

Recognition and Treatment of Anaphylaxis in the School Setting (Maintenance and Use of Epinephrine auto-injectors)

Authorization

WV Legislative rule W. Va. 126CSR27

Amended December 12, 2013 and became effective January 13, 2014

Authority. – W.Va. Constitution, Article XII, 2 and W. Va. Code 18-1-1, 18-2-5, 18-5-22, 18-5-22a, 18-5-22b, 18-5-22c, 18A-4-8, and 30-7-1, et seq.

WV Legislative rule: 126-27-10.2

A public, private, parochial or denominational school located within this state may possess and maintain at the school a supply of epinephrine auto injectors for use in emergency medical care or treatment for an anaphylactic reaction. Each county board of education may also develop a policy for stock epinephrine during secondary activity/extracurricular events outside of the school day. A prior diagnosis for a student or school personnel requiring the use of epinephrine auto injectors is not necessary to permit the school to stock epinephrine auto injectors.

WV Legislative rule: 126-27-10.4

An allopathic physician licensed to practice pursuant to the provisions of article three, chapter thirty of this code or an osteopathic physician licensed to practice pursuant to the provisions of article fourteen, chapter thirty of this code may prescribe within the course of his or her professional practice standing orders and protocols for use when necessary by a school which wishes to maintain epinephrine auto-injector pursuant to the provisions of this section.

WV Legislative rule: 126-27-10.5

School nurses, as set forth in section twenty two of this article, are authorized to administer an epinephrine auto injector to a student or school personnel during regular school hours or at a school function when the school nurse medically believes the individual is experiencing an anaphylactic reaction. A school nurse may also use the school supply of epinephrine auto injectors for a student or school personnel authorized to self-administer that meet the requirements of a prescription on file with the school.

WV Legislative rule: 126-27-10.6

Designated qualified school personnel who have been trained in the administration of an epinephrine auto injector by the school nurse and who have been designated and authorized by the school to administer the epinephrine auto injector to a student or school personnel during regular school-related events when the authorized and designated nonmedical school personnel reasonably believes, based upon their training, that the individual is experiencing an anaphylactic reaction. Designated qualified school personnel may also use the school supply of epinephrine auto injectors for a student or school personnel authorized to self-administer that meet the requirements of a prescription on file with the school.

WV Legislative rule: 126-27-10.8

A school nurse or designated qualified school person who administers an epinephrine auto injection to a student or to school personnel as provided in this section is immune from liability for any civil action arising out of an act or omission resulting from the administration of the epinephrine auto injection unless the act or omission

was the result of the school nurse or trained and authorized nonmedical school personnel's gross negligence or willful misconduct.

Overview

Anaphylaxis is one type of allergic reaction, in which the immune system responds to otherwise harmless substances from the environment (called "allergens"). A variety of allergens can provoke anaphylaxis, but the most common culprits are food, insect venom, medications, and latex. Unlike other allergic reactions, however, anaphylaxis is potentially lethal and can kill in a matter of minutes. Anaphylaxis typically begins within minutes or even seconds of exposure, and can rapidly progress to cause airway constriction, skin and intestinal irritation, and altered heart rhythms. Without treatment, in severe cases, it can result in complete airway obstruction, shock, and death. Initial emergency treatment is the administration of injectable epinephrine (also known as "adrenaline") coupled with immediate summoning of emergency medical personnel and emergency transportation to the hospital. Appropriate, timely treatment can totally reverse anaphylaxis and return a child or adult to their prior state of health.

Reports of anaphylaxis have increased in recent years. As it is impossible to totally eliminate allergens from the school setting, all school districts, all schools, and all school staff must be prepared to help students who experience anaphylaxis. All school staff should know what to do in case of an anaphylactic attack, whether or not they are personally responsible for administration of epinephrine. They need to know what anaphylaxis is, how to tell if someone might be experiencing anaphylaxis, and how to get timely help for that child or adult. In addition, designated personnel need to go one critical step further and be able to provide the life-saving medication epinephrine while quickly summoning emergency care.

The purpose of this section of the Guidelines is to provide best-practice guidelines for responding to anaphylaxis in the school setting. It is not intended to supersede the individual prescriptive orders for epinephrine administration contained in the individualized healthcare plans of students with an established need for epinephrine availability. It does not address self-carrying of epinephrine. In fact, all students who have had a prior anaphylactic reaction or otherwise identified as with need for epinephrine availability, should have this addressed specifically in an individualized healthcare plan and should provide epinephrine for their personal use to their school.

Anaphylaxis cannot be totally avoided in the school setting. Even if all students with known allergies are able to successfully avoid exposure to their allergens, the nature of childhood is for some students to develop new allergies each year. These Guidelines are intended to help schools respond to this challenge.

Common Allergens:

Animal Dander	Peanuts
Eggs	Shellfish
Fish	Soy
Insect Venom (example: bee sting)	Tree Nuts (example: pecans)
Latex	Wheat
Medications	Milk

Non-food items, such as arts and craft materials, may contain trace amounts of food products capable of causing an allergic reaction in susceptible individuals.

Recognizing Anaphylaxis

Anaphylaxis is a severe systemic allergic reaction, resulting from exposure to an allergen that is rapid in onset and can cause death.

Common Symptoms of Anaphylaxis:

- Sudden difficulty breathing, wheezing
- Hives, generalized flushing, itching, or redness of the skin
- Swelling of the throat, lips, tongue; tightness/change of voice; difficulty swallowing
- Tingling sensation, itching, or metallic taste in mouth
- Feeling of apprehension, agitation

Although anaphylaxis typically results in multiple symptoms, reactions may vary substantially from person to person. In some individuals, a single symptom may indicate anaphylaxis. Anaphylaxis usually occurs quickly—within seconds or minutes of exposure; death has been reported to occur within minutes. An anaphylactic reaction occasionally can occur up to one to two hours after exposure to the allergen.

Treatment for Anaphylaxis

Epinephrine (also known as “adrenaline”) is the drug of choice used to treat and reverse the symptoms of anaphylaxis by constricting blood vessels and raising blood pressure, relaxing the bronchial muscles and reducing tissue swelling. Epinephrine is a prescribed medication and is administered by injection, either intramuscularly by an auto-injector or intramuscularly by syringe.

Epinephrine should be administered promptly at the first sign of anaphylaxis. It is safer to administer epinephrine than to delay treatment for anaphylaxis. The sooner anaphylaxis is treated, the greater the person’s chance for surviving the reaction. Epinephrine is fast acting, but its effects last only 5-15 minutes; therefore, a second dose of epinephrine may be required if symptoms continue.

Common side effects of epinephrine include: rapid heart rate, tremor, nervousness, anxiety

Epinephrine is available premeasured in an auto-injector or by ampoule or vial. Epinephrine auto-injectors can be administered in the school setting by both licensed personnel (i.e., registered nurse, physician) and trained unlicensed personnel as well as by self-administration in the case of older students. Use of epinephrine from a vial or ampoule requires careful measurement by and administration by licensed medical professionals. These Guidelines will address the use of epinephrine by auto-injector. However, epinephrine from vials or ampoules may be appropriate for some schools, dependent on the availability of adequate numbers of licensed medical personnel. The single dose epinephrine auto-injector is currently available in two doses: 0.15mg (for individuals weighing 33 to 66 lbs.) and 0.3mg (for individuals weighing greater than 66 lbs.).

Epinephrine Dosage

0.15mg
3mg

Weight of Individual

33 to 66 pounds
Greater than 66 pounds

Note: Epinephrine can be given based on an estimation of the individual's weight; the most important action to reverse an anaphylactic reaction is to give the epinephrine and time should not be wasted seeking a precise weight. On average, children reach 66 pounds between ages 8 and 12 years of age. According to CDC growth chart data, 66 pounds is the 50th percentile for both boys and girls at age 9 (meaning half the children weigh less and half weigh more than 66 pounds). In an emergency such as anaphylaxis, it may be necessary to use best judgment as to whether or not the child appears to weigh at least 66 pounds based on their apparent age and body build.

Storage of Medication and Associated Supplies

Epinephrine auto-injectors should be stored in a safe, unlocked and accessible location, in a dark place at room temperature (between 59-86 degrees F). It should be protected from exposure to heat, cold, or freezing temperatures. Exposure to sunlight will hasten deterioration of epinephrine more rapidly than exposure to room temperatures. The expiration date of epinephrine solutions should be periodically checked; the drug should be discarded and replaced if it is past the prescription expiration date. The contents should periodically be inspected through the clear window of the auto-injector. The solution should be clear; if it is discolored or contains solid particles, replace the unit. Supplies associated with responding to suspected anaphylaxis should be stored along with the epinephrine (ex. Incident Report, copy of Anaphylaxis guidelines). The epinephrine should be readily available to multiple school personnel, easily accessible to them, and should not be locked up. It should not be accessible to children.

Recommendations

1. Monroe County Schools shall adopt and implement a procedure for the possession and administration of epinephrine in every school.

Procedure should include:

- Identification, assignment and training of at least two staff persons per school to administer epinephrine in the case of anaphylaxis.
- Standing orders for non-student specific epinephrine.

- Specific protocols for responding to anaphylaxis in the school setting.

- Routine training of all school employees in the recognition of and response to anaphylaxis, including summoning of appropriate emergency care.
- Procedures for documentation, tracking and reporting of event.

- Procedures for purchasing, storage, and maintenance of supplies.

- Expectation that parents/guardians of students known to have a need for epinephrine availability should provide the school with student specific medical orders, an individualized healthcare

plan and their own supply of epinephrine promptly at the start of the school year or upon transfer to the school.

1. It is recommended schools make available and stock both the 0.15mg and 0.3mg doses of epinephrine via auto-injector (or vial or ampoule) in each school regardless of whether or not any students have been diagnosed with allergies. At least 2 doses each of 0.15mg and/or 0.3mg epinephrine should be available via auto-injector (or vial) in each school (i.e., total of 2 doses of epinephrine per school *unless* the principal documents that 100% of students in the school are over 66lbs in which case 2 doses of the 0.3mg epinephrine will suffice).
2. Epinephrine will be administered to any student believed to be having an anaphylactic reaction by any school nurse, employee of the school board, employee of a local governing body, or employee of a local health department, who is authorized by a prescriber and trained in the administration of epinephrine. The building administrator must designate, prior to the incident, who will perform this task in the absence of the school nurse.
3. Stock epinephrine is intended for use on school premises and should not be carried offsite.
4. Training designated employees of the school in the use of auto-injectable epinephrine shall be conducted utilizing the most current edition of the WV Basic and Specialized Healthcare Procedure Manual.
5. Monroe County Schools shall designate an authorized medical provider, to prescribe non-student specific epinephrine for the school, to be administered to any student believed to be having an anaphylactic reaction.
6. It is recommended that schools consider, at a minimum, annual practice drills to equip school personnel in providing a prompt and efficient response to an anaphylactic emergency.
7. It is expected that students with a history of anaphylaxis or whose medical providers consider them otherwise at high risk for anaphylaxis will provide the school with medical orders and student specific epinephrine on an annual basis.

Responding to Anaphylaxis

1. Based on symptoms, determine that an anaphylactic reaction appears to be occurring. Act quickly. It is safer to give epinephrine than to delay treatment. **Anaphylaxis is a life-threatening reaction.**
2. If you are alone and are able to provide epinephrine, call out or yell for help as you immediately go to get the epinephrine. Do not take extra time seeking others until you have provided the epinephrine.
3. If you are alone and do not know how to provide epinephrine, call out or yell for help. If someone is available to help you, have them get the personnel trained to provide epinephrine and the epinephrine while you dial 911 and follow the dispatcher's instructions. Advise 911 operator that anaphylaxis is suspected and epinephrine is available. Your goal is to get someone (EMS or trained personnel) to provide epinephrine and care as soon as possible.

4. Select appropriate epinephrine auto-injector to administer, based on weight.

Dosage: 0.15 mg Epinephrine auto-injector IM, if less than 66 pounds
0.30 mg Epinephrine auto-injector IM, if 66 pounds or greater

Frequency: If symptoms persist or return, a second dose should be administered 5 to 15 minutes after first dose.

5. Inject epinephrine via auto-injector: Pull off safety release cap. Swing and jab firmly into upper, outer thigh, (through clothing if necessary). **Hold in place for 10 seconds to deliver medication and then remove.** Note the time.

6. Call or have a bystander call 911 immediately or activate the Emergency Medical System (EMS). Advise 911 operator that anaphylaxis is suspected and epinephrine was given.

7. Keep the individual either lying down or seated. If they lose consciousness, check if they are breathing and have a pulse. If not, begin CPR (cardiopulmonary resuscitation), call out for help and continue CPR until the individual regains a pulse and is breathing or until EMS arrives and takes over.

8. Call School Nurse/Front Office school personnel and advise of situation.

9. Repeat the dose after 10 minutes if symptoms persist.

10. Stay with the individual until EMS arrives, continuing to follow the directions in No. 5 above.

11. Provide EMS with Epinephrine auto injector labeled with name, date, and time administered to transport to the ER with the student.

FOLLOW UP (to be done the day of the event):

1. Assure parents/guardians have been notified and advised to promptly let the student's primary care physician know about the episode of suspected anaphylaxis.
2. Complete required documentation of incident. (Report of Anaphylactic Reaction and Report to WV Poison Control) This is to be done by person administering the Epi Pen with assistance by the School Nurse.
3. Order replacement epinephrine auto injector(s).

Monroe County Schools is required to report each reaction resulting in the administration of epinephrine injections in their county. The incident will be reported to the West Virginia Poison Center by calling 1-800222-1222 after emergency medical services have transported the student or staff member to acute care. The notification should include the name of the student, the student's age and gender, date and the approximate time the incident occurred, symptoms observed, who administered the injection, the name of the

school the student attends, a contact telephone number, the rationale for administering the injection, the response to the epinephrine administration, the dose of epinephrine administered, and any other necessary elements to provide a complete report for the individual situation. The West Virginia Poison Center will provide the data upon request to the public schools, local boards of education and annually to the State Superintendent of Schools.

Adopted by Board Action: April 21, 2015

Emergency Anaphylaxis Skills Training Checklist

Designee:	School:
School Nurse:	Date:

Performance Criteria	RN DemoDate/ Initial	Designee Demo Date/ Initial	Up-date Date/ Initials	Up-date Date/ Initials
1. Describe symptoms of anaphylaxis				
2. Discuss appropriate treatment for anaphylaxis				
3. State situations when the physician ordered response medication (Epinephrine auto-injector) should be used				
4. Demonstrate how to administer epinephrine auto-injector pen (complete Epinephrine Auto-Injector Pen Training Checklist)				
5. Demonstrate how to administer an inhaler if applicable (complete inhaler checklist).				
6. State when it is necessary to call 911 (911 is automatically to be called if epinephrine is administered).				
7. State precautions/actions to take after epinephrine is administered; a second injection may be necessary.				
8. Discuss proper disposal of medical supplies				

Nurse Signature/Initials:	Date:
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Designee Signature/Initials:	Date:
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Epinephrine Auto-Injector Pen Training Checklist

Designee:	School:
School Nurse:	Date:

Performance Criteria	RN DemoDate/ Initial	Designee Demo Date/ Initial	Up-date Date/ Initials	Up-date Date/ Initials
1. Locate and verbalize understanding of how to read epinephrine/epinephrine auto-injector pen orders.				
2. State storage location of epinephrine.				
Locates injection site (s) to be used.				
4. Demonstrates accurate injection technique for epinephrine auto-injector:				
4a. Pull off appropriate cap(s).				
4b. Place tip of injector on outer thigh.				
4c. Use a swing and jab motion and press hard into thigh. <i>Needle WILL penetrate jeans.</i>				
4d. Hold in place and count to 10 seconds, then remove.				
4e. Call 911 if not already done.				
4f. If symptoms do not improve after 10min., administer second dose if available.				
5. States precautions/actions to take after epinephrine is administered; second injection may be necessary.				
6. Discuss proper disposal of medical supplies.				

Nurse Signature/Initials:	Date:
Designee Signature/Initials:	Date:

Note-use N/A if not applicable.