

Food allergy

Food allergy occurs in around 1 in 20 children and in about 2 in 100 adults. The most common triggers are egg, cow's milk, peanut, tree nuts, seafood, sesame, soy, fish and wheat. The majority of food allergies in children are not severe, and may be 'outgrown' with time. However, peanut, tree nut, seed and seafood allergies are less likely to be outgrown and tend to be lifelong allergies. Some food allergies can be severe, causing life-threatening reactions known as anaphylaxis.

What is allergy?

An allergy is when the immune system reacts to a substance (allergen) in the environment which is usually harmless (e.g. food, pollen, animal dander and dust mite) or bites, stings and medications. This results in the production of allergy antibodies which are proteins in the immune system which identify and react with foreign substances.

An allergic reaction is when someone develops symptoms following exposure to an allergen, such as hives, swelling of the lips, eyes or face, vomiting or wheeze. It is important to note that only **some** people with allergy antibodies will develop symptoms following exposure to the allergen, hence confirmation of allergy by a clinical immunology/allergy specialist is required.

Allergic reactions range from mild to severe. Anaphylaxis is the most severe form of allergic reaction.

Symptoms of food allergy are usually obvious

Mild to moderate symptoms of food allergy include:

- Swelling of face, lips and/or eyes
- Hives or welts on the skin
- Abdominal pain, vomiting

Signs of a severe allergic reaction (anaphylaxis) to foods include:

- Difficult/noisy breathing
- Swelling of tongue
- Swelling/tightness in throat
- Difficulty talking and/or hoarse voice
- Wheeze or persistent cough
- Persistent dizziness and/or collapse
- Pale and floppy (in young children)

Food allergy can sometimes be dangerous

Although Mild, moderate and even severe allergic reactions (anaphylaxis) to foods are common in Australia and New Zealand. However, deaths from anaphylaxis due to food allergy are rare in Australia and New Zealand. Most deaths can be prevented by careful allergen avoidance measures and immediate administration of an adrenaline autoinjector.

The most common foods causing life-threatening anaphylaxis are peanuts, tree nuts, shellfish, milk and egg. Symptoms of anaphylaxis affect our breathing and/or our heart.

Sometimes food allergy may be less obvious

Less common symptoms of food allergy include infantile colic, reflux of stomach contents, eczema, chronic diarrhoea and failure to thrive in infants.

Not all adverse reactions to foods are due to allergy

The term **allergy** is often misused to describe any adverse reaction to foods which results in annoying (but ultimately harmless) symptoms such as headaches after overindulging in chocolate or red wine, or bloating after drinking a milkshake or eating too much pasta. While these reactions are *not* allergic, the result is a widespread impression that all adverse reactions to foods are trivial.

Adverse reactions to foods that are **not allergy** include food intolerances, toxic reactions, food poisoning, enzyme deficiencies, food aversion or irritation from skin contact with certain foods. These adverse reactions are often mistaken for food allergy.

How common is food allergy and is it increasing?

Studies have shown that food allergy affects 10% of children up to 1 year of age; between 4-8% of children aged up to 5 years of age and approximately 2% of adults.

Hospital admissions for severe allergic reactions (anaphylaxis) have doubled over the last decade in Australia, USA and UK. In Australia, admissions for anaphylaxis due to food allergy in children aged 0 to 4 years are even higher, having increased five fold over the same period.

Why the rise in food allergy?

We currently do not have clear information as to why food allergy seems to have increased so rapidly in recent years, particularly in young children. This area requires additional research studies, several of which are already underway. Proposed explanations (which have not yet been proven in studies) include:

- Hygiene hypothesis, which proposes that less exposure to infections in early childhood, is associated with an increased risk of allergy.
- Delayed versus early introduction of allergenic foods (e.g. egg, peanut or tree nuts).
- Methods of food processing (e.g. roasting makes peanuts more allergenic).
- Development of allergy to food by skin exposure (e.g. the use of unrefined nut oil based moisturisers).

Allergies to cow's milk, eggs and peanuts are the most common in children

Nine foods cause 90% of food allergic reactions, including cow's milk, egg, peanut, tree nuts, sesame, soy, fish, shellfish and wheat. Peanut, tree nuts, shellfish, fish, sesame and egg are the most common food allergens in older children and adults. Other triggers such as herbal medicines, fruits and vegetables have been described and almost any food can cause an allergic reaction.

When does food allergy develop?

Food allergy can develop at any age, but is most common in young children aged less than 5 years. Even young babies can develop symptoms of food allergy.

Reliable diagnosis of food allergy is important

Your doctor will normally ask a series of questions that may help to narrow down the list of likely causes such as foods or medicines consumed that day, or exposure to stinging insects. This approach will also help to exclude conditions that can sometimes be confused with food allergy and anaphylaxis.

Skin prick allergy tests or allergy blood tests help to confirm or exclude potential triggers. Sometimes a temporary elimination diet under close medical and dietetic supervision will be needed, followed by food challenges to identify the cause. Long term unsupervised restricted diets should not be undertaken, as this can lead to malnutrition and other complications such as food aversion.

While the results of allergy testing are a useful guide in determining whether the person is allergic, they do not provide a reliable guide to whether the reaction will be mild or severe. Information on allergy tests is available on the ASCIA website: www.allergy.org.au/patients/allergy-testing/allergy-testing

Food allergy does not run in the family

Most of the time, children with food allergy do not have parents with food allergy. However, if a family has one child with food allergy, their brothers and sisters are at a slightly higher risk of having food allergy themselves, although that risk is still relatively low.

Some parents want to have their other children screened for food allergy. If the test is negative, that may be reassuring, but does not mean that the other child will never develop an allergy in the future. If their screening test is positive, it is not always clear whether it definitely represents allergy. In this situation, a food challenge (under medical supervision) may be required to confirm the allergy.

A positive allergy test is not the same as being food allergic

It is important to know that a positive skin prick allergy test or allergy blood test means that the body's immune system has produced a response to a food, but sometimes these are false positives. In other words, the test may be positive yet the person can actually eat the food without any symptoms. For this reason, it is important to confirm the significance of a positive allergy test (in some circumstances) with a supervised food challenge. In a child with a positive test of uncertain meaning, this is often done around school entry age under medical supervision. Interpretation of test results (and whether challenge should be undertaken) should be discussed with your doctor.

Unorthodox so called allergy tests are unproven

There are several methods of unorthodox so called tests for food allergy. Examples include cytotoxic food testing, Vega testing, kinesiology, allergy elimination techniques, iridology, pulse testing, Alcat testing, Rinkel's intradermal skin testing, reflexology, hair analysis and IgG food antibody testing. These have no scientific basis, are unreliable and have no useful role in the assessment of allergy. These techniques have not been shown to be reliable or reproducible when subjected to formal study. ASCIA advises against the use of these tests for diagnosis or to guide medical treatment. No Medicare rebate is available in Australia for these tests, and their use is also not supported in New Zealand.

Adverse consequences may also arise from unorthodox testing and treatments. Treatment based on inaccurate, false positive or clinically irrelevant results is not only misleading, but can lead to ineffective and at times expensive treatments, and delay more effective therapy. Sometimes harmful therapy may result, such as unnecessary dietary avoidance and risk of malnutrition, particularly in children. Information on these methods is available on the ASCIA website:

www.allergy.org.au/patients/allergy-testing/unorthodox-testing-and-treatment

Most children grow out of their food allergy

Most children allergic to cow's milk, soy, wheat or egg will 'outgrow' their food allergy. By contrast, allergic reactions to peanut, tree nuts, sesame and seafood persist in the majority (~ 75%) of children affected. When food allergy develops for the first time in adults, it usually persists.

Allergic reactions may be mild, moderate or severe, and can be influenced by a number of factors

These factors include:

- the severity of the allergy
- the amount eaten
- the form of the food (liquid may sometimes be absorbed faster)
- whether it is eaten on its own or mixed in with other foods
- exercise around the same time as the meal, as this may worsen severity
- whether the food is cooked, as cooked food is sometimes better tolerated
- the presence or absence of asthma
- menstrual cycle in females
- intake of alcohol

Can food allergies be prevented?

There are many studies on allergy prevention, however, there are no clear guidelines on how to prevent food allergy. The following advice is currently provided by ASCIA:

- Breastfeed for at least 6 months.
- There is no evidence that restricting a mother's diet during pregnancy or during breastfeeding reduces the risk of developing food allergy. Such restrictions can adversely affect growth in babies and is not recommended.
- Continue to breastfeed whilst introducing solid/complementary foods, from 4 to 6 months of age, without delaying any particular foods.
- Do not smoke during pregnancy
- Avoid exposure to tobacco smoke in the home.

If supplementary infant formula is required and there is:

- No family history of allergic disease - regular cow's milk formula can be used.
- A family history of allergic disease - partially hydrolysed formula (labelled as HA formula) may be used.

If you suspect an allergy to a specific food, seek medical advice before introducing it the food.

In children with confirmed cow's milk and soy allergy, appropriate formula is available on prescription from your doctor.

Research into food allergy is ongoing

The increased frequency of food allergy is driving research into areas such as prevention, treatment and why it has become more common. Current areas of research include allergen immunotherapy (also referred to as desensitisation) to switch off the allergy once it has developed. Initial results are encouraging but it is not yet ready for routine clinical use. Research continues to explore new ways of more effectively treating this condition.

ASCIA Action Plans are essential

Many people with food allergies will have an accidental exposure every few years, even when they are very careful to avoid the foods they are allergic to. The difficulties of avoiding some foods completely make it essential to have an ASCIA Action Plan for Anaphylaxis if an adrenaline autoinjector has been prescribed. For those who are not thought to be at high risk of anaphylaxis and therefore have not been prescribed an adrenaline autoinjector, an ASCIA Action Plan for Allergic Reactions should be completed and provided by your medical doctor. ASCIA Action Plans must be completed by a doctor and are available from the ASCIA website: www.allergy.org.au/health-professionals/anaphylaxis-resources/ascia-action-plan-for-anaphylaxis

Living with your food allergy

As there is currently no cure for food allergy, strict avoidance is essential in the management of food allergy. It is important for individuals with food allergy to:

- Carry their adrenaline autoinjector (if prescribed) and ASCIA Action Plan with them at all times;
- Know the signs and symptoms of mild to moderate and severe allergic reactions (anaphylaxis) and what to do when a reaction occurs;
- Read and understand food labels for food allergy;
- Tell wait staff that they have a food allergy when eating out;
- Be aware of cross contamination of food allergens when preparing food.

Food allergy can be effectively managed

The good news is that people with food allergy can learn to live with their condition with the guidance of their clinical immunology/allergy specialist and a network of supportive contacts. Having an ASCIA Action Plan for Anaphylaxis and adrenaline autoinjector offers reassurance, but this is not a substitute for strategies to minimise the risk of exposure.

Allergy & Anaphylaxis Australia (www.allergyfacts.org.au/) and Allergy New Zealand (www.allergy.org.nz) are community support organisations that offer valuable updates and tips for living with food allergies.

Further information on food allergy and anaphylaxis is provided on the ASCIA website:

www.allergy.org.au/patients/food-allergy

www.allergy.org.au/health-professionals/anaphylaxis-resources

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Disclaimer

This document has been developed and peer reviewed by ASCIA members and is based on expert opinion and the available published literature at the time of review. Information contained in this document is not intended to replace medical advice and any questions regarding a medical diagnosis or treatment should be directed to a medical practitioner. The development of this document is not funded by any commercial sources and is not influenced by commercial organisations.

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