

# Treating Severe Allergic Reactions With Epinephrine

Epinephrine can be a lifesaver for children with severe allergies. The EpiPen<sup>®</sup>, EpiPen<sup>®</sup> Jr. and Twinject<sup>®</sup> auto-injector devices are designed to allow parents, teachers and other adults to inject medicine easily and safely without the aid of a health professional.

## WHAT IS EPINEPHRINE?

Epinephrine is the drug of choice to counteract an allergic reaction. Injected into the thigh muscle, epinephrine begins to work quickly to constrict blood vessels, increase heart rate and relax smooth muscles in the lungs to improve breathing. This process reverses hives and swelling around the face and lips (angioedema). Its effects usually last 10 to 20 minutes.

## WHY MIGHT A CHILD NEED EPINEPHRINE?

Epinephrine is given to people who are anaphylactic. An anaphylactic person has had prior severe allergic reactions or may be at high risk of severe reactions. Allergic reactions can be triggered by many things, including:

- Foods, such as nuts, shellfish or eggs, or certain food additives
- Drugs, such as penicillin
- A sting from an insect, such as a bee, wasp, hornet or yellow jacket

Symptoms of anaphylactic shock include:

- Hives
- Swelling (especially of the lips and face)
- Difficulty breathing
- Vomiting
- Diarrhea
- Cramping
- Persistent coughing
- Drop in blood pressure

The reaction may be so severe that it quickly becomes life-threatening. Death can occur without immediate medical care. An emergency injection of epinephrine can help stabilize the child until you can reach the emergency department.

If you think a child may be having an anaphylactic reaction, use epinephrine immediately and call 911.

## WHAT IS AN AUTO-INJECTOR?

An auto-injector gives lifesaving medicine to someone having a severe allergic reaction.

Epinephrine auto-injectors (EpiPen, EpiPen Jr. and Twinject) are available only by prescription.

## HOW DO I USE AN AUTO-INJECTOR?

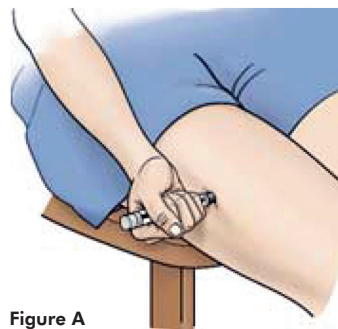


Figure A

### EpiPen and EpiPen Jr. directions:

- Pull off the gray activation cap.
- Hold the black tip near the outer thigh. It should be injected into the thigh muscle and can be given through clothing.
- Push the black tip firmly against the child's thigh with a quick motion. This will release the spring-activated mechanism and inject one dose of the medicine.
- Hold in place and count to 10.
- Remove the injector and rub the injection area for 10 seconds.

### Twinject 0.3 mg and Twinject 0.15 mg directions:

- Pull off the green end cap (No. 1), then the red end cap (No. 2).
- Put gray cap against outer thigh, press down firmly until the needle pierces skin.
- Hold the unit in place. Count to 10, then remove.

### – Second dose administration:

- Give a second dose if the child does not improve after 10 minutes. Unscrew gray cap and remove syringe from barrel by holding the blue collar at the base of the needle.
- Slide the yellow or orange collar off of the plunger.
- Put needle into the thigh through the skin. Push the plunger down all the way and remove.
- You are using the same needle used for the first dose.

### WHERE SHOULD I INJECT?

The auto-injector should only be used on the fleshy outer part of the thigh. Do not inject into a vein or into the buttocks. Be sure the child's leg is held still for the injection. You may need to hold a younger child's body still for the injection. The auto-injector can be used through clothing. Avoid the seam and areas where the fabric is thick.

### HOW DO I KNOW THE CHILD RECEIVED A DOSE?

The child may feel a burning sensation or may not feel the medication being injected. The medicine is released automatically when you press the auto-injector against the thigh. If the needle is exposed when you remove the auto-injector from the thigh, the medicine has been released. A small amount of medicine will remain inside the auto-injector. The child will begin to feel better soon after the injection. The child may feel rapid heartbeat and slight nervousness. Palpitations, sweating, dizziness and headache also may occur.

### CAN I REUSE THE EPINEPHRINE AUTO-INJECTOR?

Only the Twinject can deliver a second dose. The first dose is injected as an auto-injector. The second dose is given with a prefilled syringe and needle. The EpiPen and EpiPen Jr. auto-injectors deliver only a single dose of epinephrine. Even though a small amount of liquid remains inside the auto-injector after use, the unit cannot be used again.

### HOW DO I DISPOSE OF THE AUTO-INJECTOR?

The used auto-injector needs to be taken to the hospital with the child so the doctor can know the dose given. Reinsert the used unit (without replacing the safety cap) needle-first into the carrying case. Recap the case. The hospital can safely dispose of the needle.

### DOES THE CHILD NEED TO GO TO THE HOSPITAL?

The child must go to a hospital immediately. The effects of the medicine wear off after 10 to 20 minutes. Call 911 for assistance if you cannot go to the hospital. Keep the child warm and avoid unnecessary movement. Tell the doctor epinephrine was given.

### DOES EPINEPHRINE COME IN DIFFERENT STRENGTHS?

Yes. Epinephrine dosing is based on body weight. The child's doctor will prescribe the correct dose. The EpiPen and Twinject auto-injectors (0.3 mg) are for those who weigh at least 66 pounds. The EpiPen Jr. and Twinject (.15 mg) auto-injectors are for those who weigh between 33 and 66 pounds. Both strengths initially deliver a single dose. Only the Twinject has an additional dose. Sometimes a single dose may not be enough to calm a severe allergic reaction. The child's doctor may prescribe Twinject or more than one auto-injector.

### WHAT DO I DO IF THE AUTO-INJECTOR EXPIRES?

The auto-injector expiration date is printed on the unit. Schools should check for the expiration date on the medication at the beginning and middle of the school year. Have parents discard the auto-injector to remind them to replace it for school and home use.

### AUTO-INJECTOR TIPS

- Keep the auto-injector at room temperature until the expiration date. Replace expired units.
- Do not refrigerate. Refrigeration for extended periods may cause the unit to fail.
- Do not expose to extreme heat, such as the inside of a car during the summer.
- Do not expose to direct sunlight; light and heat can cause the medicine to break down, turning it brown.
- Keep it in its original plastic container. This is the best way to protect the medicine.
- Check the auto-injector through the viewing window of the unit to make sure the solution is clear and colorless.
- Replace the unit immediately if the liquid is brown.
- Replace the auto-injector before the expiration date no matter the color of the medicine.

### IMPORTANT POINTS TO REMEMBER

- Never touch the gray area of an auto-injector.
- Do not try to inject at the seam of clothing. The fabric may be too thick for the needle to penetrate.
- Make sure a child with a history or risk of severe allergic reaction wears a medical alert bracelet at all times.
- The auto-injector should go with the child on field trips. Be sure the child's teacher knows how to use the auto-injector.

Be ready for an emergency. Do not wait for medical help to arrive before giving the injection to the child. After the injection, call 911 immediately as the effects of the injection will last only 10 to 20 minutes.

### Resource: [www.foodallergy.org](http://www.foodallergy.org)

*This general healthcare information should not be used as a substitute or in place of contacting the child's healthcare provider. Visit [www.choa.org](http://www.choa.org) or call 404-250-KIDS to speak to a pediatric nurse if you need further assistance.*