

## Anaphylaxis

You may have an allergy if your body reacts to something you breathe, swallow or touch. An allergy usually causes a reaction they may include any or all of the following: itchy, watery eyes and nose, sneezing, itching and swelling on the skin (hives), coughing or wheezing. An allergy can cause a life-threatening reaction. This is anaphylaxis. Anaphylaxis is the most severe type of allergic reaction. It is very rare. Medicines, insect stings, foods and latex can cause anaphylaxis.



Symptoms of anaphylaxis often appear quickly. They often appear within minutes of exposure to an allergen (a substance which causes an allergic reaction). In a few cases reactions have been delayed as much as 12 to 24 hours. Many people with allergies will not have an anaphylactic reaction.

### What are symptoms of anaphylaxis?

Symptoms of anaphylaxis include:

- Increased trouble breathing, coughing, chest tightness or wheezing
- Dizziness, fainting, rapid or weak heartbeat
- Swelling in the mouth and throat or trouble swallowing
- Flushing, itching, hives or a feeling of warmth
- Vomiting, diarrhea or stomach cramping.

### What are triggers of anaphylaxis?

An anaphylactic reaction is often triggered by a limited number of allergic exposures. These include injection, swallowing, inhaling or skin contact with an allergen by a severely allergic person.

Examples of injected allergens are bee, hornet, wasp and yellow jacket stings; certain vaccines which have been prepared on an egg medium; and allergen extracts used for diagnosis and treatment of allergic conditions. Antibiotics such as penicillin can trigger a reaction by injection or ingestion (swallowing).

A severe reaction caused by a food allergy occurs after eating that food, even a small bite. Foods

most commonly causing anaphylaxis are peanuts, seafood, nuts and, in children, eggs and cow's milk. Skin contact with the food rarely causes anaphylaxis.

An anaphylactic reaction from an inhaled allergen is rare. An example is an allergic person who inhales particles from rubber gloves or other latex products.

For some people, two or more factors may be needed to cause anaphylaxis. Recently, it has been recognized that an anaphylactic reaction can occur if a person eats a certain food, and then exercises. Neither the food alone nor exercise alone causes any problem, but the two together do.

When exposed to a foreign substance, some people suffer reactions identical to anaphylaxis, but with no allergy involved. These reactions are called anaphylactoid (meaning anaphylaxis-like) reactions. The immune system must be "primed" by previous exposure to cause anaphylaxis. Anaphylactoid reactions can occur with no previous exposure at all. An example of something that can bring on this kind of reaction is radiographic contrast material. This is the dye injected into arteries and veins to make them show up on an X-ray.

Although the mechanism of an anaphylactoid reaction is different, the treatment is the same.

## How can anaphylaxis be prevented?

To prevent anaphylaxis, it is important to avoid the allergen that causes the reaction. That may not always be easy. Stinging insects can find their way indoors. Allergenic foods can be concealed in a wide variety of food products.

Precautions can lower the risk of anaphylaxis and decrease the severity of reactions. For many people allergy shots (immunotherapy) can help. For example, allergy shots for bee, wasp, hornet and yellow jacket stings give protection 98% of the time. There is some risk when a person with past episodes of anaphylaxis is injected with an allergen. The doctor's office should be ready to treat any anaphylaxis reaction.

If allergy shots are not practical or available for an allergen, the doctor has other options. For example, if someone has had an anaphylactic reaction to penicillin, the doctor might order skin tests before giving certain other types of antibiotics. In most cases, different classes of antibiotics are available. People with a history of severe reactions to medicines should take a new medicine by mouth (orally) whenever possible, because the risk of anaphylaxis is higher with an injection.

Rarely, someone may get an infection that requires treatment with an antibiotic known to cause anaphylaxis in that person. In this case, rapidly increasing oral (by mouth) doses of the antibiotic under carefully controlled conditions can often desensitize the person.

## Anaphylaxis – What are actions to take?

These actions will help a person with increased chance of an anaphylactic reaction be prepared:

- Wear a Medic Alert tag at all times.
- People who have life-threatening reactions should see a board-certified allergist.
- Carry an emergency kit. It should have an antihistamine (pill or syrup) and a shot of epinephrine

that you can give to yourself. Make sure you replace the shot when it passes the expiration date.

- If your child has severe allergic reactions, keep an emergency kit at school. There should also be a kit everywhere your child goes. School staff and all other caretakers of your child should know how to use the epinephrine.
- Know the symptoms of a life-threatening reaction.
- At the first sign of a life-threatening reaction, give the antihistamine and epinephrine as your doctor recommends. After taking the medicine, call 911 and have someone take you or your child to the hospital.

## What medicine is used to treat anaphylaxis?

Epinephrine is the most important medicine for the treatment of anaphylaxis. It is injected under the skin or into a muscle. A special syringe that is easy to give (to yourself or someone else) is available. If prescribed, your doctor or nurse will teach you the proper way to use it.

Common brands of epinephrine are:

- EpiPen® Auto-Injector
- EpiPen® Jr. Auto-Injector
- Twinject® Auto-Injector

The effects of epinephrine wear off quickly. It is still important to get emergency medical attention right away after giving the shot.

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