

Allergy testing

The aim of this factsheet is to give people a basic understanding of what allergy tests involve and the different types of tests available.

Exploring your medical and allergic history remains an essential part of diagnosing allergy, including exploring reported symptoms, speed of onset, suspected triggers or other “cofactors” (associated problems).

To help diagnose an allergy, your healthcare professional may recommend tests, like blood tests or skin prick tests (SPT). It’s important that a qualified healthcare professional interprets the results. This person should have the right skills and experience to understand what the results mean in relation to your allergy history.

Allergy testing and management should be a shared decision between you and your healthcare professional. This means your preferences, concerns, and lifestyle will be considered alongside clinical evidence, and you are encouraged to ask questions and take an active role in decisions about your care.

What is an allergic reaction?

Broadly speaking, allergies can be divided into 2 main types:

- immediate (IgE-mediated) allergies
- delayed (non-IgE-mediated) allergies

IgE-mediated allergies

IgE-mediated allergies occur when your immune system overreacts to a harmless food or substance (an allergen) by producing proteins called IgE antibodies. On first exposure to the allergen, your body sees the allergen as a threat and “arms” immune cells with IgE antibodies.

If you’re exposed again, the allergen binds to those IgE antibodies, triggering immune cells to release chemicals like histamine that cause sudden allergic symptoms (e.g. hives, swelling, wheezing, or even [anaphylaxis](#)). This usually happens very quickly.

Each time someone is then exposed to their allergen, the immune system reacts in the same way, with the allergen binding to IgE antibodies on immune cells. This means

healthcare professionals can use tests to detect specific IgE antibodies and other allergy-related proteins to help them diagnose the allergy.

Non-IgE-mediated allergies

Non-IgE-mediated allergies do not involve IgE antibodies. It is not clear, but they are thought to involve other parts of the immune system. These problems can be harder to diagnose because they often cause delayed symptoms, such as digestive issues or skin inflammation, hours or even days after exposure to the allergen.

Non-IgE-mediated allergies do not trigger the large-scale release of chemicals, like histamine, that occurs in IgE-mediated reactions, and as a result, they cannot cause anaphylaxis. They usually present early in childhood with cow's milk being the main trigger food.

This factsheet focuses specifically on allergy testing for IgE-mediated allergies that can cause anaphylaxis.

To find out more about the different types of food hypersensitivities, like allergies and intolerances, you can visit: [The Association of UK Dietitians](#).

What is allergy testing?

Clinical history and assessment

The most important part of diagnosing an allergy remains taking an allergy focused history. It is important to explore reported symptoms, speed of onset and suspected triggers or other "cofactors" (associated problems). Testing should be focused on the allergens reported to cause symptoms, as to base a diagnosis on tests alone could result in foods being avoided unnecessarily.

Testing for IgE-mediated allergy

For IgE-mediated allergies, allergy testing can help healthcare professionals check if your immune system is reacting to allergens such as certain food, pollen or insect stings. They may use the following tests:

- skin prick tests (SPT)
- specific IgE blood tests
- oral food challenges (OFC)

Both skin prick tests and blood allergy tests are highly sensitive, meaning they are good at detecting potential allergies. However, this high sensitivity can sometimes lead to

false positives – where the test shows you are ‘sensitised’ to an allergen (your immune system recognises it), but you **don’t** actually have **symptoms** when exposed in real life. **False negatives** — where an existing allergy is **missed** — can also occasionally occur. This may be due to various things such as changes in how your immune system reacts at the time, the type of allergen extract used, or recent medication use.

It’s important to note that if you have a clear recent history of a convincing immediate allergic reaction to a food, a negative skin prick test does not automatically rule out allergy. In that case your clinician may offer further testing — such as a blood (specific IgE) test and, if needed, a supervised oral food challenge — to be sure of the diagnosis and keep you safe.

To reduce the chance of false results, your allergy specialist will select the most appropriate test for you, use high-quality allergen extracts, use control measures, and give clear instructions (such as stopping medications before testing). This is why allergy testing should always be carried out by trained healthcare professionals, with results interpreted in the context of your clinical history.

For healthcare providers, the [European Academy of Allergy and Clinical Immunology \(EAACI\) guideline](#) provides recommendations for diagnosing IgE-mediated food allergy.

Testing for non-IgE-mediated allergy

For non-IgE-mediated allergies there are currently no validated tests, and diagnosis relies on a detailed history, elimination diets and supervised food challenges.

For healthcare providers, you can find out more about diagnosis and management of non-IgE-mediated food allergy [here](#).

If you believe you might have an allergy but have not been allergy-tested, we recommend you visit your GP and discuss with them whether testing needs to take place.

Skin prick testing for allergies

What is skin prick testing?

Alongside your medical history, skin prick testing is a fast and useful way to diagnose allergies. It takes place in a hospital or allergy clinic, and usually takes around 5 minutes to do, and 15-20 minutes to get the results.

It can help to identify allergies by introducing the suspected allergen extract (reagent) into the skin, usually on the forearm. The test is simple to perform and typically causes

only mild discomfort. In the right environment they are suitable for patients of all ages, even babies under one year old can undergo this test at some clinics.

How are skin prick tests done?

1. **Preparation of allergen solutions:** suspected allergens, such as foods or pollens, are mixed with a liquid to create a solution.
2. **Application on skin:** a drop of each solution is placed on the skin. The skin is marked to indicate where each drop is placed.
3. **Scratching the skin:** the skin beneath each drop is gently scratched with a very thin needle (called a lancet). This allows a tiny amount of the solution to enter just below the surface of the skin.

How do skin prick tests work?

When an allergen substance is scratched into the top layer of skin, it allows the immune system to see it.

If your body recognises the substance as an allergen, nearby immune cells release a small amount of histamine. This causes a raised bump called a wheal, surrounded by redness (the "flare"), which is measured after 15–20 minutes.

Understanding the results

Skin prick testing offers a predictive value; however, they are not diagnostic tests so need to be interpreted alongside a clinical history.

Control solutions: clinics always use a positive (histamine) and a negative (saline) control during skin prick testing. These controls help check the test is working correctly and reduce the chance of both false positive and false negative results.

Positive result: a positive result is where any resultant wheal of >3mm (sometimes 2mm in infants or younger children) is measured. This shows that you have been "sensitised" to a particular allergen. The area where the allergen was introduced will become red, itchy, and develop a wheal, like a small nettle sting. The wheal typically reaches its maximum size within 15–20 minutes and usually fades within an hour. A ruler is used to measure the size of the resulting wheal to help assess likelihood of an allergy.

Sensitisation vs. reaction: some people may have a positive test without being allergic. This is called 'sensitisation' and means your immune system has encountered the allergen and recognised it, but it does not necessarily mean you will have an allergic reaction to it. The results need careful interpretation by a healthcare professional.

Wheal size and reaction severity: while larger wheals are generally more likely to indicate an allergy, they do not predict how serious future reactions will be. Someone with a smaller wheal could still experience a serious allergic reaction, while another person with a large wheal might only ever have mild symptoms. Wheal size reflects the likelihood of being allergic, but not the intensity of a future reaction.

Considerations before the test

Skin condition: skin prick tests require a clear skin surface, so they can be more challenging for individuals with severe eczema or other skin conditions.

Avoiding antihistamines: antihistamines must be avoided before the test, as they can interfere with the results. Longer-acting antihistamines (like loratadine) should be stopped five days before the test, while shorter-acting ones (like chlorphenamine) should be avoided for 48 hours. Always discuss this with your allergy specialist before testing.

Side effects: skin prick tests can very occasionally cause an allergic reaction. This is thought to occur only in around 1 in 10,000 tests. Such reactions are more common if a child is unwell or a large number of tests are done.

What is prick-to-prick (modified) testing?

Prick-to-prick or modified testing is a specific type of skin prick test that uses a fresh source of the allergen, such as a piece of fruit (like banana), instead of a prepared allergen extract. It can be used when a liquid extract of an allergen is unreliable or unavailable. It may also be used to detect a latex allergy.

Blood testing for allergies

Specific IgE allergy blood tests

Specific IgE blood tests can also help identify allergies by checking for IgE antibodies in your blood. During a blood test, a small sample of your blood is taken and tested to see if your IgE antibodies react to specific allergens, such as certain foods, pollen, or other substances.

Blood tests are a safe and non-invasive way to diagnose allergies, especially for people with skin conditions or severe reactions that make other tests difficult. Unlike skin tests, blood tests are not affected by antihistamines, making them useful for individuals who have recently taken these medications.

Blood tests can look for a large number of allergens at a time, but the sample needs to be analysed in a laboratory, therefore results take longer to come back.

Molecular and component resolved diagnostic tests

These specialised blood tests go beyond standard allergy checks by measuring your immune response to the individual proteins (components) inside foods, pollens or other allergens—not just the whole extract. By pinpointing exactly which protein you react to, clinicians can tell true allergy apart from less serious cross-reactions (e.g. in [pollen-food syndrome](#)) and better estimate how serious a reaction could be. That means you can get more personalised advice on what to avoid and how to treat your allergy.

Things to remember

Blood test and skin prick test results need to be carefully reviewed by a healthcare professional who understands allergies. Sometimes, results may show raised IgE levels even if you don't have allergy symptoms (false positives), or they may miss an allergy entirely (false negatives).

Intradermal skin tests

What is intradermal testing?

These are less commonly used. An intradermal test (IDT) is a method used to check for specific allergies, usually to insect venom and certain medications. This test is usually done in a hospital or specialist allergy clinic.

How does the test work?

During the test, a small amount (0.05 ml) of the allergen is injected just under the skin. This creates a small blister, known as a "bleb." If the test is positive, the blister will get bigger and may become red and itchy. This reaction usually develops within 20-25 minutes and will fade after 1-2 hours.

When is intradermal testing used?

IDT is often done after a skin prick test has been performed and the results were negative, but the doctor still suspects an allergy. It can also help identify cross-reacting drugs, like neuromuscular blocking agents. However, a positive result from IDT does not automatically mean you have an allergy; it must be looked at along with your medical history and symptoms.

Because intradermal tests can be more painful than skin prick tests, they are used less often for children

Important considerations before the test

Medications to avoid: certain medications can affect the results of IDT. Antihistamines, tricyclic antidepressants, and topical corticosteroids can stop your body from reacting. If

possible, you should stop taking these medications before the test. Short-acting antihistamines should be stopped at least 72 hours before the test.

Risk factors: intradermal testing carries a higher risk of serious reactions compared to other allergy tests, especially with certain medications. Your specialist will do a thorough risk assessment before proceeding with the test to ensure your safety.

Patch testing

Patch testing is a diagnostic procedure performed to determine if your skin condition is caused or worsened by an allergy to substances that come into contact with your skin. This type of allergy is known as contact allergy, which can lead to inflammation and irritation of the skin.

Patch testing is specifically designed to identify allergens that may be causing skin reactions, like rashes or irritation. It is not usually used to determine the cause of anaphylaxis. However, in some cases, paediatric allergists may use patch testing with foods to help identify delayed (non-IgE-mediated) food allergies.

Patch testing is mainly used to help identify reactions to various substances, including:

- perfumes
- toiletries
- chemicals
- preservatives
- metals
- cosmetics
- plants

During the test, small discs containing these potential allergens are applied to your back. The skin is then monitored for any reactions over a period of time.

If you are experiencing unexplained skin reactions or conditions, it is important to consult with your GP. They can assess your symptoms and determine if a referral to a dermatologist is necessary.

You can find out more information from the [British Association of Dermatologists](#).

Oral food challenges

Where doubt remains about whether you have a food allergy, a challenge test may be offered. In this context, the word 'challenge' means to introduce you to the food you may be allergic to.

Oral food challenges are often referred to as the 'gold standard' in allergy testing.

Please note oral food challenges should only be conducted under the supervision of a qualified healthcare professional in a medically equipped setting, such as a hospital or allergy clinic. They should never be performed at home.

How does an oral food challenge work?

During the challenge, the individual consumes small, measured amounts of the suspected allergen, starting with a very low dose and gradually increasing it under the strict supervision of trained healthcare professionals.

Important considerations before the test

- To prepare for an oral food challenge, avoid antihistamines, as they can interfere with the challenge results by masking allergic reactions.
- You should also consult with your healthcare provider about any other medications you may be taking. Some may need to be paused before the challenge to ensure accurate results.
- Unfortunately, oral food challenges are time-consuming and carry a higher risk than other allergy tests. As a result, they are typically only offered in specialised allergy clinics or hospitals, ensuring that immediate medical care can be provided in the event of an allergic reaction, including **anaphylaxis**.
The medical team will fully consider your medical history and ensure that you are fit and well before you have a food challenge. In particular, they will check for **asthma** and **wheezing** – as any potential allergic reaction will be worse if your breathing is already compromised.

Clinic vs home

Oral food challenges should **never** be carried out at home. We believe food challenges to be safe as long as they are done in a well-equipped setting.

Please note an oral food challenge is **not** the same as “**home introduction**.” In some low-risk cases, an allergy specialist may advise you to try small amounts of a food at home—but only when the chance of a reaction is judged to be very small. This is different to an oral food challenge which should **always** be supervised by qualified healthcare professionals.

Allergy testing in children

It’s important to remember that children can sometimes [outgrow food allergies](#), especially to milk, egg, wheat, and soy. For this reason, regular reassessment is recommended. Your allergy specialist may suggest repeat testing or a supervised food challenge after a period of avoidance, to check if your child has developed tolerance

and can safely reintroduce the food. This helps avoid unnecessary long-term dietary restrictions and ensures your child's diet remains as varied and nutritious as possible.

How often should my child have allergy testing?

Unfortunately, there are no standardised guidelines for how often a child should have allergy check-ups, as this largely depends on the resources available at the hospital and the level of specialisation of the allergy clinic.

- **Early years (under 5):** allergies can change rapidly in younger years, so annual reviews are generally advised.
- **School age and beyond:** if your child's allergy has been stable, check-ups every 2–3 years are typically suggested.
- **Clinic policies differ:** some specialist clinics provide ongoing follow-up appointments to monitor progress, while others discharge patients and require a new GP referral for further assessment.

Ask for reassessment if you notice changes in your child's allergies—such as outgrowing an allergy, developing a new one, or changes in reaction severity. This helps ensure foods aren't avoided unnecessarily and that management is up-to-date.

Unvalidated and unproven allergy testing

There are lots of allergy tests you can find online or in shops, that are not reliable and don't work the way they claim to. These tests might seem like a quick and easy way to find out about allergies, but they often give false results. This could lead to unnecessary worry, dietary restrictions, misdiagnosis or inappropriate treatments.

Some of these unproven tests include:

- hair analysis
- muscle testing (kinesiology)
- vega testing (a type of electrical test)
- IgG blood tests
- cytotoxic food testing
- iridology (looking at your eyes to find allergies)

Anaphylaxis UK and experts at the British Society of Allergy & Clinical Immunology (BSACI) don't recommend these tests because there isn't enough scientific evidence to prove they work.

If you think you have an allergy, it's really important to speak to your doctor or nurse. They can help you get proper testing and advice that's safe and accurate.

Hopes for the future

Researchers are developing advanced tests that could one day make allergy diagnosis quicker, safer and more precise. One of the most promising is the **mast cell activation test (MAT)**. Instead of requiring fresh blood or skin pricks, MAT uses stored serum to measure how a patient's mast cells react to tiny amounts of allergen. Early studies suggest it may more accurately identify allergies and could reduce false positives and negatives.

However, turning these innovations into everyday tools takes time. New tests must pass through rigorous clinical trials to prove they work reliably for different age groups and allergens—and to show they're safe for patients. Until then, the “gold standard” remains a thorough medical history combined with established methods: skin prick tests, specific IgE blood tests and, when needed, oral food challenges.

While MAT and other cutting-edge approaches aren't yet available in UK clinics, ongoing research offers real hope. In the future, patients may benefit from faster appointments, fewer risks and more personalised treatment plans.

Key messages

- A thorough, allergy-focused medical history is the first and most crucial step in diagnosis.
- IgE-mediated allergies (immediate reactions) can be confirmed with skin prick tests, blood tests or oral food challenges—always interpreted by an allergy specialist.
- Skin prick tests are fast and reliable but must be read alongside your history to avoid false positives or negatives.
- Oral food challenges are the “gold standard” for food allergy diagnosis but carry higher risk and must be done in specialist clinics.
- Children diagnosed with food allergy should be reassessed periodically, as some allergies may resolve over time. This may involve repeat testing or supervised food challenges.
- Avoid unproven home-testing kits (e.g., IgG tests, hair analysis); these lack scientific validation and can lead to misdiagnosis.
- By actively participating in decisions about your care, you're more likely to follow through with management plans and achieve better outcomes.

Feedback

Please help us to improve our information resources by sending us your feedback at: -

<https://www.anaphylaxis.org.uk/information-resources-feedback/>

Sources

All the information we produce is evidence based or follows expert opinion and is checked by our clinical and research reviewers. If you wish to know the sources we used in producing any of our information products, please contact info@anaphylaxis.org.uk and we will gladly supply details.

Reviewer

The content of this article has been peer-reviewed by Professor Helen Brough, Paediatric Allergy Specialist.

Disclosures

We are not aware of any conflicts of interest in relation to the review of this factsheet.

Disclaimer

The information provided in this Factsheet is given in good faith. Every effort is taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About Anaphylaxis UK

Anaphylaxis UK is the only UK-wide charity solely focused on supporting people at risk of serious, life-threatening allergic reactions. We provide information and support to people living with allergies through our free national helpline and local support groups. We also fundraise to achieve our ultimate aim, to create a safer environment for all people at risk of serious allergies. Visit our website www.anaphylaxis.org.uk and follow us to keep up-to-date with our latest news. We're on Facebook @anaphylaxisUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK, and you can find our podcast [here](#).