

The recommended treatment for anaphylaxis is a medication called epinephrine. It is the drug form of the hormone adrenaline which the body produces in response to stressful situations. Epinephrine works to reverse the symptoms of a severe allergic reaction by opening the airways and increasing blood pressure.

Epinephrine Auto-injectors

This life-saving medication is given using an auto-injector, a hand-held device which releases a pre-measured dose of epinephrine when applied to the mid-outer thigh. There are currently three epinephrine auto-injectors available in Canada: EpiPen®, ALLERJECT® and Emerade™. Individuals at risk of anaphylaxis are advised to carry an epinephrine auto-injector with them at all times when age appropriate, usually by age 6 or 7. It's important to regularly check the expiry date and replace the device as needed.

Weight/Dosage

According to product instructions, the 0.3 mg dosage of the EpiPen® and Allerject® auto-injectors should be used for adults and children weighing 30 kg (66 lbs) or more; and the 0.15 mg dosage should be used for children weighing 15-30 kg (33-66 lbs). Emerade™ 0.3 mg is for anyone weighing more than 30 kg, and Emerade 0.3 mg or Emerade 0.5 mg is for adults and adolescents weighing 60 kg or more (based on clinical judgement). Some health care providers may prescribe differently than these dosages.

Body Position

When giving epinephrine, have the person **SIT** or **LIE DOWN**.

If having trouble breathing, they may prefer to sit.

After giving epinephrine, place them on their back (if not already lying down) and raise their legs. They may prefer to stay sitting up if breathing is difficult.

If they feel sick to their stomach or are vomiting, place them on their side to prevent choking.

If unconscious, they should also be placed on their side.

It may be helpful to lie down with a young child to keep them calm.



Although a young child may wish to be held or carried, it is recommended that they remain lying down until emergency medical services come directly to them.

If the person is lying down, **DO NOT** have them sit up or stand suddenly. It is very important that they do not sit up or stand suddenly during an anaphylactic reaction, even after receiving epinephrine. Sudden changes of position may lower their blood pressure and actually worsen their condition, and be life-threatening.^{1,2} Also, individuals should not walk to the ambulance, but have emergency responders directed to them.

For Your Information

- Epinephrine will not cause harm if given unnecessarily to a normally healthy person.
- In order to reverse the reaction or prevent it from worsening, it should be given at the start of a known or suspected anaphylactic reaction.
- The risk of not giving epinephrine far outweighs the potential side effects of the medication (e.g. rapid heart rate, dizziness, headache).
- Epinephrine auto-injectors can be given through one layer of clothing, if necessary.
- A second dose of epinephrine may be given as early as 5 minutes after the first dose if there is no improvement in symptoms.
- The effects of epinephrine can wear off. After someone receives epinephrine, 9-1-1 or local emergency medical services should be called, and the individual should go to the hospital immediately (ideally by ambulance) for further treatment and/or evaluation.
- Antihistamines and asthma medications should not be used instead of epinephrine for treating anaphylaxis.
- Epinephrine auto-injectors should be kept at room temperature – not exposed to extreme cold (fridge/freezer) or heat (glove box in a vehicle).
- In Canada, epinephrine auto-injectors are available as behind-the-counter medication which means that a prescription is not required.

References:

1. Simons FER et al, World Allergy Organization Guidelines for the Assessment and Management of Anaphylaxis. WAO Journal 2011; 4:13-37.
2. Pumphrey RSH. Fatal posture in anaphylactic shock. Journal of Allergy and Clinical Immunology 2003;112:451-452.

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