

Lesson Length: 45 minutes

GUIDANCE FOR THE INSTRUCTOR

To complete this lesson and meet the lesson objectives, you must:

- Welcome participants and explain the purpose of the course.
- Conduct lectures for Recognizing Anaphylaxis and Caring for Anaphylaxis.
- Show the video segment, “Anaphylaxis Adult/Child/Infant.”
- Conduct the Epinephrine Auto-injector skill practice session.
- Conduct the Lesson Wrap-Up.

LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe anaphylaxis.
- Differentiate between a mild allergic and a severe (anaphylactic) reaction.
- Apply the emergency action steps to an anaphylaxis emergency.
- Identify the steps for administering and demonstrate how to use an epinephrine auto-injector.
- Describe how to store and maintain an epinephrine auto-injector.



MATERIALS, EQUIPMENT AND SUPPLIES




- One auto-injector training device for every two participants
- Disposable latex free gloves



Instructor’s Note: *The Anaphylaxis and Epinephrine Auto-injector lesson is designed to address the need for training in the use of an epinephrine auto-injector device. The instructor should emphasize during the module that:*

- ***This information is provided for educational purposes only and does not authorize a participant to administer an epinephrine auto-injector or to assist in the administration of one. Participants should follow all applicable state and local laws, rules and regulations that restrict the administration of an epinephrine auto-injector, and understand that they are solely responsible for the administration, or the assistance of administration, of an epinephrine auto-injector.***
- *In the event of differing advice, actual instructions or protocols from a health care provider for a specific person or situation should take precedence over instruction in this module.*
- *The instructions within the course are based on the widely available EpiPen®. If you are using a different epinephrine injector device, be sure to follow that manufacturer’s instructions.*

WELCOME	
INSTRUCTION: 	<ul style="list-style-type: none"> ■ Introduce yourself and have participants introduce themselves. ■ Review any facility policies and procedures. ■ Tell participants that the purpose of this course is to give individuals the knowledge and skills necessary to recognize anaphylaxis and provide care for a person experiencing an anaphylaxis reaction until EMS personnel arrive and take over. This module includes the demonstration and skill practice session of an epinephrine auto-injector device
HEALTH AND SAFETY PRECAUTIONS FOR THE COURSE	
INSTRUCTION: 	<ul style="list-style-type: none"> ■ Explain to participants that standard precautions will be followed during this training. ■ Ask participants to privately inform you if they have any medical condition or disability that might affect course participation.

WHAT IS ANAPHYLAXIS?	
INSTRUCTION:  	<ul style="list-style-type: none"> ■ Show the video segment “Anaphylaxis (Adult/Child/Infant)” (3:01). ■ Anaphylaxis is a severe allergic reaction that can be life threatening. ■ Anaphylaxis can be caused by things people come into contact with every day. A substance that is normally harmless to others but causes an allergic reaction in certain individuals is called an allergen. ■ If a person with a severe allergy comes into contact with an allergen, the body releases an excess of certain internal chemicals called histamines. Those chemicals released in the body can lead to all sorts of problems, such as difficulty breathing, shock and even death. ■ Common allergens associated with anaphylaxis (note: this list is not all inclusive): foods, particularly eggs, milk, peanuts, fish and shellfish, soy, tree nuts and wheat; also, insect stings, latex and medications, such as penicillin. ■ A reaction can happen within minutes after the exposure to an allergen, although reactions vary among individuals and may be delayed.
SIGNS AND SYMPTOMS OF ANAPHYLAXIS	
INSTRUCTION: 	<ul style="list-style-type: none"> ■ Before giving care, it is important to know the signs and symptoms and be able to differentiate between a mild allergic reaction and a severe reaction (anaphylaxis). ■ Signs and symptoms of mild allergic reactions include hives or rash, itching, and in individuals with food allergies, gastrointestinal complaints, such as nausea. ■ Anaphylaxis requires special care. Any of the following three scenarios should lead you to suspect anaphylaxis: <ul style="list-style-type: none"> ○ A specific combination of signs and symptoms. First, look for any skin symptom, such as hives, itchiness or a red or flushed face, or look for swollen lips. Then, check for trouble breathing or signs of shock, such as pale, cool and sweaty skin; lightheadedness; weakness; or anxiety. ○ When you suspect someone has come into contact with an allergen, look for at least two of the following signs and symptoms: a skin symptom or swollen lips; difficulty breathing; signs of shock; or nausea, vomiting or cramping. ○ If you know someone has come into contact with an allergen and shows any signs or symptoms of shock, you will need to provide care for anaphylaxis. ■ If you suspect someone is having an allergic reaction, always watch them for signs and symptoms of anaphylaxis for at least 2 hours

CHECK—CALL—CARE

INSTRUCTION:



Explain to participants that in any emergency, there are three action steps they should take: **CHECK—CALL—CARE**.

- **Before rushing to help an injured or ill person, size up the scene and form an initial impression.**
- **Use your senses to gather information that will help you to determine:**
 - Whether the scene is safe for you to enter.
 - What happened to cause the emergency.
 - How many people are involved?
 - What condition the person is in.
 - Whether anyone else is available to help.
- **Part of doing the scene size-up is forming an initial impression about what is wrong with the person. For example:**
 - Does the person appear ill or have any immediately identifiable injuries?
 - Is the person moving or motionless?
 - Does the person have signs of a life-threatening illness or injury, such as trouble breathing or severe, life-threatening bleeding? Are there any signs and symptoms of shock?
- **The information you gather when you are sizing up the scene and forming an initial impression will help you to determine your immediate next course of action. Depending on what you observe, you may need to:**
 - Call 9-1-1 or the designated emergency number.
 - Obtain equipment, such as an AED and first aid kit.
 - Provide immediate care for a life-threatening injury or illness.
- **Check the person for signs and symptoms of anaphylaxis, ask the person or bystander what happened (about exposure to known allergens), ask about a history of allergies and/or look for a medical ID bracelet. If safe, remove the person from contact with the allergen. For example, move the person away from bees.**
- **Have someone call 9-1-1 or the designated emergency number immediately.**
- **If you are alone, help the person administer medication (e.g., epinephrine) for the emergency treatment of anaphylaxis and then call 9-1-1 or the designated emergency number.**
- **Care for anaphylaxis includes administration of epinephrine using an auto-injector.**
- **You can help a person use an epinephrine auto-injector when state law permits, the person is having signs and symptoms of anaphylaxis and the person requests your help to use an auto-injector under the following circumstances:**
 - The person has a previous diagnosis of anaphylaxis and has been prescribed an epinephrine auto-injector or
 - The person is having signs and symptoms of anaphylaxis and you are authorized to administer an epinephrine auto-injector and an auto-injector is available.
- **Encourage the person to sit down and lean forward to make breathing easier, if possible have the person lay down to reduce the risk of shock, and provide reassurance.**

	<ul style="list-style-type: none"> ■ In addition to epinephrine administration, the person will need additional medical care (monitoring and additional treatment). <p>Help administer a second dose of epinephrine if the person is still having signs and symptoms 5 to 10 minutes after administering the first dose of epinephrine and emergency responders have not arrived.</p>
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WHAT IS EPINEPHRINE?

INSTRUCTION:




- Epinephrine is a medication that works in the body to counteract the internal chemicals that cause the anaphylactic reaction.
- People with severe allergies should carry an epinephrine auto-injector. An auto-injector is a device used to administer epinephrine. It is a spring-loaded syringe system containing a single dose of epinephrine, and it is available in adult and child doses (based on weight).
- Epinephrine auto-injectors are only available through a prescription and/or medical authorization.
- The prescription for an epinephrine auto-injector often comes with two devices because it may be necessary to administer a second dose.
- Be sure to inspect devices regularly for cloudiness of the solution, expiration or damage, which all could compromise the life-saving capabilities of the medication. Auto-injectors should be stored in a cool, dry location. Avoid prolonged contact with sunlight, excessive heat or cold temperatures.

ADMINISTERING EPINEPHRINE

INSTRUCTION:




- Where state laws allow, some schools or other organizations keep undesignated (not prescribed to any one individual) or stock epinephrine auto-injectors for use in an anaphylaxis emergency. If using an undesignated or stock epinephrine auto-injector:
 - **Check for signs and symptoms of anaphylaxis.**
 - **Determine the correct dose of epinephrine. Dose is based on the age and weight of the person.**
- There are two auto-injectors available:
 - **An auto-injector with a 0.15 mg dose of epinephrine for a child who weighs between 33 and 66 pounds**
 - **An auto-injector with a 0.3 mg dose of epinephrine for a child or adult who weighs more than 66 pounds**
- Before administering epinephrine, determine if the person has already taken epinephrine. If so, a second dose should be administered after 5 to 10 minutes if symptoms of anaphylaxis do not improve, or improve and then get worse again and EMS has not arrived.
- Using the epinephrine auto-injector training device, demonstrate how to use an epinephrine auto-injector on yourself, pointing out the following:
 - **The injection site is the outside middle of either thigh between the hip and knee. Ensure there are no obstructions such as a mobile phone or wallet. The auto-injector may be used through clothing.**
 - **The tip of the auto-injector should be held at a 90-degree angle to the thigh.**
 - **To prevent injury when helping someone administer epinephrine, hold the leg firmly to limit movement of the leg during administration.**
 - **The medication is administered by quickly and firmly pushing the auto-injector tip into the thigh until a click is heard or felt.**
 - **The EpiPen auto-injector should be held in place for 3 seconds (if using a different auto-injector follow the manufacturer's recommended time)**
 - **After the medication is administered, massage the injection site with a gloved hand or have the person massage the injection site.**
 - **Place the used auto-injector with the needle pointing down in its carrying case or other rigid container with one hand and give it to EMS**

	<p>personnel when they arrive for proper disposal. Be sure not to touch the tip of the auto-injector.</p> <ul style="list-style-type: none"> ○ If the person is still having signs and symptoms 5 to 10 minutes after administering the first dose of epinephrine and emergency responders have not arrived, a second dose should be administered.
<p>INSTRUCTION:</p> 	<ul style="list-style-type: none"> ■ Explain to participants that they are going to practice the administration of epinephrine using an epinephrine auto-injector training device. ■ Tell students that the training device does NOT contain a needle. ■ Demonstrate how to reset the training device during the practice session. ■ Have participants choose a partner. One person will be the responder and the other the conscious person experiencing anaphylaxis. ■ Have responders put on latex free gloves. ■ Guide participants through the skill. ■ Tell participants to simulate administering epinephrine by holding the other participant's leg and quickly and firmly pushing the auto-injector trainer tip into the thigh. Note: Tell participants that during practice sessions, they should avoid causing pain to their partner from pushing the auto-injector training device in too hard. ■ Have participants trade places, so all participants have an opportunity to be the responder.

TOPIC: **LESSON WRAP-UP**

Time: 5 minutes

<p>INSTRUCTION:</p> 	<ul style="list-style-type: none"> ■ Review key concepts. Ask participants: <ul style="list-style-type: none"> ○ What is anaphylaxis? <i>Anaphylaxis is a severe allergic reaction that can be life threatening.</i> ○ What symptoms suggest a mild reaction? <i>Signs and symptoms of mild allergic reactions include hives or rash, itching, and in individuals with food allergies, gastrointestinal complaints, such as nausea.</i> ○ What would lead you to suspect anaphylaxis? <i>Symptoms of anaphylaxis include skin discoloration, swollen lips, trouble breathing and signs of shock.</i> <i>Suspected exposure + any 2 signs or symptoms = anaphylaxis.</i> <i>Known exposure + any sign or symptom of shock = anaphylaxis.</i> ○ How should you respond to an anaphylaxis emergency? <i>Check the scene by performing a scene size-up. Check the person for signs and symptoms. If you suspect anaphylaxis, have someone else call 9-1-1 while you help the person. If you are alone, help the person administer an epinephrine auto-injector then call 9-1-1 or the designated emergency number.</i> ○ Summarize the skills steps for using an epinephrine auto-injector. <i>See skill chart for complete steps.</i> ○ Where should an epinephrine auto-injector be stored? <i>Auto-injectors should be stored in a cool, dry location. Avoid prolonged contact with sunlight, excessive heat or cold temperatures.</i> ■ Explain to participants that with any injection there is a risk of possible infection. First aid providers should encourage a person who has received an epinephrine injection to check the site for the signs and symptoms of an infection and should consult with their healthcare professional.
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SKILL CHART

ADMINISTERING AN EPINEPHRINE AUTO-INJECTOR

- After conducting a scene size-up, checking the person and having someone else call 9-1-1, check the auto-injector:
 - Remove the auto-injector from a carrier tube or package, if necessary.
 - If applicable, confirm it is prescribed for this person.
 - Check the expiration date of the auto-injector. If it has expired, do not use the auto-injector.
 - If the medication is visible, confirm the liquid is clear and not cloudy. If it is cloudy, do not use it.
- Put on latex free gloves and make sure the person is sitting or lying down.



Note: These instructions are based on the EpiPen®. If you are using a different device, follow the manufacturer's instructions.

- If the person is unable to self-administer the auto-injector, and if state regulations allow and you are authorized by your organization:
 1. **With the person sitting or lying down, locate the outside middle of one thigh to use as an injection site.**



Note: If injecting through clothing, check that there are no obstructions at the injection site (such as the seam of pants, keys, or a mobile phone).

2. **Grasp the auto-injector firmly in one fist, and pull off the safety cap with your other hand.**



Notes:

- Hold the auto-injector with the orange tip (needle end) pointing down; pull straight up on the blue safety cap without bending or twisting it.
- Never put your thumb, fingers or hand over the ends of the auto-injector.

3. **Hold the person's leg firmly just above the knee to limit movement during injection. While you are holding the person's leg, make sure your hands are a safe distance away from the injection site.**
4. **Hold the auto-injector so that the needle end of the auto-injector is against the person's outer thigh at a 90-degree angle (perpendicular) to the thigh.**
5. **Quickly and firmly push the tip straight into the outer thigh. You will hear and/or feel a click indicating that the spring mechanism in the auto-injector has been triggered.**
6. **Hold the auto-injector firmly in place for 3 seconds ("1-1,000; 2-1,000; 3-1000") to deliver the medication.**
7. **Remove the auto-injector from the thigh carefully and massage (or have the person massage) the injection area with gloved hands for 10 seconds.**
8. **Encourage the person to remain seated and to lean forward to make it easier for the person to breathe. If signs and symptoms of shock are present, encourage the person to lie down and provide reassurance to the person that EMS is on the way and you are doing everything you can to help.**
9. **Handle the auto-injector carefully while placing it in a safe container with one hand, avoid touching the tip of the auto-injector. Give the auto-injector to EMS personnel when they arrive so the discharged device can be properly disposed.**

10. After administering the injection, ensure 9-1-1 has been called if this has not already been done and monitor the person's response as follows:

- **Continue to reassure the person.**
- **Ask the person how he or she feels.**
- **Check the person's breathing.**

If after 5 to 10 minutes EMS personnel have not arrived and if symptoms of anaphylaxis have not improved or if they improved but have gotten worse again, administer a second dose of epinephrine in the other thigh.



Instructor's Note:

Explain to participants that with any injection there is a risk of possible infection. First aid providers should encourage a person who has received an epinephrine injection to check the site for the signs and symptoms of an infection and should consult with their healthcare professional.