

What Is Food Allergy?

Food allergy is an abnormal response to a food triggered by the body's immune system. "Food allergy" refers to a particular type of response of the immune system in which the body produces what is called an allergic, or IgE, antibody to a food. (IgE, or immunoglobulin E, is a type of protein that works against a specific food.)

Allergic reactions to food can cause serious illness and, in some cases, death. Therefore, if you have a food allergy, it is extremely important for you to work with your healthcare provider to find out what food or foods cause your allergic reaction.

Sometimes, a reaction to food is not an allergy at all but another type of reaction called "food intolerance."

Food intolerance is more common than food allergy. The immune system does not cause the symptoms of food intolerance, though these symptoms may look and feel like those of a food allergy.

How Do Allergic Reactions Work?

An immediate allergic reaction involves two actions of your immune system

- Your immune system produces IgE. This protein is called a food-specific antibody, and it circulates through your blood.
- • The food-specific IgE then attaches to basophils and mast cells. Basophils are found in blood. Mast cells are found in body tissues, especially in areas of your body that are typical sites of allergic reactions. Those sites include your nose, throat, lungs, skin, and gastrointestinal (GI) tract.

Generally, your immune system will form IgE against a food if you come from a family in which allergies are common—not necessarily food allergies but perhaps other allergic diseases, such as hay fever or asthma. If you have two allergic parents, you are more likely to develop food allergy than someone with one allergic parent.

If your immune system is inclined to form IgE to certain foods, you must be exposed to the food before you can have an allergic reaction to it.

As this food is digested, it triggers certain cells in your body to produce a food-specific IgE in large amounts. The food-specific IgE is then released and attaches to the surfaces of mast cells and basophils.

- The next time you eat that food, it interacts with food-specific IgE on the surface of the mast cells and basophils and triggers those cells to release chemicals such as
- Depending on the tissue in which they are released, these chemicals will cause you to have various symptoms of food allergy.

Food allergens are proteins in the food that enter your bloodstream after the food is digested. From there, they go to target organs, such as your skin or nose, and cause allergic reactions.

An allergic reaction to food can take place within a few minutes to an hour. The process of eating and digesting food affects the timing and the location of a reaction.

If you are allergic to a particular food, you may first feel itching in your mouth as you start to eat the food.

After the food is digested in your stomach, you may have GI symptoms such as vomiting, diarrhea, or pain.

When the food allergens enter and travel through your bloodstream, they may cause your blood pressure to drop.

As the allergens reach your skin, they can cause hives or eczema.

When the allergens reach your mouth and lungs, they may cause throat tightness and trouble breathing.

Cross-Reactive Food Allergies

If you have a life-threatening reaction to a certain food, your healthcare provider will show you how to avoid similar foods that might trigger this reaction. For example, if you have a history of allergy to shrimp, allergy testing will usually show that you are not only allergic to shrimp but also to crab, lobster, and crayfish. This is called “cross-reactivity.”

Another interesting example of cross-reactivity occurs in people who are highly sensitive to ragweed. During ragweed pollen season, they sometimes find that when they try to eat melons, particularly cantaloupe, they experience itching in their mouths and simply cannot eat the melon. Similarly, people who have severe birch pollen allergy also may react to apple peels. This is called the “oral allergy syndrome.”

Common Food Allergies

In adults, the foods that most often cause allergic reactions include the following:

- Shellfish, such as shrimp, crayfish, lobster, and crab
- Peanuts
- Tree nuts, such as walnuts
- Fish
- Eggs

These are the most common foods that cause problems in children:

- Eggs
- Milk
- Peanuts
- Tree nuts

Peanuts and tree nuts are the leading causes of the potentially deadly food allergy reaction called anaphylaxis.

Adults usually keep their allergies for life, but children sometimes outgrow them. Children are more likely to outgrow allergies to milk, egg, or soy than allergies to peanuts. The foods to which adults or children usually react are those foods they eat often. In Japan, for example, rice allergy is frequent. In Scandinavia, codfish allergy is common.