MANAGING STUDENTS WITH SEIZURES

Information for new school nurses

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What is Epilepsy?

- A seizure is a disturbance in the electrical activity of the brain.
- Epilepsy is a neurological disorder characterized by recurrent unprovoked seizures.
- ‘Unprovoked’ means not caused by a temporary problem (such as high fever or hypoglycemia).

May also be known as a SEIZURE DISORDER.
Epilepsy in Children

Each year 200,000 new cases of epilepsy are diagnosed, including 45,000 children younger than 15 years of age.¹

Approx. 1% of the general population has epilepsy, but is much higher in children with disabilities:

- **25.8** percent of children with a cognitive disability
- **13** percent of children with cerebral palsy
- **50** percent of children with both disabilities

¹Epilepsy and seizure statistics. Epilepsy Foundation. www.epilepsyfoundation.org/about/statistics.cfm
Pediatric Epilepsy
Causes/Syndromes

Birth injury, head trauma, other CNS disorders
Idiopathic – genetic/familial
Cryptogenic – unknown
Childhood Absence Epilepsy
Rasmussen’s encephalitis
Benign Rolandic
Juvenile Myoclonic Epilepsy
Progressive Myoclonic Epilepsies
Lennox-Gastaut
Absence Seizures

- Brief lapse of awareness
- Pause in activity with blank stare
- Possible chewing or blinking movements
- Usually lasts 1-10 seconds
- Often occur frequently throughout day
- Mistaken for daydreaming, inattentiveness, ADHD
Partial Seizures

- May resemble absence seizures but longer duration (30 seconds or more)
- Student unable to hear/respond to questions
- Often accompanied by ‘repetitive purposeless behaviors’ (automatisms)
- Automatisms may be the same sequence of movements each time that person has a seizure
- Post-ictal (post-seizure) confusion is very common
Tonic-Clonic Seizures

- A sudden hoarse cry, loss of consciousness, fall
- Rigidity, posturing (tonic)
- Rhythmic jerking (clonic)
- Irregular breathing - skin, nails, lips may turn blue
- Drooling, vomiting, loss of bowel/bladder control may occur
- Typically lasts 1 to 3 minutes
- Followed by confusion, headache, extreme fatigue, amnesia for events that preceded and followed seizure
The Impact of Epilepsy on the School-Age Child

Uncomplicated: medication is effective in preventing seizures. Few cognitive, behavioral, academic or social problems.

Significant: medications or other treatments reduce seizure frequency, but seizures and medication side effects compromise academic performance, behavior and/or social acceptance.
Intractable Epilepsy

- 20% of people with epilepsy continue to have frequent seizures after all treatment options have been tried.
- Most commonly seen in those who also have other neurological deficits
- Their lives are significantly compromised in all areas – cognitive function, academic performance, social development, and ability to live independently.
Epilepsy Management in Schools – What’s new for school nurses?

- Treatment alternatives
- Management of seizure emergencies
- In-school trainings and programs
Antiepileptic Medications

- carbamazepine
- ethosuximide
- gabapentin
- lamotrigine
- levetiracetam
- oxcarbazepine
- phenobarbital
- phenytoin
- topiramate
- valproic acid
- zonisamide

Vimpat® - lacosamide
Onfi® - clobazam
Banzel® - rufinamide

¹Pharmacy and Therapeutics 2010 July (35) 7:392-415.
Other treatment options

- Surgery – considered when there is an identified seizure focus
- Ketogenic diet – high fat and protein; initiated and maintained by a dietician
- Vagus Nerve Stimulation (VNS) - a programmable pulse generator implanted subcutaneously in left chest - can be triggered externally by a magnet
When to Call EMS - Epilepsy Foundation recommendations

- First time seizure
- Convulsive seizure lasting more than 5 minutes
- Repeated seizures without regaining consciousness
- Irregular breathing persists after seizure ends
- Student has diabetes or is pregnant
- Student has been injured
Seizure Emergencies

Most seizures will stop without intervention in < 3 minutes.

After 5 minutes, the person is at risk for:

- acute repetitive seizures (ARS) - an emergency characterized by rapidly repeating seizures or
- Status epilepticus (SE) - prolonged, continuous epileptic activity.
Rescue Medications

Prescribed for students who have seizure clusters or are at risk for seizure emergencies

May be given in different ways: oral, sublingual, buccal, rectal, intranasal

FDA-approved: Diazepam (rectal gel)

Off-label:
Lorazepam - oral, sublingual and buccal forms

Midazolam (nasal, sublingual or buccal) IM form being researched
Diastat Concerns

Still widely prescribed. Rectal administration and concerns about respiratory side effects led some state nurse practice acts and local school districts to regulate administration. KNOW your district’s guidelines!

If prescribed by a health care provider, regulations and impact on the student must be discussed with parents to come to a workable solution.

Resources:

http://www.diastat.com/
http://sspw.dpi.wi.gov/sspw_medtraining
Resources for Staff Training

- Questionaire for Parents
- Seizure Observation Record
- Seizure Action Plan
- Information about Diastat and other rescue medications

Excellent DVD can be used to train staff:
Seizures in School: Understanding and Assisting Students Who Have
Epilepsy Foundation
Contact Information

Heart of Wisconsin –

www.epilepsywisconsin.org
afaulks@epilepsywisconsin.org

Printed materials, staff trainings, school programs

- National Epilepsy Foundation –
  - www.efa.org
  - www.epilepsy.com
  - www.nichcy.org/disability/specific/epilepsy