SEIZURE DISORDERS

Seizure is the physical findings or changes in behavior that occur after a sudden, brief episode of abnormal electrical activity in the brain. Less commonly seizures are caused by chemical imbalances, infection, injury or sudden change in vascular perfusion (such as with a cardiac arrhythmia) which effect neurological activity.

The term "seizure" is often used interchangeably with "convulsion." Convulsions occur when a person's body shakes rapidly and uncontrollably. During convulsions, the person's muscles contract and relax repeatedly. There are many different types of seizures. Some have mild symptoms without shaking, which may manifest as mild involuntary movement, muscle spasm, mental confusion or staring episodes.

For students who have diagnosed seizure disorders with specific treatment protocols that deviate from standard response or standard first aid/CPR. An individual school health protocol will be implemented in collaboration with the student’s parents and neurologist. Examples of this include severe intractable seizure disorders, or students with emergency medication or magnets, for example. Staff will receive health status notifications on students with diagnosed seizure histories. Delegated staff will be trained in individual protocols.

Standard Seizure Response

IF A SEIZURE IS OBSERVED:

IF FALLING/GENERALIZED/JERKING

1. Assist student to floor, turn to side (preferably the left side).

IF SEIZURE OF ANY TYPE OCCURS

2. Loosen clothing at neck and waist; remove eyeglasses (if applicable); protect head with arms, lap, cushioning material. Clear away furniture and other objects from area.
3. Have another classroom adult remove/direct students from area.
4. TIME THE LENGTH OF THE SEIZURE
5. Allow seizure to run its course; DO NOT restrain or insert anything into student’s mouth. DO NOT try to stop purposeless behavior.
6. During a general (grand mal) seizure expect to see pale or bluish discoloration of the skin/lips. Expect to hear noisy breathing.
7. Remain calm.

If complex partial seizures (behavior outbursts, lip smacking, head jerking or other repetitive motions that do not impair consciousness) or absence seizures (brief staring episodes) occur:

1. Time the length of the seizure.
2. Assist student to comfortable position; speak gently and reassuringly to student.
3. Reassure other students in the area as needed. Avoid referring to student's having a spell.
4. Protect from injury by guiding away from hazards back to appropriate space.
5. Do not restrain student; avoid touching student (unless safety is compromised).
6. Stay back from student acting angry or aggressive.

**CALL EMS AND CPR TRAINED STAFF IF ANY OF THE FOLLOWING OCCUR:**

- This is the student’s first seizure with no known seizure history.
- Seizure lasts 5 minutes or greater or consecutive seizures last 5 minutes or greater.
- Two or more seizures occur without a period of consciousness.
- Seizure follows a head injury
- Student is diabetic
- Persistent cyanosis (blue color) of lips does not change after repositioning student,
- Respiratory difficulty
- Absent breathing

**TRAINED STAFF: START CPR IMMEDIATELY FOR ABSENT BREATHING/PULSE**

**ALWAYS STAY WITH THE STUDENT UNTIL EMS ARRIVES ON SITE**

**WHEN SEIZURE COMPLETED, IF EMS/PARENTS ARE NOT ON SITE:**

1. Reorient and reassure student.
   a. allow/assist change into clean clothing if necessary.
   b. Allow student to sleep, as desired, after seizure.

2. A student recovering from a generalized seizure may manifest abnormal behavior such as incoherent speech, extreme restlessness, and confusion. This may last from five minutes to hours. The student is not responsible for his/her behavior during this period, and disciplining him/her is useless.
   a. If as student does not return to baseline behavior after 30 minutes, student should be dismissed with parent.

**Follow up**

- Always notify nurse of incident.
- Complete required documentation.
ADDITIONAL SEIZURE INFORMATION FOR STAFF

Seizure Facts:

• Seizures are not contagious.
• Seizures are not the child’s fault (they cannot control them).
• Many seizures are hidden and do not manifest with convulsive symptoms.
• Seizures are not dangerous to others.
• One seizure does not lead to a seizure diagnosis.
• The type of seizure depends on where in the brain the discharge begins.
• Some children outgrow certain types of seizures.

Myths: Common Misconceptions:

1. Myth: You can swallow your tongue during a seizure - Fact: It is physically impossible to swallow your tongue.
2. Myth: You should force something into the mouth of someone having a seizure. Fact: This is never true. That is a good way to chip teeth, puncture gums, or even break someone’s jaw. The correct first aid is simple: just gently roll the person onto their side and put something soft under the head to protect from injury.
3. Myth: You should restrain someone having a seizure. Fact: Never use restraint, instead allow the seizure will run its course, you cannot stop it.

Seizure Causes:
About 75% of the time, the exact cause of a seizure is unknown or “idiopathic”. Common causes include:

• Head injury severe head blows from falls, car or bicycle accidents
• Brain Injury caused by tumor, stroke, trauma or infectious diseases – viral encephalitis, meningitis or even measles
• Poisoning due to substance abuse, e.g. drug or alcohol use
• Brain injury can occur in utero, during childbirth or later in infancy/life
• Fevers leading to febrile convulsion in young children.

In most cases, epilepsy is not inherited. Everyone inherits a “seizure threshold” – when brain cells are irritated beyond this point, we will have a seizure. People with a low seizure threshold tend to develop seizures more easily than others.

Not all seizure occurrences are consider epilepsy, while epilepsy is a chronic condition other seizure causes may cause an isolated or series of isolated events, with no long term effects. Seizure disorders are diagnosed after seizure presentation and abnormal EEG (electroencephalogram). Benign seizures are considered resolved when an individual is two years seizure free without medication.
SEIZURE DISORDERS AND LEARNING

No single factor related to a child’s seizure disorder accurately predicts what, if any, impact his/her epilepsy will have on learning. Aspects of the seizure disorder that may come into play in the academic setting include:

- What the cause of the seizure disorder might be
- At what age seizures began
- The seizure type/s and what part of her brain is affected
- How frequently the seizures happen.

Different seizure types can have different impacts on a child’s school performance. For example, a child’s memory may be adversely affected by a generalized tonic-clonic (grand mal) seizure or a complex partial seizure. Absence seizures, which are characterized by a brief loss of consciousness, may prevent a student from hearing and seeing what is happening in his class when a seizure occurs. This loss of contact with the student’s surroundings can therefore impede learning. Children may also fall behind from missing school for doctor’s appointments, tests, or while recovering from a major seizure.

School may be difficult for a student with seizure disorders, specifically if there are existing learning problems or developmental delays in addition to epilepsy. In some cases learning problems emerge because of seizures or medications and tasks that were previously routine may become more difficult and the student may see his or her classmates moving ahead at a faster pace, one that he/she cannot maintain.

Some specific learning problems that children with epilepsy can experience are:

- Academic problems: difficulties with reading, writing, and math.
- Language problems: difficulties with comprehension, speech, and communication attention and concentration problems: a child may be inattentive, hyperactive, or both. He/she may only be able to concentrate for short periods of time.
- Slowness: it may take a child longer to process new information or to complete tasks compared to other children
- Memory: a child may study a topic many times, but not remember it the next day.

In addition to ongoing learning disabilities, children with epilepsy may have intermittent disruptions in their learning that specifically relate to their seizures, sleep patterns, and medications. These disruptions in their ability to attend and learn can change from day to day, or even hour to hour.

- Night-time seizures or poor sleep patterns caused by abnormal brain activity can increase fatigue during the school day. As a result the child is less attentive and less available to learn.
- Frequent "invisible" seizure activity in the brain during the school day can result in slower processing, consolidation, and retrieval of information recently learned.
- Children who have seizures, sometimes even a single seizure, during the school day can experience disruptions in their memory that cause them to forget what they have just learned. In some cases they cannot remember much about what happened just before or for some time after the seizure.
- Some anti-epileptic medications (for example, topiramate) can slow down processing of information in some children, while other anti-epileptic medications can induce fatigue that decreases the child’s availability to learn.
  - Some commonly prescribed medications have side effects which may include drowsiness, inattention or restlessness, all of which can have an adverse impact on a student’s learning potential. If a child is taking multiple medications to control her seizures, or taking medication at a very high dosage level, he/she may experience more learning difficulties than children taking only one drug or taking a lower dose of a medicine.
  - Drug side effects on a student’s learning can be difficult to detect, and are often not apparent in a standardized IQ or academic achievement test. Special tests of attention,

Psychosocial factors are another important consideration for students with seizure disorders. Family coping strategies, school and parent expectations, and behavioral or emotional problems can all impact the learning of a student who has epilepsy. These factors can be both a cause and a consequence of academic difficulties. The stigma that still surrounds epilepsy in some communities can lead to stress in a student’s life, resulting in poor school performance. A student’s self-esteem and confidence can also suffer due to the effects of epilepsy in her life. A continuing downward spiral of decreased school performance and diminished self-esteem can prove to be very problematic for some students living with epilepsy.

Response Plan adapted from:


References:


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