

29 BLS Epinephrine Administration for Anaphylaxis

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29.1 Purpose and Expected Results

A severe systemic immune system reaction to an allergen progressing to shock (anaphylaxis) can be a time-critical, life-threatening event. The time from allergen exposure to anaphylactic shock and death may be only minutes. Of those that die from anaphylaxis, 90% do so within 30-minutes of exposure, and the remainder within hours. (The Squad's packaging and transport times typically approach 30-minutes.) Epinephrine, at an appropriate dose, injected intramuscularly, in a timely manner, has been proven to effectively (if temporarily) reverse anaphylaxis. However, epinephrine cannot be administered without risk or side-effects, e.g. heart damage and dysrhythmias; thus, proper training in the indications, contra-indications, and management of consequences is imperative.

Consistent with the Squad's goal of superior pre-hospital patient care, for treatment of suspected anaphylaxis, a properly trained EMT may and should administer epinephrine intramuscularly using a syringe epinephrine kit or an epinephrine auto-injector device such as an Epi-Pen®. The objective is to reverse a threat to life.

29.2 Circumstances of Applicability

A patient presents with, or develops, the signs and symptoms of anaphylaxis.

29.3 Requisites

- A patient exhibiting the signs and symptoms of anaphylaxis as described in the regional protocols.
- ALS interventions cannot be performed in a timely manner.
- Availability of a syringe epinephrine kit or epinephrine auto-injector.
A syringe epinephrine kit consists of one each of:
 - 1cc syringe, that shows dosing.
 - 23-gauge, 1-inch intramuscular safety needle
 - single dose 1:1000 epinephrine packaged in a 1mg/mL vial
 - container of the above, labeled and sealed
- An EMT currently authorized to use a syringe epinephrine kit or an epinephrine auto-injector
- Actual or implied consent of the patient.

29.4 Procedure Description

Reference is invited to the NYS DoH BEMS Policy Statements 00-01 (Dated: 04/10/00), *Use of Epinephrine Auto Injectors by EMS Agencies*, and 17-06 (Dated May 24, 2017), *Syringe Epinephrine for Basic EMTs*. This procedure guideline requires an approved training program, requirements for continuing education, maintenance of competencies, and the documentation for authorized providers. Within this document, the Village of Owego EMS is called the Squad and the Emergency Health Care Provider (EHCP) is the Squad's medical director.

29.4.1 Required Training

All Squad members that provide patient care shall complete a training course which is consistent with the *National Emergency Medical Services Education Standards Emergency Medical Technician Instructional Guidelines* (NYS BEMS Version) and the *NYS EMS Instructional Guidelines* which includes the didactic content and psychomotor skills for the administration of 1:1000 epinephrine using a syringe for treating a patient with anaphylaxis as well as the administration of epinephrine using an auto-injector.

29.4.2 Squad-EHCP Collaborative Agreement

This document represents the collaborative agreement between the Squad and the Squad's EHCP regarding the intramuscular administration of epinephrine by EMTs. It contains and provides for:

- Procedure for intramuscular injection of epinephrine;
- Policy and procedural guidelines for the training of authorized users;
- Notice to the EHCP of the intramuscular injection of epinephrine by a basic EMT;
- Documentation of the intramuscular injection of epinephrine by a basic EMT;
- Policy and procedural guideline for acquisition, storage, accounting, and proper disposal of items used in the intramuscular injection of epinephrine by a basic EMT.

29.4.3 Notification of DoH and REMSCO.

The Squad's Captain shall file with the Department of Health and the Susquehanna EMS Region's REMAC a Medical Director Verification Form (DOH-4362). If the EHCP changes or there is a change in content of the agreement, the Squad's Captain shall file an updated Form DOH-4362.

29.4.4 Procedure for intramuscular injection of epinephrine

In the event of suspected anaphylaxis or severe asthma, characterized by the patient's history and clinical findings that authorize and require treatment according to the current NYS Collaborative protocols, the EMT will provide treatment in accordance with those protocols including:

1. Assess the patient's signs and symptoms and the patient's relevant history
2. As appropriate, administer an intramuscular injection of epinephrine by an EMT.
3. As appropriate, provide additional care.
4. Monitor patient's condition especially breathing effort with vital signs at appropriate intervals.

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5. As appropriate, arrange for timely ALS intervention, e.g. ALS intercept, or arrival at hospital.
6. Transport to an appropriate hospital.
7. Record all patient care information, including the patient's relevant medical history and all treatment provided, on a Prehospital Care Report (PCR). As discussed below, the PCR, or electronic PCR (ePCR), shall contain additional information.
8. Replenish the ambulance or emergency response vehicle.

29.4.5 Acquisition

The Squad will acquire the components of syringe epinephrine kits or epinephrine auto-injectors through the same procedures and channels used to procure its ALS medications. Each syringe epinephrine kit shall be appropriately labeled such as dosaging and sealed. As a minimum the label shall include a description of the kit and the expiration date of the included vial of epinephrine.

29.4.6 Storage

In the station, spare syringe epinephrine kits or epinephrine auto-injectors will be stored with spare ALS medications. In the ambulances and emergency response vehicle, syringe epinephrine kits or epinephrine auto-injectors shall be stored in a BLS medications container to which all properly trained personnel will have access.

29.4.7

Quantities

Each ambulance and emergency response vehicle shall carry either syringe epinephrine kits or epinephrine auto-injectors sufficient for not less than two (2) adult doses and two (2) pediatric doses.

29.4.8 Disposal

All used syringes with needles or auto-injectors will be disposed of in the proper biohazard container on-board the ambulance. Surplus, damaged, or expired syringe epinephrine kits and epinephrine auto-injectors will be disposed of in the same manner as ALS medications.

29.4.9 Documentation of Use

Intramuscular injection of epinephrine requires extended documentation on the PCR (ePCR). In addition to the normally required PCR data, the follow must be provided in the Comments / Narrative section:

- Patient's prior allergic reaction history
- Patient's recent exposure to a known or suspected allergen including a description of the allergen and time of exposure.
- Patient's specific signs and symptoms that prompted the intramuscular injection of epinephrine.
- Patient's response to administration of epinephrine.
- The name of the physician authorizing initial (if applicable) or repeated administration of epinephrine.

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- If an epinephrine auto-injector was employed, was it the patient's own or Squad supplied and who administered it.
- Mode of patient transport
- Description of ALS interface or subsequent ALS interventions
- Patient's outcome, including changes in patient status

29.4.10 Quality Assurance / Quality Improvement (QA/QI)

29.4.11 Every call on which occurs intramuscular injection of epinephrine by a basic EMT, should be reviewed by the Squad's QA/QI committee. Continuing Education and Maintenance of Skill Competence

In order to maintain authorization to administer epinephrine intramuscularly an EMT must attend at least one two-hour class the subject of which is allergy and anaphylaxis within three years. Skill competence should be demonstrated and documented not less than semi-annually.

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Herein completes the Collaborative Agreement between the Owego Emergency Squad and Dr. James Raftis, Medical Director and EHCP.

Signed: _____
EHCP

Signed: _____
Officer in charge

Date: _____