

Dealing with Food Allergies¹

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What is a food allergy?

A food allergy is an immune system reaction that happens after a person consumes what is normally considered a safe food. Food allergies occur more often in children than in adults: 4%–8% of those aged 4 or under and about 2% of adults are affected (FDA 2009). Allergic reactions from food have led to over 20,000 emergency room visits per year (Ross et al. 2008). Annually, between 150 and 200 fatalities associated with food allergic reactions occur in the United States (FDA 2009).

While most food allergies in adults are caused by a small group of foods or food products, food allergies in young children can be caused by a wider variety of foods. Dairy, eggs, and soy allergies are commonly outgrown; peanut, tree nut, fish and shellfish allergies are almost never outgrown (FDA 2009). As an adult, “the big eight” foods (and their products) account for 90% of food allergies in the US:

1. Wheat
2. Shellfish
3. Egg
4. Fish
5. Peanuts
6. Milk
7. Tree nuts (walnuts, almonds, cashews, pistachios, pecans)
8. Soy



What causes food allergies?

A true allergy is caused by a person's immune system reacting to a protein; the process begins when the food is first eaten. The body “remembers” that protein and when the same food is eaten again, the immune system overreacts in an excessive and potentially life-threatening way.

True food allergies are caused by rapid release of immunoglobulin E (IgE) after a person ingests the problematic food after an initial exposure. When this overproduction of IgE is triggered by a food allergen (specific proteins found in the problematic food), local or systemic (affecting the whole body) effects occur, such as inflammation, severe swelling, or hypersensitivity reactions.

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The most common way to acquire allergies is through atopy, a hereditary predisposition to overproduce IgE. Instead of developing an allergy spontaneously, an individual “inherits” allergies. Often, these individuals suffer from non-foodborne allergies such as hay fever (allergic rhinitis), [asthma](#), or rashes (atopic dermatitis). These individuals are more likely to develop food allergies.

Studies suggest that up to 25% of adult Americans believe that they have a food allergy. However, the actual confirmed percentage of people in the US population with food allergies is less than 2% for adults and 2%–8% in infants. Proper medical authorities should be consulted for confirmation and guidance (Cianferoni and Spergel 2009).

What are the symptoms associated with food allergies?

Allergic reactions to food may cause symptoms within seconds of consumption, or may take several hours to develop. Symptoms can occur locally, in multiple locations, or can be spread over the entire body. Redness, itching, and swelling (inflammation) are the most recognizable and commonly associated symptoms, although several other types of symptoms are possible (FDA 2009; NIAID 2010b).

Symptoms associated with the digestive tract may include any one or more of the following:

- Itching/tingling of the lips, palate, tongue, or throat
- Hoarseness and sensation of tightness in throat
- Swelling of the lips or tongue
- Abdominal pain or cramps
- Nausea and/or vomiting
- Diarrhea (NIAID 2010b)

Who is at risk?

Food allergies generally develop at an early age, but may appear at any time. People who have had previous allergic reactions to foods or sometimes non-food items (insect bites, latex, etc.), or that have a family history of allergies are most susceptible. It is uncommon for a person to have an allergy to more than three different foods (Wang 2010).

What is anaphylaxis?

Anaphylaxis is a severe allergic reaction affecting the entire body that, if not treated, can be fatal. The initial symptoms are usually similar to a normal allergic reaction except they are much more severe and can cause respiratory issues due

Table 1. Symptoms and affected areas

Affected Area	Symptom
Skin	<ul style="list-style-type: none"> • Hives • Flushing • Itching
Airways	<ul style="list-style-type: none"> • Chest tightness • Wheezing • Shortness of breath
Throat (pharynx)	<ul style="list-style-type: none"> • Difficulty speaking • Tongue swelling • Vocal cord swelling
Nose	<ul style="list-style-type: none"> • Nasal congestion • Itching • Runny nose • Sneezing
Eyes	<ul style="list-style-type: none"> • Itching • Tearing
Systemic	<ul style="list-style-type: none"> • Decreased blood pressure • Loss of consciousness

(Source: FARE 2013)

to airway obstruction. Along with this risk for suffocation, patients can go into shock or lose consciousness due to decreased blood flow, which can be life-threatening (Dugdale 2012).

Managing food allergies

If a person has an allergy to a particular food, any meal containing that food, even as a flavoring, may cause an allergic response. For example, if a person is allergic to peanuts, they will be sensitive to any food that has peanuts or peanut products (e.g., peanut butter, peanut oil, chopped or diced peanuts, etc.) as an ingredient. Treatment or processing of a food does not necessarily affect its ability to cause an allergic response. **It is important to carefully read food labels and ingredient lists if a person has a known food allergy.**

Almost any food has the potential to cause an allergy or a hypersensitivity reaction in a susceptible person. Food allergies are only triggered by proteins; sugars and fats do not cause food allergies. Food additives such as MSG (monosodium glutamate) and dyes may cause similar symptoms but are not true food allergies since they do not involve the immune system (NIAID 2010a).

How can a person deal with an attack?

There is no cure for a food allergy. Once diagnosed, a person may have to contend with their condition for life. In some cases, young children may “outgrow” certain allergies as their immune system develops with time (Fleischer et al. 2005; Skolnick et al. 2001; Spergel 2013; Savage et al. 2010). **If a person has an allergy to a particular food, the only proven therapy is strict avoidance of the food or its products.** If a person is having a minor allergic reaction to a food, oral antihistamines can be taken, but in the case of severe reactions, the medication of choice is an injection of epinephrine. A person with a known food allergy should always carry a dose of epinephrine in case of an emergency. **A person suffering from an anaphylactic attack should be taken hospital immediately.** Even if epinephrine is administered, anaphylactic symptoms may reappear within minutes to several hours after treatment. Observation by trained medical personnel is important during this period. The use of inhaled medications, such as those used for asthma attacks, have not been shown to be safe or effective in combating anaphylactic attack from food allergies.

What is being done to help prevent food allergies?

In 2008, the FDA held a public hearing to determine what would be the best course of action to help food processors identify the potential areas in their manufacturing that could possibly lead to allergic reaction (FDA 2009). This initiative added to the labeling campaign signed into law in 2006. Food manufacturers are not only required to identify which potential allergens are found in the food, but also to indicate the possibility of the non-allergenic food coming in contact with potential allergens during manufacturing (e.g., from machinery or from another products produced at the same facility) (FDA 2009). Guidelines and regulations are constantly being updated as more research is conducted. With every new finding, the most accurate information is passed on to the consumers, thus keeping the risk of adverse reactions from food allergies as low as possible.

What is food intolerance?

Although often misdiagnosed as a food allergy, food intolerance is a different condition. Symptoms of food intolerance usually involve discomfort after eating causal food, including bloating, abdominal pain, and sometimes diarrhea. Specifically, food intolerance is due to a problem with a person’s metabolism, *not* their immune system. Lactose intolerance, for example, is caused by the inability

to produce the digestive enzyme (lactase) that breaks down the sugars (lactose) found in milk and other dairy products (NIAID 2010a).

Disclaimer

If you have allergies, think you do, or have any specific questions about any medical decision, always consult your doctor or other professional healthcare provider for any specific recommendation or treatment.

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Resources:

CDC (Centers for Disease Control and Prevention) <http://www.cdc.gov/healthyyouth/foodallergies/>

National Institute of Allergy and Infectious Diseases <http://www.niaid.nih.gov/Pages/default.aspx>

FDA (Food and Drug Administration) <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm089307.htm>

FARE (Food Allergy Research and Education)/FAAN (Food Allergy and Anaphylaxis Network) <http://www.foodallergy.org/>

Children's Hospital of Philadelphia <http://www.chop.edu/service/allergy/allergy-and-asthma-information/oral-allergy-syndrome.html#cross>