Management of Anaphylaxis in Schools

MICHIGAN ASSOCIATION OF SCHOOL NURSES MANAGEMENT OF ANAPHYLAXIS IN SCHOOLS

MICHIGAN SCHOOL NURSE GUIDELINES AND RESOURCES

Original Date of Issue: 2016
Foreword

These guidelines contain recommendations for current best practices for the health service topic addressed. They have been reviewed by the School Nurse Practice Subcommittee of the Michigan Statewide School Nurse Task Force as a means to provide consistent and safe care to the students. Specific laws and regulations that direct school nursing practice or other health services are identified in the guidelines. There is no guarantee that the use of guidance in this document will lead to any particular result or outcome. The information in this document was researched in January, 2016.

Purpose

This document will provide guidelines and resources for the prevention and management of anaphylaxis in schools.

Overview

The American Academy of Allergy, Asthma & Immunology (2015) defines anaphylaxis as a serious allergic reaction that may cause death. Symptoms of anaphylaxis may include:

- Wheezing, shortness of breath, throat tightness, cough, hoarse voice, chest pain/tightness, trouble swallowing, itchy mouth/throat, nasal stuffiness/congestion.
- Pale/blue color, low pulse, dizziness, lightheadedness/passing out, low blood pressure, shock, loss of consciousness.
- Hives, swelling, itch, warmth, redness, rash.
- Nausea, pain/cramps, vomiting, diarrhea.
- Anxiety, feeling of impending doom, itchy/red/watery eyes, headache, cramping of the uterus.

The most dangerous symptoms are low blood pressure, breathing difficulty and loss of consciousness, all of which can be fatal. Epinephrine is the treatment of choice for anaphylaxis (Lieberman et al., 2015).

Across all age groups, foods are the most common cause of anaphylaxis, followed by medications. The most common foods that trigger anaphylaxis are peanuts, tree nuts, fish, milk, eggs and shellfish but any food can elicit an anaphylactic response. Other triggers, including insect stings, latex and exercise may result in anaphylaxis and in some cases the causal agent is never determined (idiopathic). Risk factors for food induced anaphylaxis include (1) adolescents, (2) individuals with a history of reaction, (3) individuals allergic to peanuts or tree nuts, (4) individuals with a history of asthma (Lieberman et al., 2015).

Legal Framework for Managing Anaphylaxis in Schools

The Epinephrine Auto-Injector Public Act 186 and 187 require that each Michigan public school have at least two epinephrine auto-injectors in addition to requiring school boards to develop policies based on updated MDE and DHHS medication guidelines; provide Registered Nurse directed training; attempt to obtain funding and annually report to the Michigan Department of Education about epinephrine auto-injector usage.

Public Act 221 of 215 allows voluntary stocking of epinephrine auto-injectors in nonpublic schools. Public Act 221 describes training; medication storage, maintenance and oversight; immunity and
reporting for the epinephrine auto-injector. PA 12 of 2014 requires schools to adopt and implement a cardiac response plan.

Federal law protects students with allergies attending school.

**Federal Law**

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<thead>
<tr>
<th>Law</th>
<th>Brief Description</th>
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<tbody>
<tr>
<td>Americans with Disabilities Act of 1990 (ADA)</td>
<td>Disability discrimination prohibited.</td>
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<tr>
<td>Section 504, Rehabilitation Act of 1973</td>
<td>Protects the rights of children with special health-care needs (CSHCN) by providing related services, including health services, to those not eligible for special education.</td>
</tr>
<tr>
<td>Americans with Disabilities Act of 1990 (ADA)</td>
<td>Prohibits discrimination on basis of disability.</td>
</tr>
<tr>
<td>34 CFR Part 300 Individuals with Disabilities Act of 1997 (IDEA)</td>
<td>Guarantees access to education and related services to assist children with disabilities benefit from special education. Reauthorization of 2004, Sec. 602 (26) list school nurse services as a related service.</td>
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<tr>
<td><a href="http://www.cdc.gov/healthyyouth/foodallergies/pdf/13_243135_A_Food_Allergy_Web_508.pdf">http://www.cdc.gov/healthyyouth/foodallergies/pdf/13_243135_A_Food_Allergy_Web_508.pdf</a></td>
<td>Voluntary guidelines to manage the risk of food allergy and anaphylaxis in schools and early childhood education programs.</td>
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**Michigan Law**

<table>
<thead>
<tr>
<th>Law</th>
<th>Brief Description</th>
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<tr>
<td>PA 186 of 2014</td>
<td>Addresses stock epinephrine in schools. A prescriber may issue a prescription for and a dispensing prescriber or pharmacist may dispense an auto-injector epinephrine to a school board for meeting the requirements of section 1179a of revised school code, 1976, PA 451, MCL 380.1179a.</td>
</tr>
<tr>
<td>PA 187 of 2014</td>
<td>Requires each Michigan public school have at least two Epinephrine auto-injectors in addition to policies based on</td>
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School Nurse’s Role

The National Association of School Nurses (NASN), 2012) designates the school nurse as the leader in coordinating health services in the school setting. Specifically, for allergies and anaphylaxis, NASN states that safe and effective management requires a collaborative and multidisciplinary approach.

The school nurse coordinates care for students with known allergies and unknown allergies to provide a safe school environment. This includes supporting partnerships between school staff, parents and providers. It involves communicating with school boards and school administrators to ensure that policies and a comprehensive plan are in place to address the management of allergic reactions consistent with federal law, state law and nurse practice standards of care.

Recommendations for Practice

NASN provides numerous resources for school nurses to ensure a safe school environment for students with known and unknown allergies (NASN, 2014). In Michigan, best practice is influenced by the extent of school nurse coverage which varies across the state from having no nurses to having at least one nurse in a school building. Recommendations include:

1. Developing a system for accessing; stocking; storing; determining appropriate dosage and monitoring expiration dates for the epinephrine auto-injectors as well as documenting usage and reporting usage to parent/guardian (as soon as possible) and MDE (annually). The system should also include plans for bus transportation, athletics, before and/or after school programs, school lock downs and field trips.
2. Providing a standardized training format (PowerPoint, handouts including the protocol for anaphylaxis) for Unlicensed Assistive Personnel (Michigan Association of School Nurses
provides resources on their website). Consider different levels of training for school staff subgroups: all employees, substitute teachers, emergency responders, and staff having direct contact with students with known allergies and prescribed medications.

3. Training for school staff to recognize and treat anaphylaxis should occur at least once a year and refresher training as needed. Documentation of the training course successfully completed by employees should be maintained. Training plans need to include bus drivers, substitute teachers, athletic staff, before and/or after school programs and any staff that attend field trips.

4. Identifying all students in the school with allergies. Share information with staff as needed, following FERPA guidelines (Centers for Disease Control and Prevention (CDC), 2013).

5. Providing information, resources and support to students and caregivers, referring patients who do not have access to a provider to health care services in the community (CDC, 2013).

6. Developing Individualized Health Care Plans and Emergency Care Plans (ECP) for students as needed (CDC, 2013). Ensure that these are easily accessible to delegated staff in case of an emergency. School nurse should monitor the ECP on a regular basis and update/modify plan as needed (CDC, 2013).

7. Assess whether students can reliably carry and use their own epinephrine auto-injector. When appropriate, encourage self-directed care. For students who have permission to carry and use their own Epinephrine, regularly assess their ability to perform such tasks (CDC, 2013)

8. Notifying the local Emergency Medical System (EMS) as soon as a severe allergy is recognized along with administering the epinephrine auto-injector.


10. Develop a post event debriefing protocol for allergen exposures and/or rescue medication administration. This can help identify ways to prevent future emergencies and also improve emergency response.

11. Help students who incurred a food allergy emergency to transition back to school (CDC, 2013).

Red Flags for Managing Anaphylaxis in the School Setting

1. School fatalities have been associated with delayed administration of epinephrine (Sicherer and Mahr, 2010).

2. 24% of cases of anaphylaxis occur in children whose allergy was not previously diagnosed (McIntyre, Sheetz, Carroll & Young, 2005).

3. Vomiting or gastrointestinal symptoms can be the first presenting sign in younger children.

4. Anaphylaxis can occur without skin symptoms (hives or angioedema) and symptoms can present independently from each other. School staff need to intervene before the child has “respiratory symptoms” (Lieberman et al., 2015).

5. Epinephrine administration requires immediate activation of Emergency Medical Services. Biphasic or rebound reactions can occur hours after the initial reaction without further exposure (Lieberman et al., 2015).
References


### Resources


Food Allergy and Research Education (FARE), (2016). http://www.foodallergy.org/
