazolam for seizures, school staff require annual training from a health care provider. Medication and equipment should be stored safely out of the reach of children.

Equipment:

You will need: syringe, student specific midazolam medication with prescription label, atomizer, blunt needle or vial adaptor to remove medication from ampule, gloves, and student's plan of care.

Procedure:

1. Check the expiry date of the medication.
2. Remove the plastic cap from medication ampule.
3. Attach (twist on) the blunt needle or vial adaptor to the syringe.
4. Puncture the top of the medication container and draw the amount of prescribed medication (plus 0.1 cc to prime the atomizer) out of the medication ampule (turn it upside down while keeping a firm hold on the syringe while pulling back on syringe plunger).
5. Expel any air and ensure there is the required amount of medication left in syringe.
6. Remove the vial adaptor or needle by twisting it off syringe and attach the atomizer.
7. Prime the atomizer until you see a drop of medication at the top. Put on gloves if have not previously done so.
8. Lay student on their back or tip their wheel chair back.
9. Hold the head steady, place the tip of the atomizer snugly against the nostril aiming slightly up and outward toward the top of the ear.
10. Quickly squirt half of medication in one nostril and follow this same procedure (step 8 & 9) to squirt the remaining half into the other nostril.
11. Place the student on their side in recovery position or leave in wheelchair (as plan of care indicates) and closely monitor student until fully awake.
12. Call 911, if have not already done so, as directed in the student's plan of care.
13. Document medication administered on medication administration form.

Possible Side Effects of the Medication

- Nasal irritation
- Bad taste or cooling/burning sensation in nose or throat
- Nausea and/or vomiting
- Changes in mood or behavior
- Coughing, shortness of breath or shallow breathing.
- Drowsiness, dizziness, unsteady gait and confusion.

Seizures can be unpredictable and result in injuries or adverse events.

