

Spotlight on Health

Food Allergies: Whole-Food and Component Testing

The immune system normally protects us from infection. With a food allergy, the immune system reacts to a food rather than a harmful bacteria or virus. Allergies to foods can be mild, with only hives and itching. But they can also be very severe, even life threatening. Some allergies last a lifetime, others do not—children may outgrow them.

This newsletter will help you to better understand food allergies. It will also explain the different methods of testing for a food allergy, and how a type of testing called component testing can help your healthcare provider diagnose and better treat food allergies.

Food Allergies

About 1 out of 20 children and 1 out of 25 adults in the United States have a food allergy.¹ Peanuts, tree nuts, eggs, milk, fish, crustacean shellfish, wheat, and soy account for 9 out of 10 serious allergic reactions in the United States.¹

Allergic reactions to foods can range from mild to severe.¹ Symptoms usually occur within a few minutes to an hour after eating the food. They include

- Swelling itching or tingling in the lips or tongue
- Hives
- Rough, red, itchy skin
- Stomach pain, vomiting, diarrhea
- Wheezing and/or difficulty breathing
- Lightheadedness
- Anaphylaxis (see definition in the Sidebar on this page)

A food allergy is different from food intolerance. People “intolerant” to milk may have a stomachache and diarrhea if they drink milk. Milk intolerance is caused by a missing enzyme called lactase. An *allergy* to milk is caused by a reaction of the immune system. People with a severe milk allergy can have an anaphylactic reaction if they drink milk.

Whole Food Allergy Tests^{1,2}

The traditional way of testing for a food allergy is with extracts of whole foods. Testing is done by injecting a small amount of the extract under the skin (skin prick testing), and seeing if redness or swelling occurs. Blood can also be tested to see if antibodies that react with the food extract are present. This testing can help tell if your body produces antibodies to the food. But it is not very good at telling if you will have a mild or severe reaction if you eat the food.



Anaphylaxis

Anaphylaxis is a very serious reaction that starts within seconds or minutes after eating the food. Symptoms include

- Anxiety
- Difficulty swallowing
- Cough
- Slurred speech
- Chest discomfort or tightness,
- Palpitations
- Unconsciousness

A person with anaphylaxis should *get help immediately*.

Food Component Testing^{1,2}

Instead of using whole food extracts, component testing uses specific proteins in foods that can cause an allergic reaction. Component testing is done with a sample of your blood. It can help determine which proteins your immune system reacts to. It can also help predict how severe the reaction will be.

Component testing can help your healthcare provider know if you can eat foods that you are allergic to, or if you should avoid them completely. For example, if you have a milk allergy, component testing can help your healthcare provider determine if you should stay away from anything that contains milk or if you can eat foods that contain cooked milk (for example, baked foods).

Ask Your Healthcare Provider Whether Allergy Testing Is Right for You

If you have a food allergy, you should *always* ask your healthcare provider what foods you can eat and what foods you should not eat.

Your provider can order food component testing. The results can help determine

- The need for dietary restrictions
- The need to carry epinephrine (eg, an EpiPen®)
- The likelihood that you will outgrow a food allergy

If you are at high-risk of having a severe reaction to a food, your provider may give you a prescription for epinephrine. Epinephrine is very effective at slowing down or stopping an anaphylactic reaction.

How the Laboratory Can Help

Quest Diagnostics performs component testing for all of the foods that commonly cause allergic reactions in people, including eggs, milk, peanuts, and tree nuts. Visit QuestDiagnostics.com/home/physicians/testing-services/condition/allergy/allergen-component-testing.html to read about component testing for these foods.

Additional Information

For more information, visit these helpful websites:

- **Centers for Disease Control and Prevention:** CDC.gov/healthyschools/foodallergies/index.htm
- **MedlinePlus:** MedlinePlus.gov/foodallergy.html

References

1. Sicherer SH, Sampson HA. Food allergy. *J Allergy Clin Immunol.* 2010;125(suppl 2):S116-S125.
2. Chokshi NY, Sicherer SH. Interpreting IgE sensitization tests in food allergy. *Expert Rev Clin Immunol.* 2016;12:389-403.

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