Rescue Medication and Seizure Emergency Planning in Education Settings

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Objectives

- By the end of this talk you should:
  - Know what a seizure emergency plan is, why these plans are created, and what they should contain.
  - Know the basics of how to create an effective school seizure action plan.
  - Be familiar with various seizure rescue medications, their side effects, and the practical considerations that come into play when prescribing them for the school setting.
  - Be familiar with what an Individualized Education Plan (IEP) and 504 plan is and how to utilize them when creating seizure action plans.
  - Be able to direct parents to community resources to assist them should they encounter problems accessing appropriate medical care in the school setting.
Epilepsy in Schools

- The lifetime prevalence of epilepsy in US children is nearly 1%, making it one of the most common neurologic diagnoses.

- A significant proportion of children with epilepsy never achieve complete seizure control.

- Due to the Individuals with Disabilities Education Act (1990) and the Individuals with Disabilities Improvement Act (2004), the majority of children and adolescents with epilepsy attend some form of school outside the home.
Seizure Action Plans

- Ideally, all children with epilepsy should have a plan in place that reflects advanced thought and collaboration between the medical home, the school, and the family.

- Seizure action plans can provide medical orders or they may simply be instructions on how to care for a child during and after a seizure. They may include information on:
  - Seizure appearance/type
  - Seizure first aid
  - Who to contact in the event of a seizure and when to call 911
  - Seizure rescue medications
How to Create an Effective School Seizure Action Plan

Step 1:
Have the family talk directly with the school and complete the form as they talk.

“If my child has a seizure at school, who will be caring for him/her?”

**TIP:** Many school systems have their own forms. You can provide the family with a generic form but notify them that the school may have its own.
Seizure Action Plans

- A seizure action plan should be used to facilitate a discussion between the school and the family.

- A direct conversation between parents and the school:
  - Allows parents to learn what resources the school has available on-site and in the area
    - RN? LPN? UAP (Unlicensed Assistive Personnel)?
  - Allows the family to learn about school system policies
    - Examples:
      - Can rescue medication be given in that school district?
      - Does 911 have to be called after rescue medication is given?

**TIP:** It is helpful to familiarize yourself with the local and state regulations and local school limitations and resources for treating students with seizures. They vary WIDELY.
Seizure Action Plans

- Finally, a direct conversation between parents and the school:
  - Allows the school to get the most accurate, up-to-date information, including:
    - *Seizure appearance*—The school gets a first-hand account and description of seizures from parents who have actually witnessed the seizures, not a vague, general description from a neurologist.
    - *Practical information*—Who to contact first, best telephone numbers, which hospital the parents would prefer their child be transported to, if necessary.
How to Create an Effective School Seizure Action Plan

Step 2: If rescue medication is desired and can be administered in the child’s educational setting, select the best option.

**TIP**: Best option = least restrictive for the child in his/her environment while ensuring his/her safety.
Seizure Rescue Medication Options
# Rectal Diazepam Gel

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dose comes a in preloaded and premeasured syringe from the pharmacy (less room for user error and more convenient)</td>
<td>Modesty is compromised during administration (patient must be partially undressed)</td>
</tr>
<tr>
<td>Portable (does not need to be kept refrigerated)</td>
<td>Administration may be viewed as invasive</td>
</tr>
<tr>
<td>Useful when oral administration of rescue medication is contraindicated (excessive secretions, vomiting, etc.)</td>
<td>Caregivers may not be comfortable administering rectal medication</td>
</tr>
</tbody>
</table>
# Lorazepam Oral Solution 2mg/mL

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered into cheek pocket (buccally), which many caregivers find preferable to rectally administered medications</td>
<td>Must be drawn up in a syringe prior to administration</td>
</tr>
<tr>
<td>Modesty is preserved during administration</td>
<td>Must be kept refrigerated</td>
</tr>
<tr>
<td></td>
<td>UAP typically cannot administer if it has not been dispensed in a premeasured syringe</td>
</tr>
<tr>
<td></td>
<td>Contraindicated if patient has excessive secretions or is vomiting</td>
</tr>
</tbody>
</table>
# Midazolam

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 5mg/mL intravenous form can be given intranasally via an atomizer</td>
<td>- Intranasal administration is not yet approved by the US Food and Drug Administration</td>
</tr>
<tr>
<td>- Administration is relatively easy and modesty is preserved</td>
<td>- Atomizer is not available at all pharmacies</td>
</tr>
<tr>
<td></td>
<td>- UAP is typically not asked to administer this medicine unless it has been dispensed in a premeasured syringe</td>
</tr>
<tr>
<td></td>
<td>- Because this is a relatively new route of administration, additional training of school personnel may be needed</td>
</tr>
<tr>
<td>- A 2mg/mL oral syrup can be given buccally</td>
<td>- UAP is typically not asked to administer this medicine unless it has been dispensed in a premeasured syringe</td>
</tr>
<tr>
<td></td>
<td>- Contraindicated if patient has excessive secretions or is vomiting</td>
</tr>
</tbody>
</table>
**Clonazepam Orally Disintegrating Tablet**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comes as a prepackaged, ready-to-administer, orally disintegrating tablet</td>
<td>Available dosages may not be appropriate for smaller children</td>
</tr>
<tr>
<td></td>
<td>Patient may need to be positioned in a specific way to avoid injury during administration if his or her teeth are clenched</td>
</tr>
</tbody>
</table>
Seizure Rescue Medications

- Adverse effects
  - Decreased respirations
  - Oversedation
  - Cardiopulmonary instability

*** These effects can vary in severity depending on the dose of seizure rescue medication, duration of the seizure, and interaction with other medications. ***

For this reason, personnel trained in cardiopulmonary resuscitation should be available if seizure rescue medication is prescribed.
Seizure Rescue Medications
Why Are They Necessary?

- It is more difficult to stop a prolonged seizure than a brief seizure.
- The longer the seizure, the longer the recovery period.
- Rescue medication prevents progression to status epilepticus, unnecessary transport to emergency rooms, and the cost of escalated care.
Ordering Seizure Rescue Medications

STANDARD ORDER: Give for a seizure lasting >5 minutes.

- Can also be given for seizure clusters or for 2+ seizures without recovery in between
- When to administer rescue medication can vary based upon patient history.
  - Timing of administration can and should be customized based on the child’s seizure duration, severity, and tendency to go into status epilepticus.
Practical Considerations

- Availability of school nurses
  - School nurses are not present in every school.
  - In some school systems, rescue medication may only be given by licensed professionals, necessitating the hiring of a 1:1 nurse, which is expensive and overly restrictive.

- Transportation
  - Rescue medication may not be able to be given on school buses.
Practical Considerations

- Field trips
  - Nurses may not be available to attend field trips with the child.
  - If a nurse is not available, parents may have to go, particularly if rescue medication is prescribed.

- Before and after school activities
  - Coaches or parent volunteers may have to administer medication and be trained in seizure first aid.
How to Create an Effective School Seizure Action Plan

Step 3:
Determine when emergency medical services (EMS) should be activated and document when this should occur in the seizure action plan.

**TIP:** This will change depending on the needs of the child, the resources available in the child’s educational setting, and the family’s wishes.
How to Create an Effective School Seizure Action Plan

Step 4: Encourage parents to be an advocate for their child.

TIP: When possible, have the parents ask the school to include the child’s seizure emergency plan in the IEP or 504 accommodation plan. This will make it more “visible” and ensure that teachers and other adults know that the child has epilepsy, as well as what to do in the event of a seizure.
What are IEPs and 504 Plans?

- **IEP – Individualized Education Plan**
  - A plan implemented by a school for students with learning disabilities, necessitating special education and related services to make educational progress

- **504 plan**
  - A plan that provides students with disabilities that do not qualify for special education or related services with accommodations or modifications as well as some services
  - Not all children with epilepsy qualify for a 504 plan.
IEPs and 504 Plans

- The IEP can include accommodations for before and after school activities.
- An order for administration of rescue medication can be incorporated into a child’s IEP or 504 accommodation plan. However, it does not guarantee that administration will be safe and/or realistic (eg, on the school bus).

Take Home Message: Incorporating the seizure action plan into the school accommodation plan will help ensure that adults in the child’s education setting are aware of the child’s epilepsy diagnosis and what to do in the event of a seizure.
Resources for Parents

- Center for Parent Information and Resources
  www.parentcenterhub.org/find-your-center

- Family-to-Family Heath Information Centers (F2F HICs)
  www.familyvoices.org/page?id=0034

- US Department of Education – Office for Civil Rights
  www2.ed.gov/about/offices/list/ocr/aboutocr.html

- Jeanne A Carpenter Epilepsy Legal Defense Fund
  www.epilepsy.com/get-help/legal-issues
Education for Schools

- Offer to educate school personnel about seizure management, if possible.
- Refer school personnel to educational programs offered by national or local organizations with appropriate expertise (eg, Epilepsy Foundation).
Legal Considerations

- It is recommended that providers who care for children with epilepsy be aware of local laws regarding administration of seizure rescue medication by school personnel and their liability for errors.

- In some jurisdictions, unlicensed volunteers may bear legal responsibility in the case of a bad outcome, including tort action.

- An action plan that contains instructions on seizure management for UAP may ease fears and ensure provision of appropriate care.
Summary

How to Create an Effective Seizure Action Plan

Step 1: Have the family talk directly with the school to construct the basis of the plan.

Step 2: Select the best rescue medication for the child, if appropriate.

Step 3: Determine and document when EMS should be activated.

Step 4: Encourage parents to advocate for their children.
References


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