First Aid – Using an Epinephrine Auto-injector



What is an epinephrine auto-injector?

During an allergic reaction, the immune system can react very severely. With a severe allergy, a potentially life-threatening reaction called anaphylaxis can occur. Anaphylaxis can cause shock, a drop in blood pressure, and trouble breathing. In some cases, death may occur.

Epinephrine, also known as adrenaline, is a drug that can slow down or stop an anaphylactic reaction.

What should a workplace do if they choose to have an epinephrine auto-injector available?

If an employer opts to offer additional first aid measures (including over-the-counter medications, administration of oxygen, use of epinephrine auto-injectors, naloxone, etc.), it is suggested that they first seek legal counsel so that they are aware of any liability issues, and to check with your local jurisdiction responsible for health and safety. For example, in some jurisdictions, distribution of over-the-counter medications is not recommended (although an individual who can purchase using a vending machine may be permissible). In other jurisdictions, distribution of over-the-counter medications may be permitted under specific circumstances (including the appropriate training of first aid personnel).

What are the signs and symptoms of anaphylaxis?

Symptoms usually occur within minutes of exposure, but there can also be a delay of 30 minutes or more. There can be an equally serious second reaction one to eight hours after the initial reaction. A range of signs and symptoms may occur, including:

- Flushed or pale skin
- Other skin changes, such as hives, itching, or rash
- Swelling of the eyelids, and itchy, watery eyes
- Itchy or swollen tongue or throat
- The feeling of a lump forming in the throat

- Constriction (a blocking) of the airways, causing wheezing or trouble breathing
- Rapid or weak pulse
- Rapid heart rate
- Dizziness or fainting
- Nausea, vomiting, or diarrhea
- A feeling of impending doom

Triggers commonly include:

- Certain medications
- Certain foods
- Insect bites or stings (venom)
- Certain chemicals, materials, or products

When can anaphylaxis or allergic reactions be a workplace issue?

Some people may react to products in the workplace. Examples of workplace allergens include latex, bee stings, and certain chemicals (e.g., diisocyanates). In the situation where the allergic agent is known, workplaces can take steps to control exposure (e.g., elimination, substitution).

Or, for example, if a person who is allergic to insect stings is stung while working outdoors, there is need to have help from a co-worker and to have an epinephrine auto-injector close by. This situation could have other hazards that contribute to the severity of the situation such as working alone, or working at heights (e.g., the person reacts so severely that they cannot inject him/her self, or a person faints from a reaction and falls from a ladder).

What can the workplace do?

Where organizations have decided to provide an epinephrine auto-injector:

- Workplaces should have appropriately trained first aid personnel, including cardio pulmonary resuscitation (CPR).
- Employers should have policies and procedures in place, developed in consultation with the health and safety committee or representative. All persons responding to a situation must know what their duties and responsibilities are during the incident response.
- Persons providing epinephrine should have the training necessary to recognize the signs of an allergic reaction, and understand what steps to take.
- It is recommended that these individuals have training in first aid, including cardio pulmonary resuscitation (CPR).
- People who are aware that they may experience anaphylaxis should inform their workplace that they have been prescribed an epinephrine auto-injector by their doctor. They should also wear a medic alert bracelet or necklace that states their allergies and the location of their injector.
- If an employee has the potential of having a severe reaction, permission should be obtained to provide first aid personnel with information about the person, the allergy, and the locations of the auto-injectors.
- Employees should be educated about the dangers of anaphylaxis, how to recognize and respond to the signs of anaphylaxis, and how best to avoid known allergens.

- Basic principles of allergen control including handwashing, cleaning and disinfecting work surfaces, and properly handling and/or preparing food should be promoted.
- Employees should be taught how to recognize the signs and symptoms of an allergic reaction and how to summon help.
- If permitted to use the injector, the person should have training on how to use an epinephrine auto-injector properly.
- The allergic person should carry an auto-injector with them at all times. If not possible, or in addition to, have a second or third auto-injector available in a safe but quickly accessible place (e.g., can be in a drawer, but not in a locked drawer with limited keys).
- Epinephrine should not be stored in extreme temperatures (not too cold or too hot).
- Epinephrine is light sensitive and should be stored in the container provided.
- Epinephrine auto-injectors expire (about 18 months). Check the expiry date and be sure there is always a current injector available.
- The epinephrine auto-injector should be replaced immediately after use.

During a reaction, it may not be possible for the person to inject the drug themselves. Make sure immediate co-workers know how to recognize signs of a reaction, where the auto-injector is located, and appropriate training on how to use it. Co-workers should know how to call for first aid personnel or for outside emergency responders.

In some cases where exposure to an allergen is possible, it may be necessary to assign that person to other duties. For example, if the person has a severe allergy to bee or wasp stings, consider assigning that individual to other duties, away from the area with a hive or nest (especially if the work involves disturbing the hive or nest). Or, if the workplace serves food (or has a social "pot luck" event), be sure to inform participants that there is a food allergy in advance, avoid cross contamination, and label all foods regarding their ingredients.

When would you use an epinephrine auto-injector?

If the person indicates they are having a severe allergic reaction, or if you suspect a person is having a severe reaction, using an epinephrine auto-injector would be appropriate. No harm will be caused to a person by providing a single injection if it turns out they are not having an allergic reaction.

What first aid steps are appropriate for anaphylaxis?

- Act fast. Give the person the epinephrine injection right away, before symptoms worsen.
- Follow the manufacturer's instructions for safe use. The drug is usually injected by pressing the auto-injector to the person's thigh. It may take about 10 seconds for the injection to complete.
- Call for emergency medical assistance. Symptoms may return, and a medical professional should monitor the individual's recovery.
- Monitor the individual's condition while waiting for emergency assistance.
- If the person's breathing or heart stops, perform CPR if you are trained to do so.
- Have the person lie down to prevent injury if they faint and fall.

- Loosen tight clothing and cover the person with a blanket. Do not give them anything to drink.
- Watch for vomiting or bleeding. Turning a person to their side may help to prevent choking.
- Put the used injector back into the storage tube and close the cap of the tube. Give the injector to the emergency responders or bring it with you to the hospital.
- Make a note of what time you gave the injection.

When using an injection method, be aware of the hazards and risks associated with needlestick injury and the transmission of infections.

In most cases, the person will feel the epinephrine working right away. They may also feel a rapid heartbeat and nervousness. Always call for first aid or medical assistance. Symptoms can return or get worse after giving the injection. It may be necessary to administer a second injection, especially if the person does not respond to the first dose within 5 minutes, and if medical emergency responders have not arrived to the location.

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