Food Allergens

Food Allergy
A Patient’s Guide
**Food allergy** is an abnormal response to a food triggered by your body’s immune system. About 3 percent of children and 1 percent of adults have food allergy.

An allergy is your body’s way of saying “I don’t like it” to a substance to which you are hypersensitive. Such substances, which are normally harmless, are called allergens. Allergens cause your body’s immune system to produce antibodies called IgE to protect you. The IgE antibodies, in turn, cause the release of inflammatory chemicals such as histamines, resulting in allergy symptoms from mild to life-threatening.

The IgE antibodies responsible for allergic reactions are specific to each allergen — for example, the IgE antibody to peanuts is different from IgE antibodies to other food allergens such as shellfish, tree nuts, wheat and milk.

Food allergy can sometimes be confused with food poisoning or food intolerance. **Food poisoning** is a result of eating contaminated food or non-pasteurized dairy products; the symptoms are caused by microorganisms such as bacteria and the toxins they release. **Food intolerance** occurs when your body cannot digest certain foods (e.g., lactose intolerance and gluten intolerance) or when your body reacts to food additives such as monosodium glutamate (MSG).

**Allergy testing allows your doctor to identify true allergies and to find out what is causing your allergic reaction.** Your doctor may order a skin test — your skin is pricked or scratched and exposed to potential allergens to see if you develop a raised bump or reaction. Or your doctor may order a blood test.

**Blood testing tells your doctor which IgE antibody or antibodies your body is producing and therefore which allergens are likely to cause a reaction.** A small sample of your blood is mixed with different allergens to look for chemical reactions. The reaction is recorded and analyzed by a computer and reported to your doctor. Blood testing can determine how much of a specific IgE your body is producing. This helps the doctor gauge the severity of your allergy.

**Blood testing has some other advantages, too.** It is more convenient. Since one blood sample can be used to test for many allergens, it may require fewer visits to your doctor’s office. For children, it means one needle stick for a blood test rather than multiple sticks for skin tests. Also, blood testing does not require introducing suspected allergens to the skin, as skin testing does. This avoids any potential interactions with medications you may be taking.
Symptoms of food allergy can range from uncomfortable or unpleasant though not life-threatening all the way to anaphylaxis, a sudden, severe and life-threatening reaction. Common symptoms are:

- Tingling in the mouth
- Hives, itching or eczema
- Swelling of the lips, face, tongue and throat, or other parts of the body
- Wheezing, nasal congestion or trouble breathing
- Abdominal pain, diarrhea, nausea or vomiting
- Dizziness, lightheadedness or fainting

The most serious reaction, called anaphylaxis or anaphylactic shock, can develop immediately after allergen exposure in highly sensitive people and causes airways to constrict, making it difficult to breathe. Blood pressure may drop, causing dizziness or loss of consciousness. Other symptoms include confusion, slurred speech, blue skin, nausea, vomiting and diarrhea.

Peanuts, tree nuts (such as walnuts and pecans), fish and shellfish are the most common causes of food allergy in adults.

Milk, eggs, peanuts, wheat, soy and tree nuts are the most common causes of food allergy in children.

You are more likely to develop food allergies if you have a family history of allergies such as hay fever, asthma, hives or eczema. Age is also a factor. Young children, especially toddlers and infants, are more prone to food allergies. Fortunately, as their digestive system matures, children often outgrow allergies to milk, soy, wheat and eggs. They are less likely to outgrow an allergy to peanuts, fish or shrimp.

Oral allergy syndrome, a mild allergic reaction that causes the mouth to tingle or itch, is the result of a cross-reaction between plant proteins from pollen and fruits or vegetables. When a person with pollen allergy eats a fresh fruit or vegetable, the immune system sees the similarity and causes an allergic reaction. Interestingly, many patients with oral allergy syndrome can eat the same fruits or vegetables when they are cooked. The cooking process changes the protein enough that the immune system does not recognize the food as being the same allergen as the pollen anymore.

### Allergen Potential Cross-reactive Foods*

<table>
<thead>
<tr>
<th>Allergen</th>
<th>Potential Cross-reactive Foods*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ragweed</td>
<td>Bananas, melons (watermelon, cantaloupe, honeydew), zucchini, cucumbers, dandelions, chamomile tea</td>
</tr>
<tr>
<td>Birch</td>
<td>Apples, pears, peaches, apricots, cherries, plums, nectarines, prunes, kiwis, carrots, celery, potatoes, peppers, fennel, parsley, coriander, parsnips, hazelnuts, almonds, walnuts</td>
</tr>
<tr>
<td>Grass</td>
<td>Peaches, celery, melons, tomatoes, oranges</td>
</tr>
<tr>
<td>Mugwort</td>
<td>Celery, apples, kiwis, peanuts, fennel, carrots, parsley, coriander, sunflower, peppers</td>
</tr>
<tr>
<td>Alder</td>
<td>Celery, pears, apples, almonds, cherries, hazelnuts, peaches, parsley</td>
</tr>
<tr>
<td>Latex</td>
<td>Bananas, avocados, kiwis, chestnuts, papayas</td>
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</tbody>
</table>

* Table adapted from http://www.chop.edu/consumer/jsp/division/generic.jsp?id=77903
Prevention is the best medicine. If you think you are allergic to a food, see your doctor to find out which foods you are allergic to. Currently there is no cure for food allergy. You best defense is to avoid the food allergens that are causing the reaction. Sometimes this is easier said than done. For example, if you or your child is allergic to milk, you need to know that milk proteins also go by other names (e.g., casein). As another example, people who are allergic to peanuts should be aware that many African, Southeast Asian and Mexican foods contain ingredients derived from peanut (such as peanut oil). Ask about the ingredients in the food you are being served.

If your child has an allergy, make sure your child’s teachers, school nurse, care providers and parents of your child’s friends are aware of the allergy. Tell them about the symptoms of an allergic reaction.

Talk to your doctor if you think you may have food allergy. Your doctor can perform a number of simple, painless and quick tests to determine your current level of sensitivity to different foods and your risk of developing an allergy in the future. Your doctor can also provide an effective treatment plan for your symptoms and helpful hints to make living with your food allergy easier. If your allergy is serious, your doctor may give you a prescription for an epinephrine self-injection pen, which can save your life in case of anaphylactic shock. Wear a Med-Alert bracelet or necklace and be sure the people close to you, whether family, friends or coworkers, know about your allergy.