

Food Fact Sheet: Food Allergy and Food Intolerance

What is the difference between food allergy and food intolerance?

For some people, eating certain foods can lead to an unpleasant and sometimes dangerous physical reaction called 'food hypersensitivity'. Food hypersensitivity reactions can either involve the immune system (the body's defence against foreign bodies) in which case it's called a 'food allergy' or it doesn't involve the immune system and is called a 'food intolerance'.

It is estimated that between 1-10% of adults and children have a food hypersensitivity. 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 managing the condition by what you eat and drink may also vary.

Food allergy

Food allergies occur when your immune system reacts to a harmless food protein, due to the creation of Immunoglobulin E (IgE) antibodies which are specific for that particular protein. When the protein is consumed, the antibodies recognise the protein and link to it, causing the release of substances such as histamine, which will result in allergic symptoms. An immediate reaction (within two hours of eating the food), usually involves IgE antibodies, and the development of classic symptoms such as an itchy rash, swelling and in some cases vomiting and diarrhoea.

Symptoms can vary in severity and can in the worst case lead to life threatening problems including difficulty in breathing and collapse, also known as anaphylaxis. When the symptoms are more delayed (appears after two hours and up to a couple of days) the reaction does not usually involve the production of IgE antibodies against a particular food, but a different type of immune reaction involving other cells of the immune system. These types of reactions are most frequently gastrointestinal (vomiting, diarrhoea, constipation) and/or skin reactions (atopic eczema), and are known as non- IgE mediated food allergies.

Therefore an allergic response to food 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 (called delayed reaction).

Which foods are involved?

For children, the most common food allergens are:

1. cow's milk
2. chicken eggs
3. shellfish especially
4. prawns
5. fish
6. soy
7. peanuts
8. wheat
9. 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 pollen food syndrome or 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.

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 allergies occur when the body's immune system wrongly thinks that a food protein is harmful and acts against it.

There are some useful diagnostic tests that can be used in conjunction with clinical history including allergen specific IgE blood tests and Skin Prick Tests.

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. Dietary exclusion plays an important role in the diagnosis of this kind of allergy. For any suspected food allergy, specialist input is required for diagnosis and management.

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 (IBS) - worse. These again are usually not allergies.

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 diagnose 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 eight food allergens (see front of this sheet) as well as the less common food allergens: sesame, mustard, celery, sulphites, molluscs and lupin.

In addition to the above legislation, in December 2014 allergen labelling laws have changed to ensure that any allergens are emphasised (e.g. in bold or highlighted) and in one place (ingredients list). An allergy advice statement may also be present, referring you to the highlighted allergens in the ingredients list.

For foods sold without packaging such as in a bakery, café or pub, allergen information will have to be provided either in writing or verbally. If provided verbally, the business must be able to provide further information if requested (in the UK only). More information on the changes can be found at: www.food.gov.uk/policy-advice/allergyintol/label

Summary

Food-hypersensitivity reactions can either involve the immune system in which case it's called a 'food allergy' or it does not involve the immune system and is called 'food intolerance'.

For both, healthcare professionals should be involved, to ensure that appropriate tests are performed and to avoid unnecessary elimination diet which places individuals at risk of nutritional deficiencies.