CONDITION

# Nut allergies

Nut allergies are immune reactions to proteins in peanuts or tree nuts.

**WHAT IT IS**
Immune reactions to peanut or tree nut proteins

**BODY SYSTEM**
Immune system, skin, breathing, and circulation

**MAIN SYMPTOMS**
Hives, swelling, vomiting, wheezing

**WHAT CAUSES IT**
Immune system mistaking nut proteins as harmful

**HOW IT IS DIAGNOSED**
Allergy history, skin or blood tests, sometimes food challenge

**MAIN TREATMENT**
Nut avoidance, emergency adrenaline, and specialist allergy care

**CAN IT BE CURED?**
No - current care manages reactions

**IS IT AN EMERGENCY?**
Sometimes - breathing difficulty, throat swelling, or faintness

**LONG-TERM OUTLOOK**
Most people manage well with planning and avoidance

## Overview

A nut allergy happens when the immune system reacts to proteins in a nut as though they were harmful. Reactions can involve the skin, digestive system, breathing, or blood circulation.

Peanuts are legumes, related to peas and beans, rather than true nuts. Tree nuts include almonds, Brazil nuts, cashews, hazelnuts, macadamias, pecans, pistachios, and walnuts. Peanut and tree nut allergies are often discussed together because they can cause similar reactions and may be found in the same foods.

Some people are allergic to one nut, while others react to several. Being allergic to peanuts does not automatically mean you are allergic to tree nuts, or the other way around.

Most immediate nut allergies involve an antibody called immunoglobulin E, or IgE. When you encounter the relevant protein, IgE can trigger the release of chemicals such as histamine. This

causes allergy symptoms, usually within minutes and often within two hours.

Reactions range from mild symptoms to anaphylaxis, a serious reaction that can affect breathing or blood circulation. It is not possible to predict the severity of a future reaction from previous reactions alone. With accurate diagnosis, avoidance planning, and access to emergency treatment, most people can continue their usual activities.

## Symptoms

Symptoms usually begin soon after eating a nut. They may also follow contact between the allergen and the mouth. Skin contact alone is less likely to cause a whole-body reaction, although it can cause a local rash in some people.

Possible symptoms include:

Anaphylaxis is a rapidly developing allergic reaction involving the airway, breathing, or circulation. It may cause throat swelling, severe breathing difficulty, a sudden drop in blood pressure, or collapse. Skin symptoms are common but are not always present.

The same person may have different symptoms on different occasions. The amount eaten, illness, exercise, alcohol, and some medicines can affect a reaction in certain people. A previous mild reaction does not guarantee that every future reaction will be mild.

- Itching or tingling in the mouth
- Hives, flushing, or widespread itching
- Swelling of the lips, face, or eyelids
- Stomach pain, nausea, vomiting, or diarrhoea
- Coughing, wheezing, noisy breathing, or breathlessness
- Throat tightness, trouble swallowing, or a hoarse voice
- Dizziness, confusion, collapse, or faintness

## Causes and risk factors

Nut allergy begins when the immune system becomes sensitised to particular nut proteins. Why this happens to one person and not another is not fully understood.

Allergic conditions can run in families. A personal or family history of eczema, asthma, hay fever, or food allergy may increase the chance of developing an allergy, but it does not identify which food will cause a reaction.

Eczema, especially when severe in infancy, is linked with a higher risk of food allergy. This may be partly because an impaired skin barrier allows the immune system to encounter food proteins through inflamed skin.

Some nuts contain similar proteins. This is called cross-reactivity. For example, cashew and pistachio are closely related, as are walnut and pecan. However, a positive allergy test to a related nut does not always mean that eating it will cause symptoms.

Pollen allergy can also cause itching or tingling in the mouth after certain raw nuts, especially hazelnuts or almonds. This is known as pollen food syndrome. It is caused by similarities between pollen and food proteins and is often milder than a primary nut allergy. An allergy specialist can help distinguish between them.

## Diagnosis

Diagnosis starts with a detailed account of what happened. Useful details include the food and amount eaten, how quickly symptoms began, which symptoms occurred, and whether the same food had been tolerated before.

Skin-prick testing or a blood test for allergen-specific IgE may support the diagnosis. A skin-prick test places a small amount of allergen on the skin before gently pricking the surface. A blood test measures IgE antibodies to particular allergens.

These tests show sensitisation, meaning the immune system recognises the allergen. They do not prove by themselves that eating the food will cause a reaction. Larger results may increase the likelihood of allergy, but they do not reliably predict how severe a reaction would be.

Component testing measures IgE to individual proteins within a nut. It can sometimes help separate a primary nut allergy from pollen-related cross-reactivity, but it is interpreted alongside your history and other tests.

When the diagnosis remains uncertain, a supervised oral food challenge may be recommended. Increasing amounts of the food are given in a medical setting where a reaction can be recognised and treated. Do not try a food challenge at home unless an allergy specialist has specifically provided a safe plan.

Hair analysis, electrodermal testing, and food-specific IgG testing do not reliably diagnose nut allergy.

## Treatment and management

The main approach is to avoid the nut or nuts that have been confirmed as allergens. This should be specific to your diagnosis. Avoiding every peanut and tree nut without assessment may be unnecessary and can make eating more restrictive.

Packaged-food labels need careful checking each time, because ingredients and manufacturing methods can change. Precautionary statements such as "may contain nuts" warn of possible accidental contamination. An allergy team or dietitian can help you decide how to manage these warnings.

Cross-contact can happen when an allergen is transferred through shared utensils, work surfaces, fryers, bakery equipment, or serving containers. When eating away from home, clearly explain the allergy and ask how food is prepared. Removing visible pieces of nut does not make contaminated food safe.

People at risk of anaphylaxis may be prescribed adrenaline, also called epinephrine, in an autoinjector. Adrenaline is the first-line emergency treatment for anaphylaxis. You and the people around you should know where the devices are kept and how to use the specific brand. Devices must be replaced before their expiry date and stored according to their instructions.

Antihistamines like cetirizine or loratadine may help itching or hives, but they do not treat breathing or circulation problems and must not delay adrenaline. Asthma should also be well managed because poorly controlled asthma can make breathing symptoms harder to handle.

Peanut oral immunotherapy is available for selected people in some countries. It involves regular, controlled exposure to measured peanut protein to increase the amount that may trigger a reaction. It is not a cure, does not allow unrestricted peanut eating, and can itself cause allergic reactions. Treatment requires specialist assessment and continued avoidance of ordinary peanut products.

## Complications

The most important immediate complication is anaphylaxis. A second phase of symptoms can occasionally occur after initial improvement, which is one reason emergency medical assessment and observation may be needed after a serious reaction.

Accidental exposure can also affect emotional wellbeing. You may feel anxious about eating out, school, travel, or allowing someone else to prepare food. Sensible precautions are important, but severe restriction can interfere with daily life. Allergy services, dietitians, schools, and support organisations can help create practical plans.

Avoiding several foods without dietary advice can reduce protein, energy, vitamins, or minerals, particularly in children. A dietitian can suggest safe alternatives and help maintain a

balanced diet.

Bullying, embarrassment, and pressure to take risks can affect children and teenagers with food allergy. A clear school plan and age-appropriate education can help them become more independent without leaving them to manage the risk alone.

## Prevention

An established nut allergy cannot currently be reliably prevented or removed through lifestyle changes. Avoiding the confirmed allergen prevents many reactions, but it does not change the underlying allergy.

For infants, introducing peanut in an age-appropriate form during the first year of life can reduce the chance of peanut allergy in some children. Whole nuts and spoonfuls of thick nut butter are choking hazards for babies and young children.

Babies with severe eczema, an existing egg allergy, or suspected food reactions may need medical assessment before peanut is introduced. Prevention advice for peanut does not prove that the same approach works for every tree nut.

Applying foods such as peanut butter to inflamed skin is not a safe method of introduction and may increase exposure through a damaged skin barrier.

## Living with it and what to expect

Nut allergies often last for years. Peanut and tree nut allergies are less likely to resolve during childhood than some allergies such as milk or egg allergy, although some people do become tolerant. Repeat assessment may be appropriate if test results change or there has been no recent reaction. Do not test whether the allergy has gone away by eating the nut at home.

Daily life usually becomes easier as label checking, meal planning, and carrying emergency medicine become routine. Children can gradually take more responsibility, but adults should continue to support safe choices and ensure emergency medicine is available.

Schools, childcare settings, workplaces, and regular caregivers should have an allergy action plan. Close contacts should know the signs of anaphylaxis and how to respond. Travel may require translated allergy information, spare medication, and planning for transport and meals.

Routine allergy follow-up can review the diagnosis, foods being avoided, emergency plans, autoinjector technique, expiry dates, asthma control, and whether supervised retesting is suitable. Follow-up is also useful if the allergy is causing major anxiety or limiting nutrition and

social activities.

Research into immunotherapy and other treatments is continuing. These approaches may reduce risk for selected people, but ongoing precautions remain necessary.

## When to get medical help

Use prescribed adrenaline immediately if a suspected allergic reaction causes breathing difficulty, throat tightness, a persistent cough, wheezing, faintness, collapse, or other signs of anaphylaxis. Then call emergency services, even if symptoms improve. Follow your personal emergency plan and use another device if the plan instructs you to and symptoms continue or return.

Do not wait for a rash before treating serious breathing or circulation symptoms. Do not rely on an antihistamine for anaphylaxis.

Seek prompt medical advice after a first suspected reaction to a nut, even if the symptoms were mild. Until assessed, avoid the suspected food rather than deliberately trying it again.

Arrange routine follow-up if:

- You are unsure which nuts need to be avoided
- Your emergency medicine is expired or you are unsure how to use it
- Reactions are happening despite avoidance
- Food restrictions are affecting nutrition or daily life
- You want to know whether repeat testing is appropriate

## Common questions

Can I be allergic to peanuts but not tree nuts?

Yes. Peanuts and tree nuts come from different plant families. Some people are allergic only to peanut, only to one tree nut, or to several nuts. Testing and, when appropriate, supervised food challenges can identify which foods need to be avoided.

Do I need to avoid every type of nut?

Not always. Closely related nuts may cross-react, and mixed products can create cross-contact risks, but allergy to one nut does not automatically prove allergy to all nuts. An allergy specialist can assess each nut rather than relying only on broad screening tests.

Can touching or smelling nuts cause anaphylaxis?

Touching a nut may cause local skin symptoms, especially if the skin is irritated, but severe whole-body reactions from intact skin contact are uncommon. Smell alone does not contain nut protein. Cooking dust or airborne particles containing protein may cause symptoms in some settings, so individual medical advice still matters.

Will my nut allergy go away?

It may, but peanut and tree nut allergies often continue into adulthood. Changes in tests do not prove that a nut is safe to eat. Any attempt to confirm tolerance should be planned by an allergy specialist and may require a supervised food challenge.

Is coconut a tree nut?

Coconut is botanically a fruit, and most people with tree nut allergy can eat it. Coconut allergy can occur separately, however. Product labelling rules also differ between countries, so discuss coconut with your allergy team if you have reacted to it or are uncertain.

Can antihistamines stop a serious nut reaction?

No. Antihistamines may reduce itching or hives, but they do not reverse airway swelling, severe breathing problems, or low blood pressure. Adrenaline is the first-line treatment for anaphylaxis, followed by emergency medical care.

## Sources

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