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INTERNATIONAL
FOOD INFORMATION
COUNCIL FOUNDATION

FOOD ALLERGY FACTS

INSIDE

WHAT YOU KNOW COULD SAVE A LIFE

Food allergies are a major health concern that affect approximately 32 million Americans including 5.6 million children under age 18.

That's equal to one in 13 children or two in every classroom living with food allergies. Rates of food allergies are on the rise, and as these rates increase, it has become even more important to increase awareness and inform the public about food allergies and what to do if someone is having an allergic reaction. Knowledge about food allergies can save lives.

What Is A Food Allergy?

A food allergy is a serious medical condition in which the body's immune system overreacts to something in a food — typically a protein. When people with food allergies encounter their allergen(s), even in small amounts, the allergens bind to an immunoglobulin such as immunoglobulin E (IgE), specific to that allergen. These antibody-allergen complexes signal specialized mast cells to release inflammatory factors (histamine) and cause immune-mediated reactions.

Within the body, there are numerous IgE antibodies, each of which can bind to a specific antigen when it is encountered. When someone is allergic to an offending protein in food, they produce multiple IgE antibodies, eliciting an adverse reaction.

What are the symptoms of an allergic reaction to food?

Symptoms of a food allergy differ greatly among individuals. The same person may have different reactions depending on exposure and how much of the offending food was eaten. Allergic reactions to food can vary in severity and time of onset; likewise, there is no way to predict the severity of a future reaction.

Common symptoms of a food allergy include skin irritation such as rashes, hives and eczema and gastrointestinal symptoms such as nausea, diarrhea and vomiting. In addition to these symptoms, sneezing, runny nose and shortness of breath can occur. However, these symptoms do not typically occur without other skin or gastrointestinal symptoms. In extreme cases, some individuals may experience a more severe reaction known as anaphylaxis.

What is anaphylaxis?

According to the American Academy of Allergy, Asthma and Immunology (AAAAI), anaphylaxis is a severe, life-threatening allergic reaction. It is a condition that affects several different parts of the body such as the skin (with symptoms including flushing, itching or hives), the airway (including swelling of the throat or difficulty talking or breathing), the intestines (including nausea, vomiting or diarrhea), and the ability of the heart to pump blood—potentially resulting in low blood pressure or unconsciousness.

Symptoms usually appear rapidly, sometimes within minutes of exposure to the allergen, and can be life-threatening. Immediate medical attention is necessary when anaphylaxis occurs. Standard emergency treatment often includes an injection of epinephrine (adrenaline) to open the airway and help reverse the reaction.

How do I know if I have a food allergy?

A board-certified health care professional (allergist) should diagnose food allergies. Making a diagnosis may include:

- a thorough medical history;
- a physical examination;
- several tests including skin-prick tests, blood tests such as RAST, Immunocap and specific IgE, and a food challenge test (using different foods to test for allergic reactions under the supervision of an allergist).

Once a diagnosis is complete, an allergist will help set up an action plan to manage allergic reactions that may occur. An action plan may include taking medication by injection to control allergic reactions and should consist of practical dietary recommendations on how to identify and avoid certain food(s). This often involves obtaining nutrition recommendations from a registered dietitian or nutrition expert, especially for someone who is newly diagnosed.

Which foods trigger allergic reactions?

In the U.S., most food-related allergic reactions are caused by milk, egg, peanuts, tree nuts, soy, wheat, fish and crustacean shellfish — collectively known as The Big Eight. According to the FDA, they “account for over 90% of allergic reactions” in

Non-IgE-mediated gastrointestinal (GI) disorders are less common and affect many younger infants and children. Infants and children often present to clinicians with food-related GI problems that are commonly perceived by the parents to be a food allergy. Symptoms include vomiting, reflux, abdominal pains and diarrhea. There are several non-allergic conditions that have similar GI symptoms to those of food allergies, such as eosinophilic gastroenteropathies and food-protein-induced enterocolitis syndrome (FPIES). Reactions are typically sub-acute or chronic and are oftentimes difficult to diagnose. A delayed response or treatment may result in significant growth retardation, anemia and, in extreme cases, malnutrition.

the U.S. However, nearly any food could cause an allergic reaction. In different regions of the world, other foods have also been identified as allergens. Sesame, for example, is a food allergen in Canada, Australia, New Zealand and the European Union. In addition, Canada, the European Union (EU), Hong Kong, Australia and New Zealand maintain the same basic list of eight but have added further food items.

> *Many clinicians, experts and consumers believe sesame should be counted as the ninth major food allergen in the U.S. because of its prevalence and severity. The U.S. Food and Drug Administration (FDA) is currently considering the addition of sesame as a priority allergen. Because of its prevalence, several multi-national food companies already include sesame in their allergen management plans across all markets, including the U.S.*

Who's at risk for developing food allergies?

Research indicates that the risk of having a food allergy (or risk for an allergic reaction) varies based on age and race. Most children with food allergies to milk, eggs, soy and wheat will outgrow them; however, allergies to peanuts, tree nuts and fish usually persist throughout the lifespan. In addition, most recent studies confirm shellfish as a leading allergen among adults and older Americans, followed by milk and peanuts (Gupta et al. 2019). Globally, shellfish allergies affect 2–3% of adults worldwide.

How are food allergies different from food sensitivities and intolerances?

Non-immune-mediated reactions to foods that involve the digestive system are often referred to as food sensitivities or food intolerances. These reactions are not the same as food allergies because they do not affect the immune system. Food sensitivities result in an adverse response to naturally occurring food components during digestion and metabolism (the breakdown of food by the body). Lactose intolerance is one of the most common types of food intolerances. It occurs when a person is deficient in lactase, an enzyme necessary for digesting milk sugars. If a person who is lactose-intolerant consumes too much of a milk-containing product, they may experience symptoms including gas, bloating and abdominal pain.

> *Lactose intolerance and milk allergies are not the same. Lactose intolerance affects the gastrointestinal system. It does not involve the immune system and is not life-threatening. A milk allergy does involve the immune system and can be life-threatening.*

Celiac disease is sometimes considered a food allergy because it is the result of cell-mediated, delayed hypersensitivity reaction to gluten, a protein in wheat, barley and rye. However, celiac disease is not a food allergy. It is an autoimmune disorder that often runs in families.

Am I allergic to food additives?

There are several facts and fallacies about food additives causing allergic reactions. The fact is that food additives are safe. With a few exceptions such as sulfite sensitivity, food additives do not trigger allergic reactions. Sulfite sensitivity is generally seen in steroid-dependent asthmatics who are exposed to high doses of sulfites after a fasting period. The Food Allergy Research & Resource Program (FARRP) at the University of Nebraska provides additional information on food allergies and sensitivities as well as scientific data about food additives.

> *Aspartame, monosodium glutamate and several food dyes have been studied extensively. Scientific evidence shows that they do not cause life-threatening allergic reactions.*

What should I do if I believe I have a food allergy?

If you believe you have a food allergy, it's important to get a medical diagnosis from a board-certified allergist if possible. Many individuals and caregivers self-diagnose food allergies before they are confirmed, which can unnecessarily limit food options and prevent intake of vital nutrients. Avoid the offending food until a diagnosis is provided.

A medical diagnosis can change a lifestyle and newly diagnosed food allergy patients should inform family and friends. It's important they understand the risks associated with eating and the potential impact of preparing meals or dining out. If necessary, the newly diagnosed should visit or consult with a registered dietitian for guidance on what to eat and what to avoid. You may be surprised to know that dietary changes (avoidance) may not mean giving up favorite tastes or the pleasure of eating.

How do I know if an offending allergen is in my food?

Reading all food labels is vital for effectively managing true food allergies. This helps shoppers identify and avoid foods that contain the offending allergen, which helps to prevent allergic reactions. In the U.S., food companies are required by law to list the presence of The Big Eight allergens on the label. There are two ways that companies can list allergens: 1) displaying the common name in the ingredient list or 2) using a "contains" statement immediately following the ingredient list that includes the common name of each allergen that is in the product. Because the use of a contains statement is not required, it is important to read the ingredient statement of each label. In addition to the U.S. labeling requirements for allergens, Health Canada, the European Food Safety Authority, the Food Standards Agency of Australia and New Zealand as well as Food Safety Commission of Japan and the China Food Safety Authority have regulations for allergen management and labeling requirements.

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> *The Food Allergen Labeling and Consumer Protection Act (FALCPA), a law implemented in January 2006, requires that the eight major allergens be listed on food labels in easily understood language. Always look at the listings on labels to determine the presence of the eight major allergens. Since food and beverage manufacturers are continually making improvements, food-allergic persons should read the food label for every product purchased, each time it is purchased. Food ingredients can change.*

Eating Away from Home

Most life-threatening allergic reactions to food occur when eating away from home. It is essential to explain your needs to those around you when you're traveling, and especially to your host or food server when dining at a restaurant. Make your allergy known when you make the reservation. Most online reservation apps will provide opportunities for you to inform the chef or restaurant about any dietary needs or important information regarding your upcoming meal. Upon arrival, confirm that the information was understood, and consider speaking with the manager on duty or the head chef. These are very important and practical steps to safeguard yourself and reduce the risk of having an allergic reaction. The Food Allergy & Anaphylaxis Connection Team (FAACT) and Food Allergy Research Education (FARE) both provide helpful information and practical tips when dining out.

Food allergies are a major health concern, and as rates continue to rise, it's important to increase awareness about food allergy risk and management. It's also imperative that we recognize the symptoms of a reaction and take the appropriate steps identified in your action plan. Food Allergy Research and Education (FARE) provides a template for you to develop your Food Allergy and Anaphylaxis Emergency Care Plan.

> *If you or someone you know is experiencing a food allergic reaction, follow the steps listed in the Emergency Care Plan. If a Plan is not available, seek immediate medical attention.*

Additional Resources

- American Academy of Allergy, Asthma and Immunology (AAAAI) Sicherer et al. “Seafood Allergies, Fish and Shellfish”, 2016
- Bruijnzeel K.C., Ortolani C, Aas K et al.: Adverse reactions to food. European academy of allergology and clinical immunology subcommittee. *Allergy* 50, 623-635 (1995)
- Gupta R.S., Warren C.M., Smith B.M., et al. Prevalence and Severity of Food Allergies Among US Adults. *JAMA Netw* Open. 2019;2(1): e185630. doi:10.1001/jamanetworkopen.2018.5630
- Food Allergy and Anaphylaxis Connection Team (FAACT)
- Food Allergy Research & Education (FARE)
- Food Allergy Research & Resource Program (FARRP)
- Pediatric Health Review, *Gastrointestinal Manifestations of Food Allergy*
- The American Academy of Allergy, Asthma and Immunology (AAAAI)
- U.S. Food and Drug Administration (FDA) “Frequently Asked Questions About Food Allergies”

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Food Allergy Research & Education (FARE)

www.foodallergy.org

FARE
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Food Allergy & Anaphylaxis Connection Team (FAACT)

www.foodallergyawareness.org

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