Food Allergy Management in the School Setting
Clinical Conversations for the School Nurse

Food Allergy Management in the School Setting

Introduction

The National Association of School Nurses, in the position document, *Allergy/Anaphylaxis Management in the School Setting*, states:

> It is the position of the National Association of School Nurses (NASN) that the safe and effective management of allergies and anaphylaxis in schools requires a collaborative, multidisciplinary team approach. The registered professional school nurse, is the leader in a comprehensive management approach which includes planning and coordination of care, educating staff, providing a safe environment, and ensuring prompt emergency response should exposure to a life-threatening allergen occur.

As the school nurse assumes this vital leadership role in food allergy management in the school setting, questions and concerns can arise. As school nurses often practice in isolated situations, there is value in pursuing discussions or “clinical conversations” with colleagues in the school health profession. This guide will assist the school nurse in leading a meeting or workshop that is centered on recently published information related to food allergy management.

This guide has been developed to provide the school nurse with guided questions related to articles that have been recently published in school nursing literature. The following pages will provide the school nurse with information on how to use the articles to guide nursing conversations as well as facilitate a directed learning experience with fellow school nurses.

Our position document concludes with the following:

> The school nurse is the key school professional to lead the school staff in the awareness, prevention and treatment of life-threatening allergic reactions keeping students safe at school and ready to learn.

This document is designed to assist school nurses in meeting this important goal.

*This Clinical Conversation resource was created through an unrestricted grant from Mylan Specialty.*
Clinical Conversations for the School Nurse

Food Allergy Management in the School Setting

How to Use this Guide

The Clinical Conversation Guide for Food Allergy Management in the School Setting provides the school nursing professional with access to recently published articles in the school health literature to provide a framework for leading a meeting with other school nurses or school health staff, a professional development workshop or an interactive nursing conference presentation based on prepared discussion questions.

Each selected article will be presented in the following format:

- **Title of Article**
  Reference for article (APA format)
  Includes: Article abstract and reproduced text of article

- **Content Considerations**
  Includes questions focused on the information and data included in the article

- **Idea Implantation**
  Includes questions related to the application of the information in the article and identification of potential actions for the school community

- **Practice Points**
  At the end of each section the following question will be posed: “How will this change your practice?”

In moving through the articles and questions the school nurse should allow for time for school health colleagues to thoughtfully answer questions with a strong focus on application in their individual practice of school nursing.
Clinical Conversations for the School Nurse

Food Allergy Management in the School Setting

A compendium of articles to initiate discussion for school health professionals

- The Case for Stock Epinephrine in Schools
  Author: Nancy L. Gregory, Associate Director of Communications
  Food Allergy Research and Education

- School Nurse’s Role in Supporting Food Allergy Safe Schools
  Author: Victoria Jackson, MSN, RN, NCSN
  School Health Program Administrator
  Illinois Department of Human Services

- Creating a New Community of Support for Students with Food Allergies
  Authors: Michael Pistiner, MD, MMSc
  Pediatric Allergist, Harvard Vanguard Medication Associates
  Instructor of Pediatrics, Boston Children's Hospital
  John Lee, MD
  Pediatric Allergist
  Instructor of Pediatrics, Boston Children's Hospital

National Association of School Nurses

© 2014
Discussion Article

Article: **The Case for Stock Epinephrine in Schools**
Author: Nancy L. Gregory, Associate Director of Communications Food Allergy Research and Education


Abstract: A minority of states have legislation concerning non-student-specific epinephrine, or “stock” epinephrine, in schools. Stock epinephrine can be used in anaphylactic emergencies at schools for students who do not have epinephrine auto-injectors on campus. This is a potentially lifesaving measure that should be implemented in schools nationwide.

*Editor’s note – The availability of epinephrine in schools has increased since this article was first published. As of January 2014, five states now require schools to stock epinephrine, and 26 states have laws or guidelines allowing schools to stock non student-specific epinephrine.*
The Case for Stock Epinephrine in Schools

Nancy L. Gregory

A minority of states have legislation concerning non-student-specific epinephrine, or “stock” epinephrine, in schools. Stock epinephrine can be used in anaphylactic emergencies at schools for students who do not have epinephrine auto-injectors on campus. This is a potentially lifesaving measure that should be implemented in schools nationwide.

**Keywords:** stock epinephrine; schools; school nurse; anaphylaxis

The well-documented increase in the prevalence of food allergies among children in the United States, with an estimated 8% of children (Gupta et al., 2011) now affected, has brought additional challenges to school staff and, in particular, school nurses. Two highly publicized cases of fatal anaphylaxis at schools in a span of 13 months have brought heightened attention to school food allergy management and, specifically, to the case for stock epinephrine at school. Nearly 6 million children have food allergies, and nearly 40% (Gupta et al.) of those children have a history of severe reactions including anaphylaxis, a serious reaction that is rapid in onset and may cause death. Schools must be prepared to handle allergic reactions that require epinephrine, the first-line treatment for anaphylaxis. In an effort to protect students, not only those who are at risk for anaphylaxis but those who are potentially at risk due to undiagnosed food allergies, there is a nationwide effort to equip schools with non-student-specific epinephrine, also known as “stock” epinephrine.

The attention to the need for such legislation in recent months can be associated to a community response to the aforementioned fatalities. Neither child had epinephrine at school. Stock epinephrine protocols allow schools to promptly administer lifesaving medication, prescribed by a physician for the school, to students who do not have an epinephrine auto-injector at school. It would also be available in cases in which a prescribed epinephrine auto-injector is used but malfunctions or cases in which a second dose is needed before emergency responders arrive.

Approximately 20 to 25% of epinephrine administrations in schools involve individuals whose allergy was unknown at the time of the reaction (McIntyre, Sheetz, Carroll, & Young, 2005). The School Access to Emergency Epinephrine Act was introduced in the U.S. Senate in November 2011, followed by its introduction in the U.S. House of Representatives in December 2011. This legislation encourages states to adopt laws requiring schools to have stock epinephrine auto-injectors so treatment can be promptly administered in an anaphylactic emergency.

The bill has received widespread support—it is endorsed by NASN; the American Academy of Pediatrics; the American College of Allergy, Asthma & Immunology; the American Academy of Allergy, Asthma & Immunology; the American Academy of Emergency Medicine; the National Association of Elementary School Principals; and the Food Allergy Initiative. The Food Allergy & Anaphylaxis Network has been spearheading efforts to pass the bill. On average, it will cost a school just over $100 to purchase two epinephrine auto-injectors annually (with consideration of expiration dates and the need to stock a junior strength in elementary/early childhood schools) to prevent a fatality from anaphylaxis. (Please see the information box at conclusion.)

As of March 2012, this federal bill was still pending. At least seven states already have laws in place that allow for this practice, while at least six other states have legislation pending that makes this practice either mandatory or voluntary. While the language of the legislation is varied among those states with stock epinephrine laws in place, the overall purpose—to allow schools to keep an epinephrine auto-injector on campus—is the same. Usually, stock epinephrine state legislation provides that anyone who administers epinephrine in good faith shall not be liable for civil damages.

In March 2012, the Virginia House of Delegates and Senate passed a stock epinephrine law, to be known as “Amarria’s Law” after 7-year-old Amarria Denise Johnson, who died January 2,
2012, after experiencing an anaphylactic reaction at school. The bill was signed by Gov. Bob McDonnell on April 26, 2012, during a ceremony at Binford Middle School in Richmond.

Implementation of stock epinephrine laws helps ensure that students who experience an anaphylactic reaction at schools receive medical treatment immediately, which is key in such reactions. Studies of fatal food-induced anaphylaxis cases have shown that a delay in treatment was a critical factor (Bock, Muñoz-Furlong, & Sampson, 2007). Sicherer and Simons (2007) noted that while those who must evaluate symptoms to decide whether to use epinephrine may be anxious to do so, they should always be instructed to administer the medication instead of taking the risk of waiting too long. Antihistamines and asthma medication cannot reverse the symptoms of anaphylaxis.

Hesitation to use epinephrine can be attributed to erroneously thinking a reaction is mild or to being overly concerned about harmful effects of epinephrine. Epinephrine’s side effects, such as anxiety and palpitations, are not harmful for the average, healthy child. An epinephrine auto-injector is relatively simple to use—children as young as 8 are able to learn how to self-administer their own epinephrine auto-injectors. The devices are accompanied by an auto-injector trainer that can be used to instruct an entire school staff on proper usage. Additionally, manufacturers of the devices have educational materials that can be viewed online or even downloaded as an app to a mobile device.

Food allergy management in schools has evolved in recent years. With the passage of the Food Allergy and Anaphylaxis Management Act (FAAMA), signed by President Obama in January 2011, it is expected that more schools and school districts will implement comprehensive plans to keep students with food allergies safe. FAAMA requires the U.S. Secretary of Health and Human Services to develop and make available a voluntary policy to manage the risk of food allergy and anaphylaxis in schools. These federal guidelines, expected to be released in the late Spring of 2012, are likely to include support for stock epinephrine in schools. While there are few studies focusing on allergic reactions in schools, the available data show that more than 15% of school-age children with food allergies have had a reaction in school (Nowak-Wegrzyn, Conover-Walker, & Wood, 2001; Sicherer, Furlong, DeSimone, & Sampson, 2001).

Snaphots From Other States

In their study evaluating the incidence of anaphylaxis in Massachusetts schools, McIntyre et al. (2005) reported that 19% of the cases in which epinephrine was administered were reactions that occurred outside the school building (e.g., the playground, traveling to and from school, or field trips). In 24% of the cases, the life-threatening allergy was not known to school staff. The authors concluded that while anaphylactic reactions are not frequent in schools, they are not uncommon events either.

School nurses currently play a vital role in the management of a student’s food allergy at school. In addition, school staff such as teachers, food service employees, bus drivers, and other staff in contact with the student should also be made aware of students with known allergies and be informed and trained on emergency situations. As stock epinephrine laws go into effect, school nurses will play a critical implementation role. It will become crucial to have school nurse involvement in training others to use the stock epinephrine devices and school nurse management of stock epinephrine in the school building.

The state of Nebraska was at the forefront of addressing anaphylaxis and asthma issues. The state required every school to adopt an emergency-response protocol for anaphylaxis and asthma that includes the administration of lifesaving medication. In addition, every school was required to have an emergency response program in place by the end of the 2003-2004 school year (Murphy et al., 2006). Before this program was implemented statewide, Murphy et al. (2006) evaluated the protocol in 78 schools in Omaha from 1998 to 2003. School nurses recorded data each time the protocol was used, noting whether the student had an asthma action plan, a metered-dose inhaler, or neither. In cases where students experienced anaphylaxis, the school nurses recorded whether the student had epinephrine available at the school. None of the students in the five recorded anaphylaxis cases had epinephrine at school. Approximately 36% of the students treated with epinephrine, albuterol, or a combination of both did not have action plans or inhalers at school. Researchers in Nebraska (Murphy et al.) noted that the implementation of this protocol has resulted in increased awareness of the prevention and treatment of anaphylaxis among school staff and teachers.

In California, where school districts already are allowed to stock emergency epinephrine, it appears that the majority of schools do not have this lifesaving medication available for students other than those who have a prescription. In their study, Morris, Baker, Belot, and Edwards (2011) surveyed California school nurses to learn more about school preparedness for anaphylaxis. Just 13% of nurses who responded to the survey said their school had stock epinephrine. Interestingly, 30% said they had used one student’s prescribed medication on another student in need of treatment. Among the reasons listed for not having stock epinephrine were lack of guidelines, limited availability of school nurses, lack of funding for training and medication, and lack of education (Morris et al.). The California Department of Education has posted comprehensive training standards to assist in safe implementation available at the following website: http://www.cde.ca.gov/ls/he/hn/epiadmin.asp.

In Illinois, where a stock epinephrine bill was recently enacted, schools are in the implementation phase. A limitation of the law is that it simply allows rather than mandates schools to have stock epinephrine. Virginia’s law has a different twist. It requires local school boards to adopt and implement policies
for the possession and administration of epinephrine in every school and allows the school nurse or other school employees to administer the medication to any student believed to be having an anaphylactic reaction.

In Ontario, Canada, Sabrina’s Law requires school boards to establish anaphylaxis policies that provide for annual anaphylaxis training for school staff and permits the use of epinephrine for students whose allergy was unknown. The law is named in honor of Sabrina Shannon, who died of an anaphylactic reaction that occurred during her first year of high school in 2003. In their study comparing anaphylaxis management in schools with and without food allergy management legislation, Cicutto et al. (2012) found that school personnel in districts where anaphylaxis management is legislated had better epinephrine auto-injector technique. But they also found that school policies in regions that had anaphylaxis legislation in place were lacking in the areas of allowing epinephrine administration to individuals without prior consent and granting legal immunity in cases of good faith.

Conclusion

Epinephrine can be used not only for a student who is experiencing food-induced anaphylaxis but for students who are allergic to insect stings. It is the only medication that can reverse the symptoms of anaphylaxis, which can progress quickly. Seconds count when it comes to treating anaphylaxis, and schools nationwide should be equipped with epinephrine auto-injectors that can immediately be used to treat a student while waiting for emergency responders. Disparities across the nation are the impetus for the federal legislation. The School Access to Emergency Epinephrine Act, if enacted, will encourage all states to create or revise their laws on administration of epinephrine to include provisions as follows:

- Requiring public elementary and secondary schools to maintain a supply of epinephrine that has been prescribed by a licensed physician;
- Permitting school personnel trained in the appropriate use of epinephrine to administer to a student for the treatment of anaphylaxis; and
- Ensuring school employees are not liable for negligence in administering epinephrine to any student believed to be having an anaphylactic reaction.

Stock epinephrine laws nationwide will enable school nurses to treat anaphylactic emergencies promptly, and could potentially save lives.

Discounted epinephrine auto-injectors for stock use are available through the Dey EpiPen School Discount Program. More information is available at www.bioridgepharma.com/programs.html

References


Anaphylaxis Action – Clinical Conversation Topic

The Case for Stock Epinephrine in Schools

**Content Considerations**

1. It has been reported that we’re seeing an increase in the prevalence of children with food allergies – what is the percentage of children we’re likely to see with a diagnosed food allergy?

2. What percentage of students received epinephrine in school that were not previously diagnosed with a food allergy?

3. What is the aim of the legislation that requires a school to have stock epinephrine available?

4. Who are the critical stakeholders in the school setting in the management of food allergies?

5. How do some of the state laws differ in their approach to stock epinephrine laws?

6. According to this article, what are the three focus points of national legislation when it comes to stock epinephrine? Is this significant when examining the potential to save lives?
7. As stated earlier, we’re seeing an increase in the prevalence of children with food allergies and with that estimate of nearly 8% of children being affected, how many children are you likely to see with a food allergy in a class of 30 children? In a school of 500 children? In a school of 2000 children? In your own school?

8. Epinephrine must be given without delay. What are some of the common reasons that epinephrine administration might be delayed?

9. What do you see as the role of the school nurse in:
   a. Epinephrine administration?
   b. Staff awareness and education?

10. How can school nurses work together to reduce the disparities in the availability of stock epinephrine to all students?

Practice Point

How can the information in this article shape and change your practice of school nursing?
Discussion Article

Article:  **School Nurse’s Role in Supporting Food Allergy Safe Schools**

Author:  Victoria Jackson, MSN, RN, NCSN
School Health Program Administrator
Illinois Department of Human Services


Abstract:  Food allergy is a serious, potentially life-threatening condition. School nurses have a responsibility to assure that all students with food allergy have an emergency action plan in place, that staff are educated to assist students in providing emergency care when needed and in avoiding exposure to allergens, and that steps are taken to make their school an allergy safe environment. Secure a copy of your state’s Food Allergy Guidelines and lead in making your school a food allergy safe environment.
School Nurse’s Role in Supporting Food Allergy Safe Schools

Victoria Jackson, RN, MSN, NCSN

Management of severe food allergies continues to be a top school nurse priority. According to Gupta et al. (2011), 8% of all children have a food allergy, and during the 10-year period from 1997 to 2007, the prevalence of food allergy increased by 18% in school-age children (Branum & Lukacs, 2008). Children with food allergy have a higher incidence of asthma (29%), eczema or skin allergy (27%), and respiratory allergy (30%) than children without food allergy (Branum & Lukacs, 2008). While the incidence of food allergy is lower in Hispanic children than in white or black children, incidence does not differ by sex. As many as 18% of children with food allergy have reactions due to foods accidentally ingested at school (Branum & Lukacs, 2008). Children without a previous diagnosis of food allergy account for 25% of reactions requiring epinephrine in schools (McIntyre, Sheets, Carroll, & Young, 2005). It is important that school nurses have necessary policies and procedures in place to educate staff on emergency response to allergy symptoms and anaphylaxis and measures to be taken to reduce exposure to allergens in the school environment. This article is provided to emphasize the need for school nurses to keep abreast of the changing laws, both state and national, local policies, and emerging research related to allergies in the school-age child. This article also serves as a general overview of food allergy management strategies, including education of school staff. School nurses are well positioned to carry out both objectives, particularly in states that have adopted laws or guidelines on management of food allergies.

Symptoms of food allergy can be mild with slow onset or sudden and severe and can include one or more of the following:

- hives
- tingling around the mouth
- swelling of the tongue and throat
- difficulty breathing
- coughing or wheezing
- hoarse voice
- dizziness
- abdominal cramps
- vomiting or diarrhea
- eczema or rash
- loss of consciousness

Anaphylaxis, a sudden, severe allergic reaction that can involve more than one body system, can cause difficulty breathing, upper airway constriction, cardiovascular compromise, neurologic changes, or gastrointestinal symptoms and can result in death. Fatalities most frequently occur in children with allergies to peanuts, tree nuts, and milk and those with underlying asthma (Sicherer & Mahr, 2010). Failure to promptly administer epinephrine during a severe allergic reaction increases risk of death.

Each child with known food allergy should have an individual emergency action plan developed and shared with school staff. The plan should outline specifics about the food allergy including foods to avoid, symptoms and treatment, and emergency contact information. The immediate availability of the epinephrine varies from state to state and district to district, in some cases allowing the student to carry and self-administer the epinephrine auto-injector, with a backup supply stored in the health office. Epinephrine dosing is dependent on the child’s weight with auto-injectors available in 0.3 and 0.15 mg strengths. Children experiencing anaphylaxis may have initial improvement in symptoms after receiving a dose of epinephrine and have symptoms reoccur later. Thus, it is essential that any child who experiences an anaphylactic reaction be transported by ambulance to the emergency department for further observation and care. Lay staff should receive training in how to recognize symptoms of allergic reaction and administer the epinephrine auto-injector and how to activate emergency response.
medical services. The National Association of School Nurses and the American Academy of Allergy, Asthma & Immunology websites offer a variety of resources for use in staff education (see resources listed at the end of the article).

There is no cure for food allergy. Emphasis must be placed on avoiding foods that trigger a reaction and prompt intervention. Allergens can be found throughout the school. High-risk situations/locations include the classroom; the cafeteria; arts, crafts, and science projects; bus transportation; fundraisers; parties and holiday celebrations; and classroom rewards that involve foods and other products that may contain hidden ingredients. Staff must be educated to read labels to identify potential allergens, avoid having foods or materials containing allergens in the classroom, properly clean surfaces, and allow students to wash hands before and after eating and throughout the day with soap and water or hand wipes. Several states have developed documents outlining specific guidelines for managing food allergies in the school setting. Links to state guidelines can be found at http://www.nasn.org/portals/0/resources/fat_state_guidelines.doc.

Federal legislation including Section 504 of the Rehabilitation Act of 1973, U.S. Department of Agriculture regulations for school nutrition programs, the Americans with Disabilities Act Amendments Act of 2008, and the Individuals with Disabilities Education Act require that accommodations be made for students in regular or special education who have food allergies to assure that a plan is in place to eliminate exposure to allergens and appropriate emergency care is provided when necessary. All students with severe, life-threatening food allergy should have an individual health care plan and be considered for a Section 504 plan or Individualized Education Program, if the student qualifies for special education.

Many states have passed legislation related to management of food allergy at school. Such legislation provides structure to allow the development of written guidelines for management of food allergies and may include language related to the following:

- allowing students to carry and self-administer epinephrine auto-injector
- requirements for physician order and parent permission for emergency response to anaphylaxis
- granting teachers and other non-nursing staff the right to administer epinephrine via auto-injector where allowed by law, and establishing parameters for training
- providing protection from liability for those who provide emergency care except in cases of willful or wanton misconduct
- giving schools authority to maintain a stock supply of epinephrine auto-injectors to use in an emergency
- establishing policies related to allergen-free snacks and cleaning of surfaces and other means of reducing exposure to allergens
- creating standing orders allowing licensed school nurses (registered nurse) to administer epinephrine to those experiencing anaphylaxis without a prior diagnosis of allergy

For example, the Illinois Statutes can be found at the following links:


Your state school nurse consultant(s) can provide information on similar initiatives in your state. Contact information can be found at http://www.nassnc.org/files/MemberList2010.pdf.

Food allergy is a serious, potentially life-threatening condition. School nurses have a responsibility to assure that all students with food allergy have an emergency action plan in place, that staff are educated to assist students in providing emergency care when needed and in avoiding exposure to allergens, and that steps are taken to make their school an allergy safe environment. Secure a copy of your state’s Food Allergy Guidelines and lead in making your school a food allergy safe environment.

### Resources

- American Academy of Allergy, Asthma & Immunology website offers educational materials, forms, and other valuable resources. [http://www.aaaai.org/home.aspx](http://www.aaaai.org)
- Food Allergy and Anaphylaxis: An NASN Tool Kit. [http://www.nasn.org/Tools/Resources/FoodAllergyAndAnaphylaxis](http://www.nasn.org)
- [https://www.auvi-q.com/](https://www.auvi-q.com/) (to be available soon)

### References


### Victoria Jackson, RN, MSN, NCSN
**School Health Program Administrator**
**Illinois Department of Human Services**
**Springfield, IL**

Vicky served as an Illinois school nurse for 26 years prior to assuming the position as school health program administrator with the Illinois Department of Human Services, where she has worked for the past 12 years.
Anaphylaxis Action – Clinical Conversation Topic

School Nurse’s Role in Supporting Food Allergy Safe Schools

Content Considerations

1. Children with food allergy have an increased prevalence of which of the following health issues?
   a. Asthma
   b. Respiratory Allergy
   c. Eczema
   d. All of the above.

2. Which of the following ethnicities experience a lower incidence of food allergies?
   a. White children
   b. Hispanic children
   c. Black children

3. Which allergies cause the most fatalities?

4. What should each student with a known food allergy have that should be distributed to school staff?

5. Why is it essential that every child who experiences an anaphylactic reaction be transported to the hospital by ambulance?

6. Being that there is no known cure for food allergies, emphasis must be placed on what two areas when dealing with food allergies in the school setting?
Anaphylaxis Action – Clinical Conversation Topic

School Nurse’s Role in Supporting Food Allergy Safe Schools

Idea Implementation

7. Allergens can be found throughout the school. What are some high risk situations / locations in your school?

8. The school nurse is the leader in care in the school setting. What are the important points that the school nurse must cover when educating school staff about food allergy management?

9. What are some of the components that you may see in written guidelines for food allergy management?

10. Does your state have food allergy written guidance? Where might you find resources to assist you in food allergy management in your school?

Practice Point

How can the information in this article shape and change your practice of school nursing?
Discussion Article

Article: **Creating a New Community of Support for Students with Food Allergies**

Authors: Michael Pistiner, MD, MMSc  
Pediatric Allergist, Harvard Vanguard Medication Associates  
Instructor of Pediatrics, Boston Children’s Hospital

John Lee, MD  
Pediatric Allergist  
Instructor of Pediatrics, Boston Children’s Hospital


Abstract: Managing food allergies in schools is a necessary but complex task. Breakdowns in implementation of school policies have resulted in devastating consequences and can create a divided school community. School nurses play the central role in the food allergy education of staff, parents and students. An educated school community can then be united in supporting children with food allergies. A thoughtful approach that takes these different members of the school community into consideration is essential to put a successful food allergy policy into action. This article outlines issues to consider when educating each specific group as well as discussing the challenges that can hamper school community-wide education and their potential solutions. The ultimate goal of food allergy management education is to create a community of support and to create a self-sustaining environment of understanding and awareness that may save time, decrease divisiveness, and even save a life.

Managing food allergies in schools is a necessary but complex task. Breakdowns in implementation of school policies have resulted in devastating consequences and can create a divided school community. School nurses play the central role in the food allergy education of staff, parents and students. An educated school community can then be united in supporting children with food allergies. A thoughtful approach that takes these different members of the school community into consideration is essential to put a successful food allergy policy into action. This article outlines issues to consider when educating each specific group as well as discussing the challenges that can hamper school community-wide education and their potential solutions. The ultimate goal of food allergy management education is to create a community of support and to create a self-sustaining environment of understanding and awareness that may save time, decrease divisiveness, and even save a life.

Keywords: food allergy; anaphylaxis; staff training; educated school community

Introduction
Imagine the unimaginable. One of your food-allergic students is dropped off at school and never returns home. Despite increased food allergy awareness, deaths from food-related anaphylaxis still occur in U.S. schools. Emotions can run high, captured by images in the media of parents picketing in front of a school and press conferences with lawyers. Some schools have experienced issues of divisiveness that have negatively impacted their communities. Fortunately, most schools will not have experienced a fatal or near-fatal reaction and most will not have to deal with a divided community, but it is safe to say that almost all will encounter children with food allergies. Food allergies are estimated to affect about 4% of U.S. children (Branum & Lukacs, 2009). Approximately 25% of severe allergic reactions in Massachusetts schools that required epinephrine occurred in people without a known history of allergies (Massachusetts Department of Public Health, 2010; McIntyre, Sheetz, Carroll, & Young, 2005). First-time allergic reactions occur in schools, reinforcing the need for the entire school community to be prepared.

Ongoing Issues and Challenges
Debates have raged on the extent of school policy and interventions needed to minimize risk of exposures to a child with food allergies. The details of strategies for food allergy management are beyond the scope of this article and are more adequately addressed in state and federal guidelines, Safe at School and Ready to Learn: a comprehensive policy guide for protecting students with life-threatening food allergies (NSBA, 2012), school nursing resources (www.nasn.org), as well as recent scientific articles including the Management of Food Allergies in Schools: A Perspective for Allergists (Young, Muñoz-Furlong, & Sicherer, 2009). Unlike managing other medical conditions in school, food allergy interventions may impact other children and school staff. Schools can be polarized because of differing opinions about food allergy management (Greenhawt, Green, Pistiner, & Mitchell, 2011). Ill will surrounding this issue can also enter into classrooms and may contribute to incidents of bullying that target food-allergic students with potentially catastrophic physical and psychological consequences. The divisiveness that can occur in schools shows that further increased awareness is needed among staff, parents, and students. It is critical that education take place within the proper format and is delivered in the appropriate manner.

Steps in the Right Direction
Fortunately, the issue of food allergies in school has received increased attention. Many states have created and implemented guidance documents, and national guidelines are due out later this
year. These comprehensive documents have been created to help guide school policy to assist with daily management of children’s food allergies. Additionally there have been legislative initiatives regarding the provision of stock epinephrine in schools and standing orders for the treatment of anaphylaxis in students. These are steps in the right direction that highlight the absolute need for school nurses to champion the management of food allergies in schools and to efficiently implement these recommendations.

Educating Others About Food Allergy: A Time-Consuming Responsibility

At times it may feel that food allergy management is a full-time job. Food allergy management in the school setting is indeed complex and can be time consuming. Education is a major component of management. Educating your school communities can be a challenge for you as there are limited time and resources as well as competing responsibilities. School nurses are encouraged to consider an increased focus on education, especially at the beginning of each year. Once this challenge is met, the entire community can be drawn into a partnership to create a continuing culture of food allergy support.

Awareness Can Bridge the Divide

Food allergy management (prevention strategies and emergency preparedness) is necessary at all times and in all settings. This need for constant management makes it necessary for children with food allergies to do things a bit differently than children without food allergies. School-wide education may go a long way in keeping school communities from becoming divided over food allergy issues. Awareness and education is key for everybody, because managing food allergies cannot be the sole responsibility of the child or his or her parents. Therefore, it requires understanding and effort on the part of the entire school community including administration, staff, parents, and classmates.

Your School Community

- All school staff who have interactions with children with food allergies should have a solid understanding of the signs and symptoms of anaphylaxis as well as food allergy management. This includes but is not limited to teachers, substitutes, specialists, aides, coaches, counselors, administrators, program coordinators, volunteers, bus drivers, custodians, and nutrition service workers. The staff should be trained by a school nurse on how to prevent allergic reactions from occurring, recognize allergic reactions when they do occur, respond to an allergic reaction, and potentially administer the appropriate emergency medicine. All staff should know their role in the school’s emergency plan and be familiar with a food allergy emergency care plan (see Food Allergy & Anaphylaxis Network, Food Allergy Action Plan). Some staff will require additional information relevant to their role (e.g., nutritional services). Also, it is very important to train delegates who can administer an epinephrine auto-injector to a student with a known allergy (according to local, state, and federal policies and regulations) in the event that a school nurse is unavailable. Make sure those who receive training on the administration of epinephrine auto-injectors and are responsible for the treatment of anaphylaxis when the nurse is unavailable understand the entire emergency care plan for the children for whom they are responsible (Massachusetts Department of Education, 2002; NSBA, 2012).

The consequences of a lack of buy-in from staff can be catastrophic from a practical and safety standpoint because they interact closely with the parents. If staff members do not have understanding, they will not be able to communicate this in an effective way, and resentment might fester and grow. All school staff can act as your eyes and ears and are the ones responsible for the majority of food allergy management during the school day. Nurses and staff together can help explain policies and help establish classroom rules and policies and monitor for bullying. Table 1 provides the school nurse with education content specific to the audience.

- School nurses can teach the parents of students with food allergies about the real risks of exposure to allergens and allergic reactions and create reasonable expectations about accommodations that address prevention and preparedness. The nurse can teach the parent what is covered under your school’s established policy or state and national guidelines, including Section 504 eligibility. It is also helpful to use food allergy educational resources and enlist the assistance of school nurse leadership and/or the child’s healthcare provider when a child’s needs are not being met. Emphasize to parents the need to notify the school of any food allergy diagnosis and supply necessary medication and documentation (see Table 1).

- Provide education to the parents of non-food allergic children. When parents don’t understand why certain school policies exist, they may not comply and may even feel resentful. Education is vital to bridge and prevent the potential divide between the families with and without food allergies. Teaching the basics can increase their acceptance and compliance of policies, which may help ensure the health and well-being of students (Gupta et al., 2008; Gupta et al., 2009). These parents will also serve as educators to their children, hopefully passing on an awareness that can support understanding rather than lead to isolation. This can be accomplished through Parent–Teacher Organizations, parent mailings, orientations, one-on-one meetings, and so forth (see Table 1; NSBA, 2012). Also, once they are comfortable with food allergy management strategies, they can be sources of additional support to the parents of...
<table>
<thead>
<tr>
<th><strong>Table 1. School Food Allergy Education Content: Target Your Audience</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students: elementary school</strong></td>
</tr>
</tbody>
</table>
|  | • Food allergies need to be taken seriously  
• Children with food allergies need to do things a bit differently  
• Discuss common symptoms  
• Review classroom and school food allergy rules | • “If you can’t read it don’t eat it”  
• Importance of reading labels  
• No sharing of food  
• Hand washing  
• “No thank you”  
• General concept of cross contact | • Report exposures  
• Get help for allergic symptoms  
• Introduction to emergency medicine/epinephrine | • Share your feelings  
• Tell your friends about your allergies  
• Support your friends with food allergies  
• Never bully  
• Take care of each other |
| **Students: middle and high school** |  | • As above  
• Routes of exposure and associated risks  
• Reading labels  
• Labeling laws and their pitfalls  
• Hidden ingredients  
• Sources and prevention of cross contact | • As above  
• Recognizing anaphylaxis  
• Familiarity with steps to administer epinephrine auto-injector  
• Contacting emergency medical services for anaphylaxis  
* Present in developmentally and age-appropriate fashion | • More in-depth and developmentally targeted version of the above  
• No tolerance for bullying  
• Social and emotional impact of food allergies  
• Dating/kissing  
• Consider danger of alcohol (impaired judgment) |
| **Parents: Non–food allergic and food allergic** |  | • As above  
• More in-depth and developmentally targeted version of the above  
• Reinforce and support school policies based on facts  
• Specific discussion as related to classroom and school policies and in case of hosting a party or playdate  
• Communicate with family | • As above  
• Discussion related to drop-off parties and playdates  
* Optional: train on how to administer epinephrine | • As above  
• Encourage supportive environment  
• Encourage positive communication  
• Encourage parents to discuss being supportive with their children |
| **School staff** |  | • As above  
• Prevention in different school settings (field trips, classroom, cafeteria, school bus, etc.) | • As above  
• Train on how to administer epinephrine auto-injector  
• Comfort with food allergy emergency care plan  
* For delegates: demonstrate competency in recognition of anaphylaxis and use of auto-injector (refer to your school policy) | • As above  
• Foster empathetic environment  
• Maintain confidentiality |

**Note:** See NSBA, Federal, State, and/or local guidelines/guidance documents for specific and more detailed recommendations on content of training. For school community training modules created by the authors, please see [http://Schools.AllergyHome.org](http://Schools.AllergyHome.org).
<table>
<thead>
<tr>
<th>Challenges</th>
<th>Specifics</th>
<th>Potential Solutions</th>
</tr>
</thead>
</table>
| • Little time allocated to food allergy education of others  
• Differing models of school nurse coverage | • Many school nurses are only given short periods of time with staff, parents, and students (limited by busy staff development schedules, orientation schedules, and curriculum requirements).  
• Often there is limited time in a school nurse’s day to meet with staff, parents, and students. | • Be aware of state regulations and guidance related to training of school staff members. The school nurse is required to be the trainer in many states, and it is recommended that the school nurse always be the professional to provide medication administration and other healthcare related training.  
• Use teaching tools.  
• Maximize the time you do have (e.g., group versus individual training when appropriate).  
• Discuss time needs with administration, request substitute coverage for training. If possible, reference specific time allotment cited by policy recommendations and guidelines.  
• Use food allergy management and education as a platform for lobbying against cuts in school nurse coverage and time. |
| • New food allergy policies may be unpopular among staff, parents, and students | • Old habits die hard, especially in schools that only recently implemented policies; this is apparent when it comes to bake sales, food for celebrations, cultural events, etc. | • Consider meeting with administration to coordinate rollout of new policies.  
• Attempt to have a clear and unified message. Encourage staff to respond to questions and concerns from parents in a positive way.  
• Remind all parties of the fact that certain prevention and preparedness strategies and issues are necessary. These policies are not arbitrary or personal preference.  
• Consider having an allergist, physician, or educator meet/speak to school community and/or serve on a wellness council.  
• Remind your community, “Don’t kill the messenger.” |
| • Multiple chains of command governing the staff may exist within a school (i.e., not all staff answer to the same administrative body) | • In some schools, various staff members such as bus drivers and maintenance or food service staff may not fall under the same administrative body as do the rest of the staff.  
• Some staff may not attend the same staff development sessions and have different amounts of time to be allocated to their specific training.  
• Also some unions have regulations that need to be considered when requesting training time. | • Meet with each group. See if all can coordinate for a single meeting.  
• Following initial training by the school nurse, consider use of training tools that can be used “on own time” or individual sessions for reinforcement of material. See if training tools can be reviewed during staff development.  
• Have a close working relationship with administration and the staff.  
• When possible, consider having the school nurse make “morning rounds” to classrooms of students with allergies to answer questions and reinforce classroom food allergy management strategies. |
| • Individuals who ignore policies | • Sometimes, despite excellent and organized attempts to educate and communicate, some individuals do not comply with school policies. | • Be consistent with your expectations. Do not let certain things slide.  
• Use federal, state, and local guidelines as a beginning rationale and remind parents that it is not your call; it is safe practice.  
• Enlist the assistance of administration and nursing leadership.  
• Remind the community, “Don’t kill the messenger.” |
students with food allergies outside the school setting, such as at play dates, parties, and other social gatherings.

- **Students** can pick up on the messages of their teachers, parents, and others in the school community. In addition to potential negative messages in the community, their own perception of an unexplained difference in their peer with food allergies can foster bullying and isolation. A recent study demonstrated that over one third of those over age 5 have been bullied, teased, or harassed because of their food allergies (Lieberman, Weiss, Furlong, Sicherer, & Sicherer, 2010). Replacing misperception and negative attitudes with education can create an environment of support and understanding. Much of the child’s perceptions of food allergies can come from picking up on the attitudes of parents and teachers, but direct education can be very effective. Children also are instrumental in teaching each other and their parents, and they play a critical role in establishing a community of support. Food allergy awareness can be taught using multiple means including curriculum, class discussions, assemblies, special guests, and so forth (see Table 1; NSBA, 2012).

### Challenges and Solutions to Community-Wide Education

Inevitably, challenges will arise. No two schools are the same and the social dynamics between you and your staff, your families, and your students are constantly evolving. A recent study demonstrated that over one third of those over age 5 have been bullied, teased, or harassed because of their food allergies (Lieberman, Weiss, Furlong, Sicherer, & Sicherer, 2010). Replacing misperception and negative attitudes with education can create an environment of support and understanding. Much of the child’s perceptions of food allergies can come from picking up on the attitudes of parents and teachers, but direct education can be very effective. Children also are instrumental in teaching each other and their parents, and they play a critical role in establishing a community of support. Food allergy awareness can be taught using multiple means including curriculum, class discussions, assemblies, special guests, and so forth (see Table 1; NSBA, 2012).

### Challenges and Solutions to Community-Wide Education

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Specifics</th>
<th>Potential Solutions</th>
</tr>
</thead>
</table>
| • Parents or students who don’t agree with content of food allergy education | • At times there will be families that don’t believe the current education or implemented policies are stringent enough.  
• Alternatively, some may make recommendations that are overly restrictive and difficult to implement. | • It is helpful to base all education content on state and federal guidance documentation, including explaining to parents the broadened definition for Section 504 eligibility.  
• It is also helpful to use evidence-based food allergy educational resources.  
• Enlist the assistance of school nurse leadership and/or the child’s healthcare provider. |
| • Fear of singling out or embarrassing the student  
• Fear of releasing confidential health information | • Issues may arise when a student does not want to be singled out, and similarly confidential health information should be protected.  
• While having a classroom lesson centered to the individual child with allergies may work well, in some cases it may make the child uncomfortable. | • Implement universal teaching to all students based on the present needs of children in general in the school, not the needs of individuals.  
• Be aware of confidentiality policies and laws—always be careful to respect a student and parent’s right to confidentiality. |

For free, online school community training modules created by the authors, please see http://Schools.Allergyhome.org.

### Acknowledgments

Special thanks to Sally Schoessler, Med, BSN, RN, Director of Nursing Education, NASN, and Anne Sheetz, RN, BSN, MPH, CNAA of the Massachusetts Department of Public Health, School Health Services, for reviewing the manuscript and for their dedication to the well-being of children.

### References


Michael Pistiner, MD, MMSc
Pediatric Allergist, Harvard Vanguard Medical Associates
Instructor of Pediatrics, Boston Children’s Hospital
Boston, MA
Dr. Pistiner is a voluntary consultant for the Massachusetts Department of Public Health

John J. Lee, MD
Pediatric Allergist
Instructor of Pediatrics, Boston Children’s Hospital
Boston, MA
Dr. Lee has been a pediatric allergist at Boston Children’s Hospital since 2005, treating children with multiple food allergies and eosinophilic gastrointestinal disorders. He is also the co-creator of AllergyHome.org.
Anaphylaxis Action – Clinical Conversation Topic

Creating a New Community of Support for Students with Food Allergies

Content Considerations

1. Do first time allergic reactions occur at school? What percentage of students that received epinephrine in the Massachusetts study did not have a known allergy at the time they experienced a severe allergic reaction?

2. Name some of the resources available to guide the school in food allergy management.

3. What are some of the issues that can divide a school community when considering food allergy management?

4. What are legislative initiatives attempting to establish in schools?

5. What is a major component of food allergy management?

6. Who must understand and act on food allergy management in the school setting?
Anaphylaxis Action – Clinical Conversation Topic

Creating a New Community of Support for Students with Food Allergies

Idea Implementation

Each member of the school community has a role in food allergy management. What are some of the important issues and concerns that the school nurse should approach with each of the following school community members?

7. All school staff
8. Parents of students with food allergies
9. Parents of non-food allergic children
10. Students

Practice Point

How can the information in this article shape and change your practice of school nursing?
Food Allergy Management in the School Setting

Resources and References

NASN Resources

NASN Position Document

NASN Online Tool Kit for Food Allergy and Anaphylaxis - [http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis](http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis)

- Planning and Provision of Care Algorithms
- CDC - Voluntary Guidelines for Managing Food Allergies In Schools and Early Care and Education Programs
- FARE - Managing Food Allergies in the School Setting: Guidance for Parents
- Checklists
  - Sample District and Support Policy Checklist
  - Sample Care Planning Checklist
  - Sample Staff Training Checklist
  - Sample Fostering Partnerships and Quality Monitoring Checklist
  - Sample School Practices Outcome Evaluation Checklist
  - Sample Plan of Care Outcome Checklist
- Forms
  - Fact Sheet: What School Nurses Need to Know about Parents of Children with Food Allergies
  - Sample School District Anaphylaxis Policy
  - Parent Notification of a Food Allergy in the Classroom Letter - English, Spanish, Somali, Hmong
  - Welcome Back to School Letter – Child with Food Allergy
  - Sample Food Allergy IHP Template
  - AAAAI Anaphylaxis Emergency Action Plan
  - FARE Food Allergy Action Plan / Emergency Care Plan
  - Suggested Nursing Protocol for Students without an Emergency Care Plan
  - Sample Epinephrine Reporting Form
  - Family Allergy Health History
  - NASN Guidelines for Health Personnel in Allergy Management
NASN Allergy and Anaphylaxis Programs and Resources

- **Get Trained** – program to train school staff to administer epinephrine using an auto-injector - [http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis/GetTrained](http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis/GetTrained)
  - Trainer preparation
  - Training Tools
  - Additional Resources
  - Collaborate

  - More than 100 Epinephrine Resource School Nurses (ERSNs) around the country.
  - Provides professional development and technical assistance to school nurses and the school community related to epinephrine administration

  
  - School Nurses: Partnering to Avoid & Respond to Anaphylaxis
  - School nurses can play a vital role in helping to avoid and manage an anaphylactic reaction
  - Parental collaboration is critical to creating a safer environment
  - Creating a School-Wide Emergency Response Plan

- **Saving Lives at School Connection Cards** - [http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis/SavingLivesatSchoolAnaphylaxisandEpinephrine](http://www.nasn.org/ToolsResources/FoodAllergyandAnaphylaxis/SavingLivesatSchoolAnaphylaxisandEpinephrine)
  - A tool for the school nurse to use to initiate meaningful conversations with students and parents on topics related to anaphylaxis and epinephrine
Resources and References

National Partner Resources

Food Allergy Research and Education - http://www.foodallergy.org/
  • For School Professionals

Allergy & Asthma Network Mothers of Asthmatics - AANMA - http://www.aanma.org/
  • Epi Everywhere! Every Day! School-based Anaphylaxis Preparedness video webinar
  • Anaphylaxis Community Experts (ACEs)

National Education Association – Health Information Network - http://www.neahin.org/
  • The Food Allergy Book: What School Employees Need to Know

American College of Allergy, Asthma and Immunology – ACAAI -
http://www.acaai.org/Pages/default.aspx
  • Anaphylaxis Overview

National School Boards Association - http://www.nsba.org
  • Safe at School and Ready to Learn: A Comprehensive Policy Guide for Protecting Students with Life-Threatening Food Allergies

AllergyHome.org
  • Schools at AllergyHome.org - http://www.allergyhome.org/schools

Food Allergy Management and Education – Children’s Hospital of St. Louis -
  • FAME Manual and Toolkit

Food Allergy & Anaphylaxis Connection Team - FAACT
http://www.foodallergyawareness.org/
  • Resources for School Personnel, Parents with an Education Resource and Civil Rights Advocacy Centers
Food Allergy Management in the School Setting

Acknowledgements

All articles and resources presented are based on best practices. Each school nurse must exercise independent professional judgment when practicing and conducting training. Because nurse practice acts differ from state to state, each school nurse must ensure before presenting the training that it is consistent with applicable state laws and regulations, including those governing delegation, as well as applicable school district policies and procedures.

NASN wishes to thank our document reviewers:

Lisa Albert, MSN, RNC, CSN
Certified School Nurse, Elizabethtown Area School District, Pennsylvania

Sandra Clark, ADN, RN
Pediatric Section Supervisor/School Health Consultant Kentucky

Constance F. Griffin, BS, RN, AE-C
School Nurse, Valley Central Middle School New York

Tammy Green, MSN, RN
Wellstar School of Nursing Georgia

Eleanor Garrow-Holding, BHA
President & CEO Food Allergy & Anaphylaxis Connection Team (FAACT)

Beverly Hine, MPH, RN, BSN, NCSN
New Mexico School Nurses Association New Mexico

Donna Kosiorowski, MS, RN, NCSN
Supervisor, School Health Services, West Haven BOE Connecticut

Michael Pistiner, MD, MMSc
Pediatric Allergist, Harvard Vanguard Medical Associates; Voluntary Instructor of Pediatrics, Boston Children’s Hospital, Harvard Medical School

This Clinical Conversation resource was created through an unrestricted grant from Mylan Specialty.