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NEW HAMPSHIRE DEPARTMENT OF HEALTH AND HUMAN SERVICES
GUIDELINES FOR THE POLICY DEVELOPMENT OF EMERGENCY EPINEPHRINE
ADMINISTRATION

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This document provides guidance from the New Hampshire Department of Health and Human Services (NH DHHS) to postsecondary educational institutions for development of a policy for the emergency administration of epinephrine via auto-injectors in accordance with Senate Bill (SB) 194. The guidelines are intended for use in the formulation of a policy by a postsecondary educational institution for the emergency administration of epinephrine by trained personnel to a member of the campus community for anaphylaxis when a licensed campus medical professional is not available. Institutions should formalize their individual policies with the assistance of licensed medical professionals who are familiar with the signs and symptoms of anaphylaxis, treatment of allergic reactions including anaphylaxis, and local and campus medical response resources.

I. DEFINITIONS

Anaphylaxis - A serious allergic or hypersensitivity reaction that is rapid in onset, life threatening, and occurs following exposure to certain triggers, including most commonly, but not limited to, foods, insect stings, and medications.

Auto-injector or auto-injectable - A pre-measured, spring-loaded pen-like device used to administer medications (e.g. epinephrine) and designed for ease of use by patients and other trained medical and non-medical persons.

Epinephrine (adrenaline) - An organic compound (i.e. catecholamine) naturally produced in the human body, but which can also be administered as a medication by various routes for treatment of a variety of conditions, including for the treatment of anaphylaxis.

Licensed campus medical professional - Any of the following licensed individuals who are employed, contracted, or volunteer with a postsecondary institution, and who have a working knowledge of the symptoms and treatment of anaphylaxis: physician, physician assistant, advanced practice nurse, EMT, paramedic, or registered nurse.

Member of the campus community - Any student, visitor, faculty member, or staff member of a postsecondary institution.

Trained Designee - A member of the campus community identified and trained by a licensed campus medical professional to administer auto-injectable epinephrine to treat anaphylaxis when in an emergency situation when a licensed campus medical professional is unavailable.

II. Responsibilities of the Institution of Higher Education

A postsecondary institution that chooses to develop a program for the emergency administration of auto-injectable epinephrine for the treatment of anaphylaxis is responsible for developing an institutional policy, as outlined below, and for administering that policy including to:

- identify a licensed campus medical professional;
- develop a training program;
- administer the training program to identified designees;
- ensure that a trained designee is knowledgeable in the recognition and treatment of anaphylaxis and proficient in the administration of auto-injectable epinephrine;
- acquire and store a supply of auto-injectable epinephrine, including to identify a licensed healthcare provider to prescribe auto-injectable epinephrine,
- create a mechanism to dispense auto-injectable epinephrine to trained designees based on institutional policy;
- develop a system to routinely assess trained designee competency in recognition and treatment of anaphylaxis, including administration of epinephrine;
- develop a system for annual review of training materials to ensure educational materials are consistent with the current science and medical recommendations;
- develop a quality assurance and review program of the institutional policy and training program.

According to SB 194:

- A. A postsecondary educational institution that develops a policy must designate a licensed campus medical professional (responsibilities discussed below).

- B. A postsecondary educational institution accredited to operate in NH may develop a policy for the emergency administration of auto-injectable epinephrine to a member of the campus community for anaphylaxis when a licensed campus medical professional is not available. Such policy shall include:
 1. Permission for a trained designee to do the following:
 - a. Administer auto-injectable epinephrine to a member of the campus community for anaphylaxis when a licensed campus medical professional is unavailable.
 - b. When responsible for the safety of at least one member of the campus community, carry in a secure but accessible location a supply of auto-injectable epinephrine that is prescribed under a standing protocol from a health care provider who is licensed in New Hampshire and whose scope of practice includes the prescribing of medication.
 2. Provisions that a licensed campus medical professional has responsibility for training designees in the following:
 - a. The administration of auto-injectable epinephrine.
 - b. Identification of an anaphylactic reaction and indications for when to use epinephrine.

- C. Regarding prescribing and storage of epinephrine:
 1. A postsecondary educational institution may fill a prescription for auto-injectable epinephrine and store the auto-injectable epinephrine on the campus if a licensed health care provider whose scope of practice includes the prescribing of medication writes the prescription for auto-injectable epinephrine

for the postsecondary educational institution.

2. The postsecondary educational institution shall store the auto-injectable epinephrine in an unlocked safe location in which only postsecondary educational institution personnel have access.
3. A health care provider who is licensed in this state and whose scope of practice includes the prescribing of medication may write a prescription, drug order, or protocol for auto-injectable epinephrine for the postsecondary educational institution.
4. A pharmacist licensed under RSA 318 may dispense a valid prescription, drug order, or protocol for auto-injectable epinephrine issued in the name of a postsecondary educational institution.

III. Responsibilities of the licensed campus medical professional

The licensed campus medical professional is responsible for training the designee(s) in the identification of signs and symptoms of anaphylaxis, how to contact emergency support services, and how and when to administer auto-injectable epinephrine in the event of an emergency and in the absence of a licensed medical professional trained to administer epinephrine. The licensed campus medical professional must also assess the competency of trained designee(s). This training must be provided at least annually and should include at a minimum the information provided in this document.

According to SB 194, a licensed campus medical professional may:

1. Establish and administer a standardized training protocol for the emergency administration of epinephrine by trained designees.
2. Ensure that trained designees have satisfactorily completed the training protocol.
3. Obtain a supply of auto-injectable epinephrine under a standing protocol from a physician licensed under RSA 329.
4. Control distribution to trained designees of auto-injectable epinephrine.

IV. Developing a Training Program

Postsecondary educational institutions may develop a training program to train designees in the administration of auto-injectable epinephrine to a member of the campus community for anaphylaxis when a licensed campus medical professional is unavailable. The main components of the training program should:

- Review the signs and symptoms of anaphylaxis,
- Instruct about the administration of auto-injectable epinephrine,
- Document proficiency in the administration of the auto-injectable epinephrine,
- Review how to contact emergency support services, including access to 911,
- Review basics in emergency medical care, including how to care for and monitor a patient until arrival of EMS.

According to SB 194, an individual shall comply with the following requirements in order to act as a trained designee:

1. Be at least 18 years of age.
2. Have or reasonably expect to have, responsibility for at least one other member of the campus community as a result of the individual's employment.
3. Have satisfactorily completed the standardized training protocol established and administered by a licensed campus medical professional in accordance with guidelines developed under RSA 200-N:4.

A. Recognizing triggers and symptoms of anaphylaxis

Most of the time, anaphylaxis is an immunologic reaction triggered by a variety of different exposures or allergens. Sometimes people can have anaphylaxis for no apparent reason. The most common causes of anaphylaxis include exposure to:

- Foods (commonly peanuts, tree nuts, shellfish, fish, eggs, milk),
- Medications
- Insect stings
- Natural latex

Anaphylaxis can present in a variety of different ways and other unrelated health problems can present with the same signs and symptoms, making it difficult to diagnose anaphylaxis. If anaphylaxis is not recognized early, it can lead to respiratory and cardiac collapse and eventually death. Epinephrine in this setting can be lifesaving, and delayed use of epinephrine can lead to death.

The diagnosis of anaphylaxis is based mainly on recognition of symptoms a person is experiencing and physical exam findings, along with a history of anaphylaxis or exposure to a known trigger. As mentioned, however, anaphylaxis can occur for no apparent reason, so a person must consider anaphylaxis based on a person's signs and symptoms. The following clinical diagnostic criteria were developed to help clinicians recognize the broad spectrum of signs and symptoms that someone with anaphylaxis might present with. There may be patients who do not fully meet any of these diagnostic criteria but for whom epinephrine administration may still be appropriate.

Anaphylaxis is very likely when any ONE of the following three criteria is fulfilled:

1. Rapid onset of an illness (within several minutes to hours) with involvement of skin and/or mucosal tissue (including hives; itching; flushing; swollen lips, tongue or uvula), and at least one of the following:
 - Respiratory compromise (including shortness of breath or difficulty breathing, wheezing, or high-pitched breathing sounds called stridor).

OR

 - Low blood pressure or associated symptoms (including fainting or passing out, collapse, weak pulse, or other signs of cardiac compromise).
2. Two or more of the following quickly develop (within several minutes to hours) after exposure to a **LIKELY** allergen for a patient:
 - involvement of skin and/or mucosal tissue (including hives; itching; flushing; swollen lips, tongue or uvula),
 - Respiratory compromise (including shortness of breath or difficulty breathing, wheezing, or high-pitched breathing sounds called stridor),
 - Low blood pressure or associated symptoms (including fainting or passing out, collapse, weak pulse, or other signs of cardiac compromise),
 - Persistent gastrointestinal symptoms (including crampy abdominal pain and vomiting).

3. Reduced/low blood pressure develops (within minutes to hours) after exposure to a KNOWN allergen for a patient:
 - Reduced/low blood pressure in adults is defined as a systolic blood pressure less than 90 mmHg, or a >30% decrease in systolic blood pressure from an individual's baseline
 - Reduced/low blood pressure in infants and children is defined as a low age specific systolic blood pressure (varies based on age), or a >30% decrease in systolic blood pressure from an individual's baseline.

Note: Trained designee(s) are not expected to measure blood pressure or determine a decrease in blood pressure relative to an individual's baseline as part of training for epinephrine administration. Some trained designees, however, may have baseline medical training or experience (i.e. first responder training), and already know how to measure blood pressure. Therefore, blood pressure criteria may be applicable for some trained designees.

B. Standards and Procedures for auto-injectable epinephrine administration

An epinephrine auto-injector is a disposable drug delivery device with a spring-loaded needle that is easily transportable (about the size of a magic marker) and contains a pre-measured dose of epinephrine. The auto-injector is designed to deliver a single intramuscular dose of epinephrine during an anaphylactic episode, and multiple auto-injector doses may be necessary to treat anaphylaxis until an individual is able to reach a hospital for definitive monitoring and medical care. The auto-injector device must be properly discarded (in compliance with applicable state and federal laws) after its use.

Steps in the Emergency Use of an Epinephrine Auto-Injector:

1. Evaluate for anaphylaxis based on the signs and symptoms described above. If there is a reasonable suspicion that an individual is experiencing anaphylaxis, treat the situation like an anaphylactic emergency and administer basic life support.
2. Remove the allergen or trigger causing the anaphylactic reaction, if known and present.
3. Do not leave the individual alone. Immediately Call 911 and then follow the academic institution's policies and procedures for medical emergencies.
4. Administer auto-injectable epinephrine:
 - Place individual in a seated position.
 - Select appropriate epinephrine auto-injector dose (pediatric vs. adult dose).
 - Check the auto-injector for expiration date and color (to be most effective, the solution in the auto-injector window should be clear and colorless).
 - Remove the safety cap from the epinephrine auto-injector.
 - Grasp the auto-injector firmly in one hand and jab the tip firmly into the individual's large outer thigh muscles (quadriceps muscle). The auto-injector can be injected through an individual's clothing if necessary.
 - Press until you hear a click (indicates the needle has deployed), and hold firmly in place against the outer thigh for approximately 10 seconds to deliver the medication. After the injection, the individual may feel his/her heart pounding, or may feel nervous/anxious; this is a normal reaction.

- Remove the auto-injector and check to ensure that the needle safety cover has been deployed to cover the used needle.
 - Dispose of the auto-injector in a sharps container if available, or give the expended auto-injector to emergency response personnel.
5. Place patient into a supine position with legs elevated if tolerated. If patient is vomiting or short of breath, place them on their side or in a semi-reclined position to prevent aspiration of vomitus or respiratory secretions.
 6. Administer oxygen if available.
 7. Consider adjunctive treatment with bronchodilators (i.e. albuterol) for airway bronchospasm, and/or antihistamine (i.e. diphenhydramine) for hives and itching.
 8. Observe the individual and wait for emergency medical professionals to arrive. In some circumstances a second administration of epinephrine may be necessary.
 9. Monitor the individual's airway and breathing. If the trained designee is trained in CPR and the individual being treated stops breathing, the trained designee should begin CPR immediately.

Note: Any individual who receives epinephrine should be transported to a hospital emergency room, even if symptoms appear to have subsided. Some individuals with an anaphylactic reaction may have symptoms recur between 8 and 72 hours after the initial reaction. A staff member should accompany the person to the hospital, if possible, and follow procedures in accordance with the postsecondary institution's policies regarding the care of individuals during emergencies.

Guidance on the Storage of Epinephrine Auto-Injectors:

Epinephrine auto-injectors should be stored at room temperature until the marked expiration date, at which time the unit must be replaced. Auto-injectors should not be refrigerated as this could cause the device to malfunction. Auto-injectors should not be exposed to extreme heat or cold (such as in the glove compartment or trunk) or to direct sunlight. Heat, cold, and light shorten the life of the product and can cause the epinephrine to degrade. Epinephrine auto-injectors should only be used if the solution in the auto-injector is clear and colorless.

V. ADDITIONAL POLICIES AND PROCEDURES

NH DHHS strongly recommends that trained designees also receive instruction and maintain current certification in cardiopulmonary resuscitation from a recognized provider such as the American Red Cross or the American Heart Association. First responder or wilderness medicine training is also recommended for trained designees which may be overseeing individuals in a setting without immediate access to emergency medical services (e.g. on a college outdoor education trip). It is the academic institution's responsibility to arrange for these additional training opportunities if deemed desirable or necessary.

It is also the postsecondary education institution's responsibility to develop policy and guidelines regarding identification of licensed campus medical professional(s) and trained designee(s) to serve in the roles discussed in this document, and to outline their respective roles and responsibilities in more detail in accordance with the institutions policy.

VI. RESOURCES

<http://www.niaid.nih.gov/topics/anaphylaxis/Pages/default.aspx>

<http://www.cdc.gov/healthyschools/foodallergies/index.htm>

<http://www.redcross.org/services/hss/courses/>

<http://www.foodallergy.org/home>

<http://www.epipen.com/howtouse.aspx>

<http://www.aaaai.org/>

www.ACEP.org/anaphylaxis

Disclaimer

The New Hampshire Department of Health and Human Services does not control or assure the significance, accuracy, or comprehensiveness of the cited resource information. The resources identified are intended to provide academic institutions with links to relevant information for planning, implementing, and evaluating school health procedures. Academic institutions are encouraged to thoroughly assess their needs and investigate programs and materials before adopting them.