

Food Allergies

Do you have them?

Does your tongue itch when you eat shrimp or nuts? Does your stomach ache when you eat dairy products? You may have food allergies...but, you might not.

“Recent epidemiologic studies suggest that nearly 4 percent of Americans are afflicted with food allergies, a prevalence much higher than appreciated in the past.”¹ As many as 6 percent of children are also affected.² In fact, the incidence of some food allergies, such as peanut allergies in children, are increasing.¹ “Physicians are reporting an increase in the number of food-allergic patients in this country.”³

Still, approximately 20 percent of the U.S. population alters their diet for a “perceived reaction,”² which may or may not be food allergy.

Symptoms of food allergies can range from mild to life threatening. Thus, it is important to understand what a true food allergy is and seek help from an appropriate physician in identifying the source of your discomfort so you can protect yourself and/or your children from serious consequences. For those who do not have food allergies, it is still important to understand the seriousness of this disorder so you can reduce risks for others.

“Convincing others that food allergy is real is often the most challenging part of living with a food allergy.”⁴

This issue of *HealthHints* will look at what true food allergies are and are not. We will also look at how to get an appropriate diagnosis, what your treatment options are, how to live with food allergies on a daily basis, and what to do in case of an emergency. *Note:* A second issue of *HealthHints* will be dedicated to the unique issues that affect infants, children, teens, and young adults afflicted with food allergies.

INSIDE HEALTH HINTS...

- Food allergy or food intolerance? 2
- Food allergy symptoms 3
- Getting the right diagnosis 4
- Top 8 account for 90% of food allergies 4
- Treatment..... 5
- Resources 8
- References 9



Food Allergy or Food Intolerance?

What's the difference?

Before we can talk about how to deal with reactions to food, we need to understand what a true food allergy is. Food allergies are often confused with another condition known as food intolerance.

Food Allergy

In people with food allergies, the **immune system** thinks a certain food is harmful and creates disease-fighting antibodies (called Immunoglobulin E or IgE) to try to protect the body. When you eat the allergy-causing food, the immune system sends out chemicals (including histamines) into your bloodstream in an effort to remove the food protein from your body. It's these chemicals that cause the unpleasant allergic symptoms you experience.^{5, 6, 7}

The IgE antibody may develop after eating the food in the past without having problems.⁵ Once the IgE antibody has been created, however, the next time you eat or come into contact with even the tiniest amount of that food, the antibodies will likely sense it and release histamine and other chemicals into your bloodstream, resulting in symptoms.⁷ (See the *Food Allergy Symptoms* section below.)

Food Intolerance

Food intolerances, unlike food allergies, do not involve the immune system or, for this reason, the release of histamine.^{5, 7} A food intolerance is a **metabolic** disorder. Lactose intolerance is a common example. A person with lactose intolerance lacks the enzyme needed to break down (digest or metabolize) milk sugar (lactose). When the individual consumes milk products, symptoms such as gas, bloating, and abdominal pain may occur.^{5, 8}



Other types of food intolerances or food reactions may be the result of one of the following:

- **Food poisoning**, in which microbes such as bacteria have contaminated your food causing gastrointestinal (GI) discomfort.
- **Histamine toxicity**, in which histamine is present in certain foods (e.g., cheese, wine, and certain fish) and causes a reaction.
- **Intolerance to food additives**, usually monosodium glutamate (MSG), sulfites (occurring naturally in some foods [particularly wine] and added to others as a preservative), or the color additive FD&C Yellow No. 5 (also called tartrazine).⁹
- **Gluten intolerance** (aka: gluten-sensitive enteropathy or celiac disease), in which your body responds abnormally to gluten, which is part of wheat and some other grains.
- **Psychological causes**, in which you react negatively to a food, usually because of a past experience.
- **Other conditions** such as ulcers and cancers of the GI tract that mimic symptoms of food allergy. Consult your doctor for an appropriate diagnosis.¹⁰

Another difference between food allergy and food intolerance is that food intolerance is usually dose-specific. In other words, a person with a food intolerance can usually eat small amounts of the offending food without a reaction; therefore, they can limit the dose or amount of the food they consume without totally eliminating it from their diet. "By contrast, if you have a true food allergy, even a tiny amount of the food may trigger a serious allergic reaction."⁵ In some cases of food allergy, simply touching the offending food can cause a reaction; in rare cases, even smelling the offending food can cause a reaction.¹¹

Unlike food allergies, food intolerances also generally intensify with age.⁹ Some food allergies can be outgrown, while some will be lifelong allergies.¹² (See more on this subject in the next issue of *HealthHints*.) Occasionally, an allergy will develop in adulthood.¹³

Still, because food intolerance can have some of the same symptoms as food allergy (e.g., nausea, vomiting, cramping, and diarrhea), people often confuse the two.

Food Allergy Symptoms

How the body is affected

So, let's talk about the symptoms associated with food allergies. Common, milder symptoms can sometimes rapidly progress to more severe, even life-threatening symptoms because foods affect so many parts of the body, including the mouth, throat, skin, gut, lungs, and eyes.¹⁴ Common milder symptoms usually affect the skin, gastrointestinal system, and respiratory system; while more severe symptoms usually affect the respiratory system and circulatory (cardiovascular) system. Here is a look at these symptoms...

Common Symptoms

Skin

- hives
- swelling
- itchy, red rash
- eczema
- itching or swelling of lips

Gastrointestinal

- cramps
- nausea
- vomiting
- diarrhea

Respiratory

- itchy, watery eyes
- runny nose
- stuffy nose
- sneezing
- coughing
- wheezing



More Severe, Life-Threatening Symptoms

Respiratory

- shortness of breath
- difficulty swallowing
- tightness of chest
- itching or swelling of tongue, throat
- change in voice

Circulatory/Cardiovascular

- drop in blood pressure
- fainting
- shock.¹⁵

The most severe allergic reaction is known as anaphylaxis or anaphylactic shock. Anaphylaxis can be fatal, either through swelling that shuts off the airway or through a dramatic drop in blood pressure. It is often characterized by the following symptoms:

- hives;
- swelling of the lips, tongue, throat, or around the eyes;
- difficulty breathing or swallowing; and/or
- low blood pressure.^{6, 16}

Other common symptoms of anaphylaxis may include:

- metallic taste or itching in the mouth;
- generalized flushing, itching, or redness of the skin;
- abdominal cramps, nausea, vomiting, or diarrhea;
- increased heart rate;
- sudden decrease in blood pressure (and accompanying paleness);
- sudden feeling of weakness;
- anxiety or an overwhelming sense of doom;
- collapse; and/or
- loss of consciousness.¹⁶

The same food can cause different reactions in different people. **There is no way to know how serious a reaction will become, even if you have reacted to the food before. That's why it is important to treat all reactions quickly and to be prepared for such emergencies as anaphylaxis.**¹⁵ (See *Treatment* in this issue of *HealthHints* for answers on how to deal with your food allergies.)

Getting the Right Diagnosis

What to expect from your doctor

Before you can successfully work on treating allergies and dealing with them on a day-to-day basis, you have to know for certain what you are allergic to and that it is truly an allergy (immune system response) and not some other condition that needs to be treated in a different way. Remember, food allergies can be confused with food intolerances, but also with other conditions like ulcers or certain types of cancer, so it is important to get an accurate diagnosis.

If you suspect food allergy, you will likely want to have your doctor refer you to an allergist or immunologist who specializes in such conditions. An allergist/immunologist may do several things to figure out what is causing your symptoms because there is not one test by itself that can indicate whether a specific food allergy is present. Below is a look at how your allergist can diagnose your symptoms.

Physical Exam

If you come to an allergist or another doctor with physical symptoms, he/she will likely examine you for any visible signs of allergy (e.g., hives, swelling, etc.) and try to treat these symptoms for the moment (usually with an antihistamine, such as Benadryl).

Detailed History

Whether you are currently experiencing symptoms or not, a detailed history can be invaluable in diagnosing food allergies. You may want to write down answers to some of the following questions to help you talk with your doctor:

- What was the timing of your reaction?
- Did your reaction come within an hour after eating the suspected food?
- Did allergy medicine (e.g., antihistamine, which can relieve hives and some other symptoms) help?
- Is your reaction always associated with a certain food?
- Did anyone else who ate the same food get sick?

Top Eight Account for 90 Percent of Food Allergies

“Although an individual could be allergic to any food, such as fruits, vegetables, and meats, there are **eight** foods that account for **90 percent** of all food-allergic reactions.”¹⁷
These eight foods are:

- ✧ **milk,**
- ✧ **egg,**
- ✧ **peanut,**
- ✧ **tree nut (walnut, cashew, etc.),**
- ✧ **fish,**
- ✧ **shellfish (shrimp, crab, etc.),**
- ✧ **soy, and**
- ✧ **wheat.**

- How much of the food did you eat before you had a reaction?
- How was the food prepared?
- Did you eat other foods at the same time you had the reaction?

Food Diary

Keeping a food diary is a good way to accurately remember everything you have eaten. Your doctor may ask you to keep a written diary of the contents of each meal you eat and whether you have a reaction so your provider can see if there is any consistent pattern to your reactions.

Elimination Diet

Your doctor may suggest you eliminate certain foods suspected of causing allergies. You should not try an elimination diet on your own, as it can result in inadequate nutrition. Your doctor will help you substitute other foods to meet your nutritional needs. If your reactions go away when you eliminate the food, then reappear when the food is reintroduced, a diagnosis may be confirmed. *Note:* This approach can only be used if your reactions have been mild and don't occur very often. If you have a severe reaction, the food should not be eaten again.

Skin Test

If your history, food diary, or elimination diet suggest a specific food allergy is likely, your doctor may use a skin test to confirm the diagnosis. A typical type of skin test is a scratch or prick test, during which extract of food is placed under the skin with a small needle that scratches or pricks the skin. This is typically done on the lower arm for adults and the upper back for children.

A nurse will mark the arm or back to identify each extract and then look for swelling or redness, which would be a sign of a local allergic reaction. If the test is positive, it means that IgE antibodies specific to that food are present on the cells (mast cells). Skin tests are rapid, simple, and relatively safe. You will be asked to remain at the providers' office for a period of time to make sure there is no severe reaction.

Note: You can have a positive skin test to a food for which you show no allergic reaction. A doctor will only diagnose a food allergy when someone has a positive skin test **and** a history of reaction to the same food.

Blood Test

If you are extremely allergic (such as having eczema over large portions of the skin) and/or have had a severe reaction (such as anaphylaxis), skin tests cannot be used. In this case, your provider may confirm the diagnosis with a blood test. The most common of these tests are the RASH (radioallergosorbent test) or ELISA (enzyme-linked immunosorbent assay), which measure the presence of food-specific IgE in your blood. These tests are more expensive, as they often have to be sent out for laboratory work. As with a positive skin test, having a positive blood test without history of allergic reaction will not confirm a food allergy.



Food Challenge

The final type of test that may be used is a food challenge, in which you swallow capsules containing various foods (some of which will be placebo) and wait to see if there is a reaction. This is usually a “double-blinded” test, which means neither you nor the person administering the test knows what’s in each capsule. This helps rule out psychological variables. The advantage of such a test is that if you react only to suspected foods, you have a confirmed diagnosis. The disadvantage is that the tests are time-consuming, difficult to evaluate, and expensive. This type of test also cannot be used on anyone who has ever had a severe allergic reaction. This test is most often used when a provider thinks your reaction may not be due to a specific food and wants to support that idea. If he/she finds that you do not react, it may be time to look for the “real” cause of your reaction—possibly something other than food.¹⁰

Treatment

Dealing with food allergy day-to-day

Unfortunately, there is presently no cure for food allergies. Food allergies are treated by strict avoidance of the food allergen. Strict avoidance of the food(s) primarily requires three things:

- reading food labels,
- asking questions, and
- educating others.

Although that sounds simple to someone without food allergies, it can be a time-consuming and sometimes socially difficult pursuit. This is the area where friends and family can help with patience, sensitivity, and support.

Label Reading

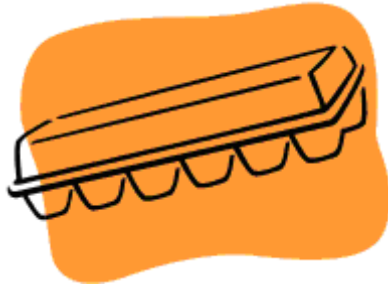
When shopping for food, you must read every label. Even if you have eaten the food before, manufacturers can change the ingredients without changing the look of the package.

The other challenge is that labels don't just list the foods in plain terms. Although recent legislation (effective January 1, 2006) requires packaged food products to use simple language in ingredient lists (e.g., the type of tree nut – almond or walnut; the type of shellfish – shrimp or crab), there is still a period in which older foods with a good shelf-life will remain in stores.¹⁸

Below you will see a list of common foods and derivatives of those foods that you might find listed on a food label. Knowing what to look for, such as these terms, can help you or your loved one to avoid allergy-causing foods.

Eggs

- Albumin
- Globulin
- Livetin
- Lysozyme
- Ovalbumin



Milk

- Casein
- Lactalbumin
- Hydrolysates
- Lacoglobulin
- Whey

Soy

- Hydrolyzed vegetable protein
- Miso
- Shoyu sauce
- Tofu
- Textured vegetable protein

Wheat

- Bran
- Cereal extract
- Farina
- Gluten
- Malt
- Spelt¹⁹



Note: Fresh produce, fresh meat, and certain highly refined oils are not required to list potential food allergens on the labels. Foods that may unintentionally come into contact with a food allergen during the growing or harvesting process or during the manufacturing process also are exempt from the new labeling legislation.¹⁸

There may also be food allergens in places you don't expect. For example, products labeled "non-dairy" may have milk derivatives, and egg substitutes may contain egg whites.^{20, 21} For a listing of other hidden sources of food allergens, see the Mayo Clinic's resource entitled "Hidden Sources of Food Allergens" at <http://mayoclinic.com/health/food-allergies/AA00058>.

Asking Questions

Most people can successfully avoid food allergens inside the home; however, when they eat away from home, it is more difficult. Whether you are going to a restaurant, a friend's home, or off to camp, you must ask questions about the food—how it is prepared, what the exact ingredients are or are not, if it comes into contact with other foods, etc. This can be a socially daunting task for some people.

For most people, dining out is a relaxing and enjoyable event; but for the person with food allergies, dining out may require asking the server about ingredients, asking for a manager, talking to the chef, and even calling in advance to make special arrangements.

Be patient and sensitive to the person with food allergies. For the person with allergies, do not be afraid to ask questions; help the kitchen staff to understand your needs in a polite way so that all can enjoy the experience. One way to help is with the use of a "chef's card." A chef's card is a small card that outlines your food allergies and can be taken to the kitchen by your server. This card can be especially helpful in situations where you might feel uncomfortable speaking up or where you question whether or not your server is able to accurately relay the information. You can find a chef's card for your use at one of the following websites: http://mayoclinic.com/images/pdfs/chefcard_4up.pdf or <http://www.foodallergy.org/downloads.html>.

Educating Others

Eating away from home often requires educating others about food allergies. Just knowing what you are allergic to may not be enough. You may need to educate your family about label-reading. You will need to educate school, church, and/or camp staff where your child attends (see more on child food allergy concerns in a future issue of *HealthHints*). You will need to educate others about cross-contamination and how to help in an emergency.

Cross Contamination

Cross contamination occurs when a dish, pan, or utensil used to prepare a food to which you are allergic is re-used to prepare your food. For example, if you use a single knife to spread peanut butter and jelly on your child's sandwich, then spread honey on a piece of toast for your friend with a peanut allergy—**using the same knife**—your friend could have a severe allergic reaction. Cross contamination can also occur when countertops or utensils are not properly cleaned from previous preparations, the same towels are handled between preparations, or foods from different orders touch each other (this is one reason to avoid bakery-style displayed foods and restaurant buffets if you have food allergies).

Antihistamine

Even with the best of efforts and intentions, accidental ingestion of a food allergen can occur. Educate others about how to help in case of an emergency. If you have only mild reactions, you may be able to be treated with an antihistamine (e.g., Benadryl). At first signs of a reaction, take or administer the antihistamine to reduce any swelling. It is always a good idea to contact your doctor if you have had an allergic reaction, since even normally mild reactions can develop into more severe reactions within minutes or even 2 hours later. Antihistamines cannot be taken as a preventative measure. They will not prevent an allergic reaction if taken prior to eating a food allergen.²²



Epinephrine

In the event of a serious reaction, an immediate injection of epinephrine (a syringe of adrenaline) will be necessary. Epinephrine must be prescribed and is usually in the form of an EpiPen, which can quickly and easily be administered by the individual or another. The epinephrine should be carried with you at all times and appropriately kept (re-ordered before expiration and not kept in extreme heat or cold). Keep the EpiPen in a cooler if you are in extreme heat. Carry it on you in a bag or purse; do not place it in a glove-compartment or in direct sunlight. Keep the EpiPen in a breast pocket when outside during the winter.²³

You will also want to practice using the EpiPen so you will be ready in case of an emergency. Ask your doctor to show you how and where to administer the epinephrine. A “trainer” pen is often included with your EpiPen prescription to help you practice. Show family members and close friends how to use it, as well.

Here are some brief guidelines on how to give an EpiPen injection:

1. Although the EpiPen may be used through clothing, it's preferable to use it on bare skin.
2. Remove the EpiPen from its amber tube.
3. Pull off the gray activation cap. Once the activation cap is removed, do not touch the exposed black tip with your fingers since this is where the needle comes out.
4. Hold the EpiPen at a 90° angle, about 2 inches from the outer part of the thigh.
5. Quickly swing and jab the black tip into the outer portion of the thigh. Hold it in place for 5 to 10 seconds. The full dose of medicine will be fully discharged within a few seconds. If you have practiced with EpiPen trainers in the past, understand that you will not hear a “click” when you are using a real EpiPen.
6. Remove the EpiPen, and massage the injection site for a few seconds. You will see the needle protruding from the pen. Press the needle against a hard surface and then bend it back toward the shaft. Slip the EpiPen back into its amber tube. Take it to the emergency room with you; give it to the personnel there to show that you've used epinephrine, and ask them to dispose of it properly while you're being further evaluated.

7. Don't be concerned if you see some medicine left in the EpiPen; that's normal.²³

If you suffer from severe food allergies, wear a medical alert bracelet or necklace stating that you have a food allergy and are subject to severe reactions.

In the event of an emergency, administer the EpiPen and seek immediate emergency care by calling 911, or have someone transport you to an emergency room (if it is quicker).

Resources

Helps for your specific food allergy concerns

Once you have identified your specific food allergy, you may want some help in finding foods and adapting recipes that you can eat and enjoy. This listing of resources provides food-specific tips and recipes.

Resources and Cookbooks

http://www.aanma.org/farmersmarket/fm_resources.htm

Recipe of the Month

<http://www.foodallergy.org/recipes.html>

Ingredient Notices

<http://www.foodallergy.org/alerts.html>

Special Diets for Food Allergies

<http://www.clevelandclinic.org/health/health-info/docs/2900/2987.asp?index=10014>

Egg Allergy

<http://www.clevelandclinic.org/health/health-info/docs/3300/3314.asp>

Tips for Managing an Egg Allergy

<http://www.foodallergy.org/allergens/egg.html>

Milk Allergies

<http://www.clevelandclinic.org/health/health-info/docs/3300/3317.asp>

Tips for Managing a Milk Allergy

<http://www.foodallergy.org/allergens/milk.html>

Nut Allergies

<http://www.clevelandclinic.org/health/health-info/docs/3300/3319.asp>

Tips for Managing a Peanut Allergy

<http://www.foodallergy.org/allergens/peanut.html>

Tips for Managing a Tree Nut Allergy

<http://www.foodallergy.org/allergens/treenut.html>

Tips for Managing a Fish and/or Shellfish Allergy

<http://www.foodallergy.org/allergens/fish.html>

Soy Allergy

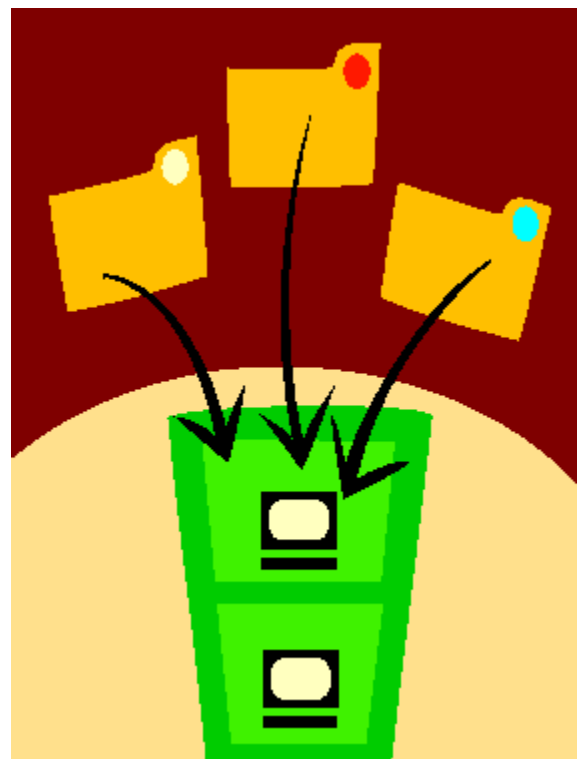
<http://www.clevelandclinic.org/health/health-info/docs/3300/3322.asp>

Tips for Managing a Soy Allergy

<http://www.foodallergy.org/allergens/soy.html>

Tips for Managing a Wheat Allergy

<http://www.foodallergy.org/allergens/wheat.html>



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