

# SEVERE ALLERGIC REACTION PROTOCOL

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Excerpted from Oregon Health Authority's Severe Allergic Reaction (SAR) Protocol

*For use by staff who have completed SAR/Epinephrine training only*

### ALLERGY DEFINITIONS

**Allergen:** A protein not normally found in the body that may cause an exaggerated allergic response by the body upon exposure.

Examples of allergens include insect venom, food, medication, pollen and others.

**Normal Reaction:** Exposure to an allergen either causes no response by the body or produces expected, minimal signs as a result. An example of a normal reaction is the minor swelling and redness as a response to a bee sting.

**Localized Reaction:** An exaggerated response by the body to an allergen; it is limited to one side of the body and extends beyond a major joint line. Any of the following signs may be present swelling, redness, itching and hives.

**Anaphylaxis:** An exaggerated response to an allergen that involves multiple areas of the body or the entire body. It is a life-threatening event.

### ANAPHYLAXIS

As stated in the definition above, anaphylaxis is a life-threatening condition and is almost always unexpected. It can start within minutes of exposure to an allergen. The reaction may be delayed by several hours. Death often occurs as a result of swelling and constriction of the airway and the significant drop in blood pressure. Once someone is having an anaphylactic reaction, the most important factor in whether they live or die is how quickly they receive an injection of epinephrine. Because epinephrine must be given promptly at the first signs of anaphylaxis, the decision to treat must be based on recognition of the symptoms

### RECOGNIZING ANAPHYLAXIS

Anaphylaxis is evidenced by the following symptoms, ANY OR ALL OF WHICH MAY BE PRESENT:

- Shortness of breath or tightness of chest;
- difficulty in or absence of breathing
- Itching, with or without hives;
- raised red rash in any area of the body
- Sneezing, wheezing or coughing
- Blueness around lips, inside lips, eyelids
- Burning sensation, especially face or chest
- Sweating and anxiety
- Loss of consciousness
- Rapid or weak pulse
- Skin flushing or extreme pallor
- Difficulty swallowing
- Hoarseness
- Swelling of eyes, lips, face, tongue, throat or elsewhere
- Sense of impending disaster or approaching death
- Low blood pressure, dizziness and/or fainting
- Involuntary bowel or bladder action
- Nausea, abdominal pain, vomiting and diarrhea

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## TREATMENT FOR ANAPHYLAXIS

### Responding to anaphylaxis: Basic sequence of steps

1. Determine if the person is suffering an anaphylactic reaction. It is safer to give the epinephrine than to delay treatment. This is a life-and-death decision.
2. Do not move the person, unless the location possesses a safety threat.
3. Have the person sit or lie down.
4. Select the proper version of the auto-injector.
5. Administer epinephrine through the device.
6. Have someone call for emergency medical assistance (9-1-1).
7. DO NOT LEAVE THE PERSON UNATTENDED.
8. Note the time when the auto-injector was used.
9. Remove the stinger if one is present. Do this by scraping with a plastic card of fingernail. Do not pinch or squeeze the stinger because this can cause more venom to be released.
10. Check and maintain the person's airway and breathing.
  - a. Administer CPR if required and trained.
  - b. If the person has stopped breathing and does not respond to rescue breathing, he/she may have severe swelling of the throat, which closes the airway.  
Continue CPR efforts
11. Monitor for changes such as an improvement in breathing, increase in the person's consciousness, or a decrease in swelling.
12. If EMS is more than 10 minutes away and if the person's condition does not change or worsens after 5 minutes of the auto-injector, then administer a second dose or auto-injector.
13. Upon the arrival of EMS, advise them of the person's signs before the auto-injector was given and any changes of the person's condition since then.
14. If the person experiencing an anaphylactic reaction is also asthmatic, you can assist the person in the use of his or her own inhaler if desired, after epinephrine is given.
15. It is recommended that any person who received epinephrine for an anaphylactic reaction follow-up with medical care as soon as possible.

\*All people meeting the criteria for severe allergic reaction training are strongly encouraged to take an approved First Aid / CPR training course.

## EPINEPHRINE

Epinephrine (also known as adrenaline) is a powerful drug, used for the treatment of anaphylactic reactions. Oregon law does not authorize the use of epinephrine for any other condition including asthma. It is obtained by prescription only. In the case of a life-threatening allergic reaction, it is the most immediate and effective treatment available. Epinephrine acts on the body by constricting blood vessels and raising the blood pressure, relaxing the bronchial muscles and reducing tissue swelling. The actions of this drug will directly oppose the life threatening effects of anaphylaxis. Although epinephrine is very fast acting, its beneficial effects are short lived (approximately 20 minutes), so it is vitally important to call 9-1-1 immediately

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## Possible side effects of epinephrine

- Temporary and minor side effects of epinephrine include:
- Rapid heart rate
- Sweating
- Nervousness
- Pallor
- Anxiety
- Tremor
- Nausea, vomiting
- Headache

These effects are temporary and will subside with rest and reassurance. Some of the possible side effects of epinephrine may resemble symptoms of anaphylactic shock; however, symptoms related to injection of epinephrine are temporary. Reassurance and a calm demeanor by the caregiver are important.

Epinephrine should be stored in a dark place at room temperature (between 59 and 86 degrees). Do not store it in a refrigerator. The epinephrine auto-injector must be protected from freezing or from exposure to extreme heat or cold (for example, do not store it in your car's glove box). Exposure to sunlight will hasten deterioration of epinephrine more rapidly than exposure to room temperatures. Regularly inspect your supply of epinephrine. The solution should be clear and without particles. Solution that appears cloudy, discolored (brown) or with particles must be replaced. The auto injector should be in date and not expired. However, if the only epinephrine available during an emergency has expired, it is better to use the expired drug than none at all. If the expired epinephrine is still clear and without particles, it is better to give it than to not give it at all.

## EPINEPHRINE ADMINISTRATION

Measured doses of epinephrine are delivered via an auto-injector into the outside of the outer thigh. This location is a safe site for injection. The auto-injector is designed to work through clothing for all ages. The typical dose of epinephrine is 0.3 milligrams for adults. The epinephrine dosing for children is based on weight. Younger children may require a smaller dose with the use of a pediatric auto-injector device which is 0.15 milligrams. **DON'T DELAY BY WEIGHING!!**

Epinephrine should be administered at the first sign of anaphylaxis. It is safer to give the epinephrine than to delay treatment for anaphylaxis. The sooner that anaphylaxis is treated, the greater the person's chance for surviving the reaction. The most important aspect of intervention for severe allergic response is timing. Because of the dangers involved, you should always be ready to treat the affected person immediately. The effects of epinephrine last approximately 10-20 minutes. If the signs of anaphylaxis continue after 5 minutes from the first injection, then administer the second auto-injector.

## USING AN AUTO-INJECTOR

Remember, only epinephrine works for anaphylaxis. It is safer to give epinephrine than to wait.

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1. Remove the auto-injector from its protective case.
2. Remove the safety caps of the injector, which are typically found on the trigger (if applicable) and or/ the tip of the injection device
3. Hold the auto-injector firmly. Keep fingers away from the tip of the device.
4. Position the device at a 90 degree angle to the outer thigh. For those devices that will trigger upon contact with the skin, jab the devices firmly into the thigh until a click is heard.
5. Hold the device against the thigh firmly for 10 seconds to allow the full dose to be administered.
6. Remove the device and place it back into its protective case
7. Massage the skin at the injection site for 10 seconds.
8. If medical assistance has not been summoned, then call or have someone do this for you.
9. DO NOT LEAVE THE PERSON UNATTENDED.
10. Advise the dispatcher that epinephrine was given. NOTE: Any person who received epinephrine for anaphylaxis ultimately requires evaluation by a physician. Ambulance transport to the emergency department is recommended.
11. Note the time when the auto-injector was used.
12. Always complete required documentation.

## Recommended Attachments:

- List of Epinephrine trained staff
- List of CPR trained staff
- Location of stock epi-pens

## On file:

- MD signed delegation, protocol and standing order (08/2016)
- Epinephrine Prescription (08/2016)