

Food Allergy and Intolerances

For some people, eating certain foods or additives can lead to a bad physical reaction. This food-hypersensitivity can involve the immune system (the body's defence against attack) and is called a food allergy. If it doesn't involve your immune system, the reaction is called food intolerance.

The true prevalence of food hypersensitivity is very difficult to establish, but it is estimated that between 1 – 10% of children and adults have a food allergy, depending on the population studied. However as many as 20% of the population experience some reactions to foods which make them believe they do have a food hypersensitivity. It is important to understand the difference between a food allergy and intolerance, as these conditions are diagnosed differently and dietary management may also vary.

Food allergy

Food allergies occur when the body's immune system wrongly thinks that a food protein is harmful and acts against it. When the symptoms are immediate (within two hours of eating the food), it usually involves the production of IgE, followed by the release of substances such as histamine, causing the classic symptoms related to food allergies, e.g. eczema in young children, an itchy rash, swelling and in some cases also affecting the stomach with vomiting and diarrhoea.

Symptoms can vary in severity and can in the worst case lead to life threatening anaphylaxis. This type of allergy is known as an IgE mediated food allergy. When the symptoms are more delayed (appear after two hours), the reaction does not usually involve IgE production, but other cells of the immune system. These types of reactions more often involve gastrointestinal symptoms (vomiting, diarrhoea, constipation) and skin reactions and are called non-IgE mediated food allergy.

An allergic response to food therefore always involves the immune system and symptoms can appear soon after the food has been eaten (also called an immediate type reaction) or even some days after eating the food (delayed reaction).

Which foods are involved?

For children, the most common food allergens are:

1. Cow's milk
2. Chicken eggs
3. Shellfish – especially prawns
4. Fish
5. Soy
6. Peanuts
7. Wheat
8. Tree nuts e.g. hazelnuts, almonds, walnuts, Brazil nuts, cashew and pistachio nuts

These eight allergens account for about 90% of all allergic reactions, however allergic reactions to other foods such as sesame and kiwi are becoming more common.

In adults, the most common type of food allergy is one involving symptoms to raw fruits and vegetables. Known as oral allergy syndrome, this type of food allergy happens in people who have IgE antibodies to pollen, and reacts to the proteins in fruits and vegetables which are very similar to the pollen allergens.



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The most common foods involved are apples, stone fruit (peaches, plums cherries, etc) and tree nuts, especially hazelnuts. Fish, shellfish, peanuts, legumes and seeds are also common causes of allergy in adults.



Food allergy testing

There are some useful diagnostic tests that can be used in conjunction with clinical history to diagnose the most common type of food allergy, which involves the production of IgE antibodies, the antibodies that are involved in

an immediate type reaction. The main tests are allergen specific IgE blood tests and Skin Prick Tests (read the food allergy and intolerance testing Food Fact Sheet for further details).

Unlike immediate food allergy, delayed type food allergies do not involve the production of IgE antibodies, and there are currently no diagnostic tests for this type of food allergy. Therefore these types of allergies are harder to diagnose and will require specialist input from a healthcare professional, to guide on food avoidance and re-introduction/challenge.

Food intolerance

There are many different types of food intolerances, including enzymatic and pharmacologic reactions. Pharmacological intolerances involve reactions to certain naturally occurring substances in foods such as vaso active amines - of which histamine is one example, salicylates - substances chemically similar to aspirin found in a wide variety of plant foods, and caffeine or theobromine - found in chocolate.

The most common type of enzymatic food intolerance is lactose intolerance, which occurs because these individuals have either too little or no lactase - the enzyme which helps to digest milk sugar lactose. However, there are many food intolerances with unknown mechanisms such as intolerance to food additives.

Many people find digesting certain foods difficult, or that certain foods will make an existing condition - such as irritable bowel syndrome - worse. These again are usually not allergies (read the IBS Food Fact Sheet for further details).

Food intolerances do not involve the immune system and are rarely life-threatening. Reactions to food additives, histamine, salicylate and sulphites often show a vast range of symptoms, individual to each patient, the onset of reactions could be immediate or very delayed and the symptoms range in severity. A detailed history by an experienced healthcare professional is required to diagnosed and manage these.

Which foods are involved?

Foods which can cause food intolerance include

- lactose (found in milk and other lactose containing products – NB many tablets have lactose added as a filler),
- vaso-active amines (found in red wine, strong and blue cheeses, tuna, mackerel, pork products, sundry and other foods),
- chemical naturally occurring foods such as salicylate and glutamate and some food additives, especially the benzoate and sulphite preservatives and monosodium glutamate.

Food labelling

Since November 2005 European Union (EU) legislation has decreed that all pre-packaged foods sold within the EU must be labelled with the above eight food allergens as well as the less common food allergens: sesame, mustard, celery, sulphites, molluscs and lupin.

Summary

If food hypersensitivity involves the immune system, it's a food allergy, if not, it's a food intolerance. Food intolerances are rarely life threatening and can be distinguished from a food allergy because symptoms usually occur several hours after eating, and do not include an itch, rash or swelling - unlike a food allergy. If you suspect an allergy, you should seek medical attention.

For more information about testing, please refer to the Food Fact Sheet: Food Allergy and Intolerance Testing.

