



Making^{the}
difference

Caring for Students with Life-Threatening Allergies



New York State Department of Health
New York State Education Department
New York Statewide School Health
Services Center

Faculty Overview of Managing Allergies and Anaphylaxis at School



Allergies at School

- Students come to school with diverse medical conditions; some serious and life threatening- impacts their learning and their health
- Exposure to an allergen can create an emergent situation where the student faces life-threatening anaphylaxis within moments
- It is vital for the school district and building team to form a partnership with parent(s)/guardian(s) to:
 - Assist in the development of a comprehensive plan of care at school
 - Develop strategy for keeping students with undiagnosed allergies safe



Food Allergy Overview

- Approximately five to six percent of the pediatric population has had an occurrence of food allergy, with eight foods accounting for 90% of allergic reactions
- Currently there is no cure for food allergies and strict avoidance is the only way to prevent a reaction



Food Allergies

- Allergic reaction begins with a predisposed individual ingesting a food (by eating, inhaling, or through contact with mucous membranes)
- Causes the body to produce an antibody
 - This initial process yields no symptoms and will go unnoticed
 - The next time the food is ingested, the proteins in the food attach to these antibodies and cause the cells to primarily release histamine which leads to the allergic reaction
- A reaction can occur within minutes to hours after ingestion
- Symptoms can be mild to life-threatening - Specific symptoms that the student will experience depend on the location in the body in which the histamine is released
- If the allergic reaction becomes severe it is then known as anaphylaxis, a life-threatening event



Insect Sting Allergies

- Insect allergy is an under reported event that occurs every year to many adults and children
- Most stings are caused by yellow jackets, paper wasps, and hornets
- Some students have true allergies to insect stings that can lead to life-threatening systemic reactions
- Prompt identification of the insect and management of the reaction are needed in a timely manner
- Insect avoidance is advised for students and staff at risk for anaphylaxis.
- Some precautions schools should follow include:
 - Insect nests should be removed on or near school property
 - Garbage should be properly stored in well-covered containers
 - Eating areas should be restricted to inside school buildings for students and staff at risk



Latex Allergies

- Latex products are a common source of allergic type reactions
- Two common types of reactions include:
 - Contact dermatitis (skin rash) - can occur on any part of the body that has contact with latex products, usually after 12-36 hours
 - Immediate allergic reactions - are potentially the most serious form of allergic reactions to latex products. Rarely, exposure can lead to anaphylaxis depending on the amount of latex allergen that they are exposed to and their degree of sensitivity
- Latex exposure should be avoided by students and staff at risk for anaphylaxis. Since the reactions caused by latex vary, each student at risk should be evaluated by a trained medical provider, preferably an allergist



Signs and Symptoms

- Allergies can affect almost any part of the body and cause various symptoms. Anaphylaxis includes the most dangerous symptoms; including but not limited to breathing difficulties, a drop in blood pressure, or shock, which are potentially fatal.
- Common Signs and Symptoms include:

Hives

Itching (of any part of body)

Swelling (of any body parts)

Red, watery eyes

Runny nose

Vomiting

Diarrhea

Stomach cramps

Change of voice

Coughing

Wheezing

Throat tightness or closing

Difficulty swallowing

Difficulty breathing

Sense of doom

Dizziness

Fainting or loss of consciousness

Change of skin color



Signs and Symptoms

- Symptoms usually appear within minutes, and can occur within two hours after exposure to the food allergen
- The student can also face a “rebound effect” of the symptoms. This means that they may respond initially to treatment, but experience a resurgence of symptoms hours later - this is called a biphasic reaction
- It is vital to observe students who have been exposed to an allergen over a period of time to ensure their safety, in the event of a rebound
- A recent study of adolescents showed that students with peanut and nut allergies who also have asthma may experience a more severe reaction to the allergen



Treatment

- Anaphylaxis is a potentially life-threatening condition, requiring immediate medical attention
- Plans should be in place to accommodate students with diagnosed medical conditions that may require treatment at school under a *direct patient specific order* from the student's provider
- Students can also be treated if experiencing anaphylaxis that has not been previously diagnosed via a *non-patient specific order* written by the school's authorized provider
- Treatment is centered on treating the rapidly progressing effects of the histamine release in the body
- Emergency medications should be given immediately upon concern that the student might be experiencing an anaphylactic allergic reaction
- Most fatalities occur due to delay in delivery of the needed medication



Treatment

- When in doubt it is better to give the epinephrine auto-injector and call the emergency medical services (EMS) for immediate transportation to the appropriate medical facility
- All individuals receiving emergency epinephrine should immediately be transported to a hospital, preferably by ambulance, even if symptoms appear to have resolved
- Based on their board of education policy, schools should have an established protocol to deal with anaphylactic episodes, and schools should be equipped with medications based on private medical provider's orders, or the medical director's orders for non-patient specific administration



Emergency Medications

- Epinephrine - Brand names include, but are not limited to EpiPen[®], EpiPen Jr[®], and Twinject[®] auto-injectors.



- Parent(s)/guardian(s) usually bring epinephrine to school in the form of an *EpiPen[®] (0.3 mg), EpiPen Jr[®] (0.15 mg), or *Twinject[®] (0.3 mg or 0.15 mg) auto injectors.
- The auto injector is designed for use by a lay individual, and the school nurse can train unlicensed school personnel to administer epinephrine by an auto-injector to a student with a patient specific order in an emergency



Emergency Medications

- Epinephrine - Brand names include, but are not limited to EpiPen[®], EpiPen Jr[®], and Twinject[®] auto-injectors
 - Epinephrine may need to be given again after the initial effects wear off, potentially in fifteen to twenty minutes. Only licensed medical personnel may administer a second dose of epinephrine if needed. A school nurse who does not work in an area where emergency medical services (EMS) can respond within that window of time, may need to have additional epinephrine available to use as needed
 - Many ambulances don't carry epinephrine - the school may need to request "*Advanced Life Support*" for EMS to respond with epinephrine



Prevention

- Protecting a student from exposure to offending allergens is the most important way to prevent life-threatening anaphylaxis
- Avoidance of exposure to allergens is the key to preventing a reaction
- The risk of adverse events related to allergens for a student is reduced when the school personnel, medical provider and parent/guardian work together to develop a management plan for the student
- Allergy information for a student should be noted by school and health staff while respecting the student's right to confidentiality



Parent Partnership

- One of the most vital participants in the care of the student with a severe allergy is the parent/guardian
- Most parent(s)/guardian(s) have had to work tirelessly to ensure that every new situation is not a potentially fatal experience for their child
- Understandably, many parent(s)/guardian(s) of students with severe allergies experience a high level of anxiety in new situations



Classroom Accommodations

- Important issues to address in the classroom include:
 - The school nurse and classroom teacher(s) should meet to discuss a student's allergies and the symptoms that the teacher might see in the event of an allergic reaction
 - The teacher should be advised to keep the classroom as "allergen-safe" as possible. The teacher should be encouraged to think about the impact on the student of allergens that might be included in instructional materials (science supplies, art project materials, etc. that may contain food items or latex ingredients) that are brought into the classroom on an ongoing basis
 - A letter can be sent home alerting all parent(s)/guardian(s) to the fact that there is a student with significant allergies in their child's classroom. The student's name should not be shared in the letter to protect the student's right to confidentiality
 - With parent/guardian permission, inform classroom volunteers of any life-threatening allergies



Field Trip Issues

- The self-directed student's Emergency Care Plan and medications can be given to a designated individual (parent/guardian or an employee designated by the school district) who is familiar with the student's health needs and will be directly available to the student
- In the case of a non-self directed student, only the parent or school nurse may administer medications to the student.
 - **NOTE:** However if a student has an anaphylaxis emergency, epinephrine may be administered by a trained unlicensed staff member to a student with a patient specific order.
- Care should be taken when planning the field trip that the environment the student will be in is not compromising, (i.e., a student with a milk allergy attending a field trip at a petting farm with milk ingredients in the food for the animals, or balloons present for a student with a latex allergy)



Field Trip Issues

- Before leaving for a field trip, appropriate school personnel should:
 - Collaborate with the school nurse before planning a field trip to avoid high risk destinations
 - Ensure the epinephrine auto-injector and instructions are taken on the trip (if there is a student attending with a patient specific order)
 - Identify a “willing” staff member who has been trained to recognize symptoms of an allergic reaction, trained to administer epinephrine and trained in emergency procedures to accompany the student on the trip
 - Consider all eating situations and plan for prevention of exposure to life-threatening foods, insect exposure, and the presence of latex;
 - Package meals to avoid cross-contamination
 - A cell phone or other means of communication should be available if emergency help is required
 - Consider ways to wash hands before and after eating, or bring disposable wipes



Steps to Take in the Event of an Allergic Reaction

- If a student displays signs and symptoms of an allergic reaction and/or reports an exposure to their allergen, school personnel should immediately implement the school's policy on allergy anaphylaxis which should require that immediate action be taken, such as:
 - Notify the school nurse (if available) and initiate the Emergency Care Plan;
 - Locate student's epinephrine immediately;
 - Implement the student's Emergency Care Plan; **including timely administration of epinephrine if needed and**
 - Call 911 if epinephrine has been administered.



Important Considerations

- Know your school's emergency procedures and protocols in advance of an emergency and be prepared to follow them
- In the presence of symptoms, **GIVE EPI-PEN WITHOUT DELAY!** Do not wait! Note time administered
- Use a calm and reassuring voice with the student and do not leave him/her unattended
- Do not attempt to stand the student up or ask them to walk around (this may increase the danger to the student in the event of a reaction)



Important Considerations

- Implement school board approved emergency procedures; and
- Call 911 to activate the Emergency Medical System - EMS; and
 - Request Advanced Life Support - ALS (epinephrine lasts for approximately 15 - 20 minutes after which an additional dose may be required) Ambulances often don't carry epinephrine, but epinephrine will be brought when requesting Advanced Life Support
 - Have ambulance dispatcher repeat back the school address and specific entrance that should be used and have someone meet them at the door to escort them to your exact location.
- Notify school administrator
- Gather accurate information about the reaction and the student to give to ambulance personnel when they arrive



Students Can be Safe and Healthy!

- Students with life-threatening allergies can be kept safe at school
- Careful planning and prevention can greatly reduce the risk of students experiencing anaphylaxis, or a life-threatening allergic reaction at school
- It's important for school staff to know how to react and care for students experiencing allergic reactions



Resources

- “Caring for Students with Life-Threatening Allergies”
 - Found at:
 - <http://www.schoolhealthservicesny.com/uploads/Anaphylaxis%20Final%206-25-08.pdf>
 - New York State Department of Health
 - *Dr. Marilyn Kacica* *518-473-9883*
 - New York State Education Department
 - *Karen Hollowood* *518-474-4439*
 - New York Statewide School Health Services Center
 - *Sally Schoessler, Gail Wold* *585-349-7632*

