

Student name \_\_\_\_\_

Treatment order date \_\_\_\_\_

Age \_\_\_\_\_ Weight \_\_\_\_\_

Treatment:

Diazepam rectal gel \_\_\_\_\_ mg rectally prn for:

- o seizure > \_\_\_\_\_ minutes--OR--for \_\_\_\_\_ or more seizures in \_\_\_\_\_ hours.

Use vagal nerve stimulator (VNS) magnet \_\_\_\_\_

Other \_\_\_\_\_

Call 911 if

- o Seizure does not stop by itself or with VNS within \_\_\_\_\_ minutes
- o Seizure does not stop within \_\_\_\_\_ minutes of giving diazepam rectal gel
- o Child does not start waking up within \_\_\_\_\_ minutes after seizure is over (no diazepam rectal gel given).
- o Child does not start waking up within \_\_\_\_\_ minutes after seizure is over (after diazepam rectal gel is given)

- Following a seizure:
- Child should rest in nurse's office
  - Child may return to class
  - Parents should be notified immediately
  - Parents should receive a note/copy of the seizure record sent home with the child

Physician/Nurse Practitioner/Physician Assistant Name (Please print)

\_\_\_\_\_

Signature/Date \_\_\_\_\_

License #/State \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Current medication(s) \_\_\_\_\_

Allergies \_\_\_\_\_

Type of seizure(s)	Description*	
<input type="checkbox"/> Absence	<ul style="list-style-type: none"><li>• Staring</li><li>• Eye blinking</li></ul>	<ul style="list-style-type: none"><li>• Loss of awareness</li><li>• Other _____</li></ul>
<input type="checkbox"/> Simple partial seizures	<ul style="list-style-type: none"><li>• Remains conscious</li><li>• Distorted sense of smell, hearing, sight</li></ul>	<ul style="list-style-type: none"><li>• Involuntary rhythmic jerking/twitching on one side</li><li>• Other _____</li></ul>
<input type="checkbox"/> Complex partial seizures	<ul style="list-style-type: none"><li>• Confused</li><li>• Not fully responsive/unresponsive</li></ul>	<ul style="list-style-type: none"><li>• May appear fearful</li><li>• Purposeless, repetitive movements</li><li>• Other _____</li></ul>
<input type="checkbox"/> Generalized tonic-clonic seizures	<ul style="list-style-type: none"><li>• Convulsions</li><li>• Stiffening</li><li>• Breathing may be shallow</li><li>• Lips or skin may have bluish color</li></ul>	<ul style="list-style-type: none"><li>• Unconsciousness</li><li>• Confusion, weariness, or belligerence when seizure ends</li><li>• Other _____</li></ul>

\*Student may experience some or all of the listed symptoms during a specific seizure.

Seizure usually lasts \_\_\_\_\_ minutes and returns to baseline in \_\_\_\_\_ minutes.

Treatment for seizure \_\_\_\_\_

Call parents under the following circumstances:

1. \_\_\_\_\_

2. \_\_\_\_\_

# Emergency Management of Seizures in the School Setting

Christine O'Dell, RN, MSN; Kathryn O'Hara, RN; Sarah Kiel, MSN, CRNP; and Kathleen McCullough, RN, MEd

**ABSTRACT:** Effective seizure management in the school setting is a critical issue for students with seizures, as well as their parents, classmates, and school personnel. The unpredictable nature of seizures and the potential outcomes of experiencing a seizure in school are sources of anxiety for students with seizures. The ability to respond appropriately to a seizure is of concern to parents and school personnel. Implementation of a seizure emergency treatment plan empowers school personnel to quickly treat the child. Diazepam rectal gel is commonly used in seizure emergency treatment plans. It is safe and effective in terminating seizures and reduces the time to treatment and the need for emergency department visits when used in the school setting, and can be administered by medical and delegated to trained nonmedical personnel. School nurses should be aware of the laws and professional recommendations that pertain to rectal medication administration in schools for optimal emergency seizure management.

**KEY WORDS:** emergency treatment plan, epilepsy, legal issues, medication administration, seizure

## INTRODUCTION

Epilepsy affects approximately 326,000 school-age children (through age 14) in the United States (Epilepsy Foundation of America, 2006). An estimated 67% of schools activate the emergency medical system each academic year, and 16% of these emergency calls are for students experiencing a seizure (Hazinski et al., 2004). School nurses and school personnel are charged with providing a safe and supportive learning environment for all students, while staying attuned to the needs of students with health care issues. Since seizures are unpredictable in nature, implementing a seizure emergency treatment plan in school will allow school nurses and trained personnel to effectively

treat a seizure quickly. School nurses must understand seizures and epilepsy, including epidemiology, risk factors, and prognosis, in order to successfully develop and implement a seizure emergency treatment plan that may also include the delegation and training of nonmedical staff. This article provides school nurses and other personnel with information about the etiology and epidemiology of seizures and epilepsy, seizure management practices in the school setting, rectal rescue medications available for seizure control, and legal issues affecting medication administration in the school.

## CLASSIFICATIONS OF SEIZURES AND EPILEPSY SYNDROMES

Seizures can be characterized in several different ways. They may be identified as either provoked or unprovoked. A provoked seizure, also referred to as an acute symptomatic seizure, is triggered by an underlying acute condition, such as infection, stroke, or head trauma. An unprovoked seizure occurs spontaneously (International League Against Epilepsy, 1993; Shneker & Fountain, 2003). Epilepsy is defined as two

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**Table 1.** Classification of Seizures

Partial	Generalized
Simple	Absence
Complex	Myoclonic
Secondary generalized	Clonic
	Tonic
	Tonic-clonic
	Atonic

Source: International Classification of Epileptic Seizures (1981).

or more unprovoked seizures occurring more than 24 hours apart (International League Against Epilepsy, 1993).

Seizures can also be classified in the context of a prior underlying neurological abnormality. Persons who have an underlying neurological condition that increases the risk of seizures, such as mental retardation or cerebral palsy, may experience remote symptomatic seizures, even if the abnormality is not directly associated with the seizure. Seizures that have an unknown cause are classified as cryptogenic, and seizures that are believed to be associated with a genetic component are called idiopathic (International League Against Epilepsy, 1989; International League Against Epilepsy, 1993; Shneker & Fountain, 2003).

The International Classification of Epileptic Seizures (1981) is a well-recognized classification system that categorizes seizure types into partial or generalized based on their origin in the brain. Generalized seizures involve the entire brain and may be further divided into six subtypes (Table 1). Partial seizures are localized in one area of the brain, but may eventually spread, becoming secondarily generalized.

Classification of epilepsy syndromes requires information concerning age at onset of seizures, family history, etiology, precipitating factors, electroencephalographic (EEG) pattern, seizure duration, and associated clinical features for classification (Table 2) (International League Against Epilepsy, 1989). There is a wide range in the types of epilepsy syndromes seen in school-age children. They can be mild with excellent control of seizures, such as in benign Rolandic epilepsy, or they can be very severe with intractable seizures, such as in Lennox-Gastaut syndrome (Table 3).

### EPIDEMIOLOGY

Hauser and Kurland (1975) conducted the most comprehensive study of the epidemiology of epilepsy to date using medical records from the Mayo Clinic in Rochester, Minnesota, that spanned a 30-year period. Review of records of long-term patients revealed a 0.56/1000 per year incidence of newly diagnosed epilepsy in children less than 20 years old between 1935 and 1967. Other large epidemiologic studies evaluating seizure frequency in certain populations throughout the world have consistently found that the overall

**Table 2.** Classification of Epileptic Syndromes

Localization-Related
Idiopathic
Benign rolandic epilepsy
Benign occipital epilepsy
Symptomatic
Syndromes based on localization or etiology
Frontal, temporal, parietal, occipital
Seizures characterized by specific modes of presentation
Chronic progressive epilepsy partialis continua of childhood
Cryptogenic
Generalized epilepsies and syndromes
Idiopathic, with age-related onset
Childhood absence
Juvenile absence
Juvenile myoclonic
Cryptogenic or symptomatic
Infantile spasms
Lennox-Gastaut syndrome
Symptomatic
Indeterminate epilepsies and syndromes
Special syndromes

Source: International League Against Epilepsy (1989).

risk of developing epilepsy during childhood and adolescence was 1% (Epilepsy Foundation of America, 2006).

### RISK FACTORS FOR DEVELOPING EPILEPSY

There are a variety of factors that increase a child's risk of developing childhood-onset epilepsy. Having a remote symptomatic (known prior insult) etiology, an abnormal EEG, being asleep at the time of the first seizure, or the presence of Todd's paresis (hemiparesis after a seizure lasting less than 24 hours) have been associated with an increased risk of developing child-

**Children who have experienced two or more seizures have a greater probability of experiencing further seizures.**

hood-onset epilepsy (Shinnar et al., 2000). Hauser, Aneggers, and Kurland (1993) noted that children with neurodevelopmental disorders such as mental retardation, cerebral palsy, and autism also have an increased risk of developing epilepsy. Children who have experienced two or more seizures have a greater

**Table 3.** Prognosis of Epilepsies

Type of Epilepsy	Remission Probability
Benign rolandic epilepsy	100%
Benign occipital epilepsy	100%
Typical absence epilepsy	70-80%
Juvenile-myoclonic epilepsy	80%
Lennox-Gastaut syndrome	5-10%

Sources: Stafstrom & Holmes, 1995; Markand, 2003; Shneker & Fountain, 2003.

probability of experiencing further seizures (Shinnar et al., 2000). A family history of epilepsy may also play a role in the development of epilepsy, as genetic risk factors have been suggested in many forms of epilepsy (Wakamoto, Hayashi, Nagao, Morimoto, & Kida, 2004). Children have been shown to have a 2–10% risk of developing epilepsy after experiencing a febrile seizure; major risk factors include complex febrile seizures, family history of epilepsy, and neurological impairment prior to febrile seizure (Shinnar & Glauser, 2002).

Children have been shown to have a 2–10% risk of developing epilepsy after experiencing a febrile seizure.

### EPILEPSY PROGNOSIS

The long-term prognosis for children with epilepsy is good. The majority will likely become seizure-free adults. According to the National Institutes of Health (2004), children with cryptogenic (no known cause) epilepsy have a 68–92% chance of becoming seizure-free within 20 years of diagnosis. However, approximately 20–30% of persons with epilepsy are medically intractable (continue to experience seizures) and refractory to treatment (regardless of AEDs) (Kwan & Brodie, 2000). The mortality rate of children with epilepsy is generally higher than that in the general pediatric population, potentially due to underlying abnormalities, accidents during a seizure, and sudden unexpected death in epilepsy (Callenbach et al., 2001).

The long-term prognosis for children with epilepsy is good. The majority will likely become seizure-free adults.

Several factors are known to be associated with a poor prognosis (Kwan & Brodie, 2000). Onset of epilepsy before one year of age is associated with lower chance of remission, often due to an underlying neurologic abnormality. Most symptomatic epilepsies have a less favorable long-term outcome than those with cryptogenic etiologies. The more severe the neurological insult, the less likely a spontaneous remission will occur.

The relationship between seizure type and remission can be debated. Some evidence suggests that having multiple seizure types indicates a worse prognosis than does having a single seizure type (Brorson & Wranne, 1987). For some well-defined syndromes, the prognosis is fairly well known (Table 3).

### SEIZURE EMERGENCY TREATMENT PLAN

A seizure emergency treatment plan in school allows for the efficient management of seizures and potentially decreases emergency department visits. Efficient management also reduces seizure-related complications, such as status epilepticus (seizure activity lasting longer than 30 minutes or a series of seizures

A seizure emergency treatment plan in school allows for the efficient management of seizures and potentially decreases emergency department visits.

lasting longer than 30 minutes without full recovery of consciousness between seizures) and its associated morbidity and mortality (Sirven & Waterhouse, 2003; Pellock, Marmarou, & DeLorenzo, 2004). A seizure emergency treatment plan that is individualized identifies the unique needs of the student and prepares the family and school personnel to confidently anticipate and respond to seizures. The goal of this plan is to

**Table 4.** Considerations for Emergency Seizure Treatment Plan Formulation

#### **Request that the treating physician provide a clear protocol**

- Include signature of the student's parent/guardian
- Use advance planning to ensure timely and appropriate use of diazepam rectal gel
- Include names and signatures of those who can administer diazepam rectal gel
- Involve all personnel that may be involved with identifying seizure activity and administering medication

#### **Ensure familiarity with the indications for use (prolonged or recurrent seizures) and the time frame for administration**

- Secure a locked, well-situated storage location for medication

#### **Provide proper training for adults appointed as health care designees**

- Refer to written protocol
- Document training
- Request training by the treating physician or nurse or by the local Epilepsy Foundation

#### **Obtain specific information regarding seizures from student's family**

- Provoking factors
- Medications and adverse effects
- Detailed seizure descriptions

Student name \_\_\_\_\_

Treatment order date \_\_\_\_\_

Age \_\_\_\_\_ Weight \_\_\_\_\_

Treatment:

Diazepam rectal gel \_\_\_\_\_ mg rectally prn for:

- o seizure > \_\_\_\_\_ minutes--OR--for \_\_\_\_\_ or more seizures in \_\_\_\_\_ hours.

Use vagal nerve stimulator (VNS) magnet \_\_\_\_\_

Other \_\_\_\_\_

Call 911 if

- o Seizure does not stop by itself or with VNS within \_\_\_\_\_ minutes
- o Seizure does not stop within \_\_\_\_\_ minutes of giving diazepam rectal gel
- o Child does not start waking up within \_\_\_\_\_ minutes after seizure is over (no diazepam rectal gel given).
- o Child does not start waking up within \_\_\_\_\_ minutes after seizure is over (after diazepam rectal gel is given)

- Following a seizure:
- Child should rest in nurse's office
  - Child may return to class
  - Parents should be notified immediately
  - Parents should receive a note/copy of the seizure record sent home with the child

Physician/Nurse Practitioner/Physician Assistant Name (Please print) \_\_\_\_\_

Signature/Date \_\_\_\_\_

License #/State \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Current medication(s) \_\_\_\_\_

Allergies \_\_\_\_\_

Type of seizure(s)	Description*
<input type="checkbox"/> Absence	<ul style="list-style-type: none"><li>• Staring</li><li>• Eye blinking</li><li>• Loss of awareness</li><li>• Other _____</li></ul>
<input type="checkbox"/> Simple partial seizures	<ul style="list-style-type: none"><li>• Remains conscious</li><li>• Distorted sense of smell, hearing, sight</li><li>• Involuntary rhythmic jerking/twitching on one side</li><li>• Other _____</li></ul>
<input type="checkbox"/> Complex partial seizures	<ul style="list-style-type: none"><li>• Confused</li><li>• Not fully responsive/unresponsive</li><li>• May appear fearful</li><li>• Purposeless, repetitive movements</li><li>• Other _____</li></ul>
<input type="checkbox"/> Generalized tonic-clonic seizures	<ul style="list-style-type: none"><li>• Convulsions</li><li>• Stiffening</li><li>• Breathing may be shallow</li><li>• Lips or skin may have bluish color</li><li>• Unconsciousness</li><li>• Confusion, weariness, or belligerence when seizure ends</li><li>• Other _____</li></ul>

\*Student may experience some or all of the listed symptoms during a specific seizure.  
Seizure usually lasts \_\_\_\_\_ minutes and returns to baseline in \_\_\_\_\_ minutes.  
Treatment for seizure \_\_\_\_\_

Call parents under the following circumstances:

1. \_\_\_\_\_
2. \_\_\_\_\_

*Developed in collaboration with Christine O' Dell, RN, MSN, and Shlomo Shinnar, MD, PhD, of the Comprehensive Epilepsy Management Center, Montefiore Medical Center, Bronx, New York*

**Figure 1.** Seizure Emergency Treatment Plan

provide safe treatment for the child, prevent classroom disruption, and return the student to the classroom as quickly as possible.

Identifying the key components of an individualized seizure emergency treatment plan is the first step toward effective seizure management in school-age children (Table 4). A seizure emergency treatment plan template is illustrated in Figure 1. The first section of the plan contains identifying data. The next section of the plan delineates the student's treatment options in the event of a seizure, what to do following the seizure, and the care provider's information.

A crucial component of a seizure emergency treatment plan is the student's seizure presentation and history, particularly the seizure semiology (i.e., clinical manifestation), including the usual seizure duration and frequency. Information about the seizures helps school personnel to recognize and manage seizures appropriately and to differentiate seizures that are life-threatening from those that are not. The information presented in the seizure emergency treatment plan should be reviewed annually or on an as-needed basis with the student, parent/guardian, medical provider, and school nurse. This will allow for plan modifications based on changes in the student's medical requirements or treatment regimen.

### Delegation

The school nurse plays an integral role in the training and supervision of all nonmedical school personnel who are delegated responsibility for implementing any part of the seizure emergency treatment plan. Both the local school board and the State Board of Nursing help define the limitations on delegation to school personnel. Participants in the education and training of school personnel can include the school nurse, a physician, a nurse practitioner, or a representative of the local Epilepsy Foundation. All school personnel should be familiar with basic first aid for seizures. The local Epilepsy Foundation can provide classes on seizures and epilepsy to school personnel as well as to students.

The school nurse or delegated personnel must be able to: (a) recognize seizure activity and patterns, (b) administer medication as ordered by the medical provider, and (c) determine when to call emergency med-

ical services for assistance. The individualized seizure emergency treatment plan should include the names of all designees who can administer diazepam rectal gel to that student. School personnel who have received training in the student's seizure emergency treatment plan, such as a teacher, school aide, bus driver, or cafeteria worker, should be able to effectively manage seizure emergencies when the school nurse is not immediately available.

### RECTAL DIAZEPAM GEL

Reducing the time between seizure onset and medical treatment will significantly improve a student's outcome (Alldredge, Wall, & Ferriero, 1995). Appropriate first aid and implementation of the emergency treatment plan should begin at the onset of seizures. Medical intervention may involve administering rectal medication if the child experiences prolonged or repetitive seizures. Diazepam rectal gel is currently the only U.S. Food and Drug Administration (FDA) approved portable rescue medication that can be administered by nonmedical caregivers outside the hospital setting. It is a gel formulation of diazepam intended for rectal administration in the management of selected patients with refractory epilepsy who are on stable regimens of antiepileptic drugs but require intermittent use of diazepam to control increased seizure activity (Valeant Pharmaceuticals International, 2005). Where permitted, the option of training nonmedical personnel to administer diazepam rectal gel is advantageous in a school setting when a school nurse is not immediately available during a seizure episode. Major advantages of this medication are safety, efficacy, and the potential for the student to be able to return to the classroom following treatment (Dreifuss et al., 1998; Pellock, 2004).

### Administering Diazepam Rectal Gel in School

Student safety is always the first priority when managing seizures. Steps to ensure safety are the identification of seizure activity, the provision of first aid, and the timely administration of rescue medication if needed. Administration of a rectal medication presents a unique challenge in the school setting. A medication kit (Table 5) prepared in advance will assist in timely and private administration of diazepam rectal gel. A protocol for administration of rectal medication is helpful (Table 6).

**Table 5.** Contents of the Medication Kit (Locked Box)

---

Small blanket (or other material suitable to cover student)
Underpad
Two pairs of gloves
Package of wipes
Small plastic garbage bag
Medication
Medication record form
Pen
Seizure emergency treatment plan/information

---

**Table 6.** Protocol for Administration of Rectal Medication

---

Notify the nurse or designee of seizure activity
Assess the student's condition
Provide as much privacy and discretion as possible during medication administration
Conduct postadministration safety assessment
Notify the parent/guardian
Document the seizure event

---

**Administration of a rectal medication presents a unique challenge in the school setting. A medication kit prepared in advance will assist in timely and private administration of diazepam rectal gel.**

Once diazepam rectal gel is administered, the role of the school nurse or designated personnel includes monitoring vital signs, seizure activity, potential adverse events, and postictal conditions and communicating with a parent/guardian and the treating physician, as outlined in the seizure emergency treatment plan. The observation time for each student will depend on seizure history and recovery time. After a seizure, many students may require 30 minutes or more of rest before resuming normal activities.

The use of rectally administered medication in schools can raise concerns regarding potentially embarrassing or awkward situations for the student, particularly older students, classmates, and school personnel. The appropriate administration of emergency seizure care in schools is vitally dependent on maintaining the privacy and self-esteem of the student. Ultimately, the preparation, education, and sensitivity of the school nurse, other school personnel, students, and parents/guardians are needed for the optimal management of seizures in school. With the consent of the student, education regarding these issues would gain classmates' understanding and cooperation at the time of the emergency and help prevent inappropriate comments or actions stemming from lack of knowledge.

### **Safety and Effectiveness of Diazepam Rectal Gel**

Diazepam is a benzodiazepine derivative that produces calmness by acting on parts of the brain, including the limbic system. Clinical studies have shown the rectal gel formulation to be safe and effective for aborting seizure activity (Cereghino et al., 1998; Dreifuss et al., 1998; Pellock, 2004). For example, in a trial of pediatric patients with prolonged seizures, diazepam rectal gel effectively stopped 85% of seizures within 5 minutes of administration (Garr, Appleton, Robson, & Molyneux, 1999). In a randomized, parallel, double-blind study in patients with acute repetitive seizures (defined as an episode of multiple seizures within a 12-hour observation period that was readily recognizable by the patient's caregivers and distinguishable from the patient's other seizures), diazepam-treated patients experienced fewer seizures (median, 0.0) compared to placebo-treated patients (median, 2.0;  $p = .029$ ). Furthermore, more diazepam-treated patients (55%) than placebo-treated patients (34%;  $p = .031$ ) were seizure free during the same observation period (Cereghino et al., 1998). Other studies have shown that diazepam rectal gel decreases the

need for emergency department visits, resulting in reduced medical care costs and increased patient confidence that seizures can be controlled with minimal disruption of daily activities (O'Dell et al., 2005; Ritter, Frost, Karney, & Hoskin, 2000; Kriel et al., 1991). In one clinical study, only 18% of children who were administered diazepam rectal gel as a seizure rescue medication in a nonmedical setting required further medical assistance (O'Dell et al., 2005).

**Diazepam rectal gel is quickly absorbed through the mucous membranes of the rectum; therefore, it can be given during a convulsive seizure without the risk of aspiration associated with buccal, oral, and nasal medications. It comes in prepackaged, premeasured syringes that reduce the risk of inaccurate dosing . . .**

Diazepam rectal gel is quickly absorbed through the mucous membranes of the rectum; therefore, it can be given during a convulsive seizure without the risk of aspiration associated with buccal, oral, and nasal medications. It comes in prepackaged, premeasured syringes that reduce the risk of inaccurate dosing, do not require refrigeration, and have a 3-year shelf life.

The adverse effects (AE) associated with diazepam rectal gel use tend to be minimal, transient, self-limiting, and typically do not require additional treatment, with the most common AE being somnolence. In clinical trials, somnolence was reported for 17–33% of individuals with seizures who were treated with diazepam rectal gel (Dreifuss et al., 1998; Mitchell et al., 1999). This AE is also a common postictal complication; approximately 50% of reported incidents of somnolence were determined to be postictal effects rather than side effects of diazepam rectal gel (Mitchell et al., 1999). Published literature reports have documented the difficulty in distinguishing between drug-related and normal postictal somnolence/sedation after the administration of diazepam rectal gel (Mitchell et al., 1999; Pellock, 2004).

**In clinical trials evaluating the safety of diazepam rectal gel, no occurrences of respiratory depression were reported.**

In clinical trials evaluating the safety of diazepam rectal gel, no occurrences of respiratory depression were reported (Cereghino et al., 1998; Dreifuss et al., 1998; Pellock, 2004). In addition, safety was maintained at doses administered up to 180% of the recommended dosage (Pellock, 2004). As of February 2003, with over 1 million doses prescribed, only 63

spontaneously reported adverse events have been reported. These included convulsion/drug ineffective, gastrointestinal related (e.g., vomiting, constipation, and diarrhea), emotional/cognitive related (e.g., disorientation, confusion, and memory impairment), respiratory related (e.g., hypoventilation, apnea), and somnolence.

Postictal respiratory depression is common following a prolonged seizure. In one study, twice as many untreated patients experiencing prolonged seizures (22.5%) reported respiratory difficulties when compared to seizing patients treated with intravenous diazepam or lorazepam (10.4%) (Allredge et al., 2001). Respiratory depression, an AE of intravenous diazepam, has been associated with a rapid spike in blood concentration; however, the rapid spike in blood concentration does not occur when diazepam is administered rectally (Cloyd, Lalonde, Beniak, & Novack, 1998; Pellock, 2004).

### **MEDICATION ADMINISTRATION IN SCHOOL: LAWS AND PROFESSIONAL RECOMMENDATIONS**

For effective in-school management, school nurses must be informed about existing laws and professional recommendations pertaining to the administration of medication in the school setting, particularly those regulating the administration of rectal seizure rescue medication by school personnel. For seizure medication to be administered in school, the medical provider must submit specific written instructions to the school for the student's treatment during a seizure emergency, and the parent/guardian must agree with those medical orders. A medical consent-to-treat form for each student with seizures should be completed, signed by the student and a parent/guardian, and submitted to the school. In some situations, if the parent/guardian provides the school nurse with the student's seizure medication and a copy of the medical orders, it is implied that parental consent has been given for the in-school treatment of a seizure emergency. Signed consent must also be obtained from the student and a parent/guardian before the school nurse can provide student information to school personnel and classmates. This is a requirement under the Family Educational Rights and Privacy Act (U.S. Department of Education, 2005).

There are both federal and state laws that govern the administration of medication in schools. As outlined in the Individuals with Disabilities Education Act of 1975 and the Individuals with Disabilities Education Improvement Act of 2004, the federal government requires public schools to make free and appropriate public education available to all children with special needs. Although not all children with seizure disorders have physical disabilities that require adaptive services, many do need the administration of

medication as a "required related service" that falls under this federal law.

The Nurse Practice Act (NPA) is a set of laws for each state or territory that protects the public by regulating who can be a nurse and what a nurse can do. The NPA defines the scope of practice for nurses based on the level and content of their education. Each state will have an NPA for RNs and one for LPNs or LVNs. In some states, delegation of rectal medication administration to other school personnel is not permitted.

Both the National Association of School Nurses (NASN) and the American Academy of Pediatrics (AAP) have position statements regarding the dispensing of rectal medication in school. The NASN (2003) position states that "the administration of rectal gel or rectal suppository medication for the control of seizures in students at school and during school-related activities [is] the function of the registered school nurse. The delegation of such procedures, if legally allowed, should be determined by the school nurse and follow rules and regulations within the state Nurse Practice Act, other applicable state laws, and school district policy."

The AAP (2003) recognizes that some emergency medications are not given orally and may require training to administer. The policy statement in the Guidelines for Administering Medications in School states that because these episodes may occur at times when a school nurse is not available, trained designated school personnel should be available. The AAP recommends that liability coverage for the administration of emergency medication be provided to all staff, including nurses, teachers, athletic staff, principals, superintendents, and members of the school board.

### **IMPLICATIONS FOR SCHOOL NURSING PRACTICE**

The availability of a well-organized seizure emergency treatment plan permits effective management of seizure emergencies at school and decreases the potential for seizure-related complications. An individualized treatment plan provides confidence to school nurses and other trained personnel while minimizing the adverse effects of seizures and potentially reducing the need for emergency hospital visits. An effective and safe seizure rescue medication is a key component in treating prolonged and repetitive seizures. Diazepam rectal gel can be administered by trained non-medical personnel, which may be necessary if a seizure episode occurs when a school nurse is unavailable. Diazepam rectal gel provides prompt, safe, and effective treatment of seizure emergencies in the school setting.

Due to the realities associated with seizure emergencies, school nurse availability, constraints set forth by governing institutions, and the administration of rectal medications, it is critical that school nurses be

informed about legal restrictions and professional recommendations regarding medication administration in school, particularly for the management of seizures. Development of detailed protocols and a seizure emergency treatment plan, as well as background knowledge of seizure and syndrome classification and presentation, will enable school nurses to give the best possible treatment to students with seizures in the school.

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