

## Anaphylaxis in Children

In children, most anaphylactic episodes are caused by foods, medications, or insect bites.

**Anaphylaxis** is the extreme of an allergy. The word *anaphylaxis* comes from Greek and means “contrary protection,” suggesting that the body is overprotecting itself through a serious reaction to an otherwise harmless substance. For a child to develop such a reaction, he or she must have been exposed to the substance at least once in the past. During the first exposure, there are no visible symptoms. However, the body learns to recognize the substance (**antigen**) and builds a defense mechanism against it (**antibodies**). With subsequent exposures, the body reacts to the antigen as if it were harmful. For instance, although most children can safely eat peanuts, others may have an anaphylactic reaction to them.

### Symptoms

Anaphylaxis is a serious and potentially life-threatening condition that requires prompt medical treatment. Most episodes occur within seconds to minutes after exposure, but a reaction can be delayed for several hours. Symptoms typically involve more than 1 organ system. For example, just having hives is not sufficient for a diagnosis. However, hives and difficulty breathing that occur together after an exposure are concerning for anaphylaxis.

Typical symptoms for each organ include

- **Skin:** itching, flushing, hives, swollen lips or tongue
- **Lungs:** fast and noisy breathing, gasping for air, drooling, turning blue
- **Stomach:** vomiting, abdominal pain, diarrhea
- **Heart:** fainting, weakness, low blood pressure

### Treatment of Anaphylaxis

The most important part of treating anaphylaxis is recognizing it and acting quickly. The only medication that treats anaphylaxis is **epinephrine**. It usually comes in a long injector (an EpiPen) and can be safely given by parents, teachers, or even by children themselves if they are old enough. If there is a suspicion of anaphylaxis, the safest thing to do is to give epinephrine. There is no contraindication to giving the medication. Most children are not harmed by giving them epinephrine, even if it turns out that they did not need it.

Other medications (like Benadryl) can be used to help with itching and hives. Breathing treatments such as albuterol can help open up the airways. Steroids can decrease swelling and inflammation. Intravenous fluids can help increase blood pressure. However, these treatments are used to make the child feel better but do not actually treat the underlying problem in anaphylaxis.

### How to Stay Safe

- Avoiding exposure to the suspected foods, medications, or insects is the best way to prevent anaphylaxis.

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- Teach children early how to protect themselves and encourage them to wear a medical alert bracelet.
- Be sure teachers, friends, and family are aware of the diagnosis.
- Ask your child's doctor for a prescription for multiple epinephrine injectors so that you can have one available at all times, in multiple locations.
- If a child receives an epinephrine injection, he or she should be evaluated in an emergency room as soon as possible. Do not hesitate to call 911 if you believe your child might be having an anaphylactic reaction.

Sometimes anaphylaxis can recur even without a second exposure. One in 5 children has a second reaction within 24 hours of the initial episode. This is called a **biphasic reaction**. The only way to decrease the likelihood of a biphasic reaction is to make sure epinephrine is given as soon as possible after the onset of symptoms.

### FOR MORE INFORMATION

- Centers for Disease Control and Prevention  
[www.cdc.gov/healthcommunication/toolstemplates/entertainment/tips/Allergies.html](http://www.cdc.gov/healthcommunication/toolstemplates/entertainment/tips/Allergies.html)
- Centers for Disease Control and Prevention (food allergies in schools)  
[www.cdc.gov/healthyschools/foodallergies](http://www.cdc.gov/healthyschools/foodallergies)

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