

Your quick guide to: Food Allergy Testing & Diagnosis

This Factsheet provides information on food allergy and what to do if you suspect you have a food allergy and it explains more about the types of allergy tests available.

What to do if you suspect you have a food allergy

Symptoms of a food allergy are varied and can include rash (hives), itching and swelling and, in more severe cases, breathing difficulties. It can also affect the gastrointestinal system (the gut), with symptoms including vomiting and abdominal pain.

However, the body may react to foods with symptoms that are similar to those of food allergy for a number of reasons.

These include food intolerance where the body does not produce enough of, or lacks, the enzyme needed to effectively break down a food such as lactose (sugar) in milk (lactose intolerance). Sometimes it can be a substance in the food itself that causes the problem, for example food poisoning from bacteria or toxins, or histamine releasing foods like tomatoes or strawberries. If you suspect a food allergy then it is important to discuss your concerns with a Healthcare Professional, which will usually be your GP.

Testing for a food allergy is dependent on the type of allergic reaction

It is difficult to know whether the signs and symptoms you or your child are allergy experiencing are related to a food allergy because they can be commonly seen in other conditions. Allergic symptoms can be divided into those that happen within minutes of exposure (usually within 30 minutes) to the suspected food allergen, referred to as immediate or IgE mediated reactions, and those that happen several hours after exposure, often referred to as delayed or Non IgE mediated reactions.

The timing of your symptoms can offer important clues to whether the immune system is involved. Symptoms of an

immediate, IgE mediated allergy commonly affect the skin causing rashes, reddening of the skin, hives, swelling and, in more severe cases, breathing difficulties. Delayed reactions commonly affect the gastrointestinal system (the gut) and include symptoms of vomiting, abdominal pain, diarrhoea, constipation and excessive amounts of wind.

It is important that IgE mediated allergy is recognised and diagnosed as soon as possible as this is the type of allergy that has the potential risk of a severe allergic reaction (anaphylaxis).

What type of allergy testing do I need?

The type of allergy testing needed will be decided by your GP or specialist allergy doctor or nurse. This will be guided by the questions and information provided in an allergy focused clinical history. This is a series of questions that helps a doctor understand more about the suspected food allergy and guides the Healthcare professional to appropriate diagnostic tests and the type of food allergy.

The most appropriate test will depend on the type of allergy that is suspected and which part of the immune system is responsible:

- Delayed (Non IgE mediated) or
- Immediate (IgE mediated)

Testing for Non IgE mediated allergy

There are no clinical tests for the diagnosis of Non IgE mediated allergies. These are diagnosed using 'a trial of elimination and re-introduction' diet to see if the symptoms improve when the suspected food is removed from the diet. This is usually safe to do at home on the advice and guidance of your GP or allergy specialist.

The food should be removed from the diet for 2-4 weeks and then re-introduced to see if the symptoms return. Non IgE mediated cow's milk allergy is a common food allergy in infants and children and requires specific guidance to diagnose

Key facts:

Testing for a food allergy is dependent on the type of allergic reaction.

An allergy focused clinical history is a series of questions that helps a Dr understand more about the suspected food allergy and guides them to appropriate diagnostic tests.

Oral food challenges are considered the 'gold standard' test for diagnosing a food allergy.

There are a number of tests that are not recommended for the diagnosis of food allergy because they are not reliable and have not been scientifically proven.

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and manage. Further information can be found at <https://www.allergyuk.org/hcp-resources/map-guidelines/> where the iMAP Milk Allergy in Primary Care Guidelines for Healthcare Professionals are available.

Diagnosing IgE mediated food allergy

Allergy testing for IgE mediated food allergy identifies the presence of IgE antibodies to the suspected food allergen through a blood or skin prick test. For suspected IgE mediated allergy specific IgE levels are measured by:

1. Specific IgE blood testing
2. Skin Prick testing

Blood testing

Specific IgE blood tests (previously known as RAST tests) measure levels of IgE antibodies to specific food allergens in the blood. For example, if peanut was highlighted as a suspected food allergen then the test would be for peanut specific IgE.

If anti-histamine medication is being taken regularly for the management of allergy, a blood test can be done without the need to stop antihistamines. This is an important consideration for those needing to take daily antihistamines for their allergic condition. Only a small amount of blood is required to test for food allergy and this type of test can be requested by your GP. Where blood testing is chosen as the preferred testing method it is important that the results are interpreted by a Healthcare Professional with the skills, knowledge and experience to interpret the results in the context of an allergy focused clinical history. This may mean a referral to an allergy specialist if your GP is not experienced in this area.

Skin prick testing

A skin prick test is used to measure levels of IgE antibodies to a specific food allergen by detecting the presence of IgE antibodies in the skin, for example to peanut or egg. Skin prick testing usually takes place in a hospital or allergy clinic and can be

carried out on infants, children and adults. However, the accuracy of testing may be reduced in children under two years of age and results will need to be interpreted by a paediatric allergy specialist.

Skin prick testing is usually carried out on the forearm or back. Drops of a skin prick test solution specific to the food, or the actual food itself, for example, a banana (this is called a prick to prick test) are placed on the skin. A small hand held lancet (sharp prick like device) is applied directly to the forearm or back and introduces the food allergen. Control solutions of saline water (negative control) and histamine (positive control) are used to ensure accuracy of the test.

Skin prick test results can be read after 15 minutes, however the test results will need to be interpreted by an allergy specialist. The advice given is dependent on the results of the test and information on allergic symptoms provided in the allergy focused history.

Another important consideration is for those who have active eczema and are taking antihistamines. The availability of a clear skin surface to carry out skin prick testing is important and antihistamines should be stopped three to five days prior (depending on the type of antihistamine) to the skin prick test as this medication can interfere with the results. If you are due to have skin prick testing speak to your allergy specialist about the need to stop antihistamines prior to your appointment.

It is common to test for multiple food allergens through a skin prick test where there is a suspicion of more than one food allergen arising from the allergy focused clinical history. This can also be because of the known relationship between certain food groups which can increase the likelihood of developing sensitisation or food allergy to other foods.

Oral Food Challenge

Oral food challenges are considered the 'gold standard' test for diagnosing a food allergy. Whilst other forms of allergy testing are useful in helping to confirm

whether antibodies (specific IgE) to foods have been made, this does not always mean a true food allergy exists.

Oral Food Challenges are carried out to help your allergy specialist to:

- Confirm a suspected food allergy (where allergy tests are not clear)
- Monitor if a food allergy has been outgrown
- Confirm or dispute a food allergy following a positive allergy test where the person has never eaten that food

An oral food challenge is usually carried out when an immediate (IgE mediated) allergy is suspected. Oral food challenges are carried out in a safe environment (hospital or allergy clinic), under the supervision of allergy nurses and/or doctors who have the knowledge and skills to recognise and respond to the signs and symptoms of an allergic reaction. They are therefore carried out in settings where there is access to medication and medical equipment to treat an allergic reaction. Some foods are safe to be re-introduced at home but this should always be on the advice of a Healthcare Professional and not self-initiated.

What happens during an Oral Food Challenge?

- You will attend the hospital/clinic where an allergy nurse/doctor will need to check and record your vital signs (blood pressure, heart rate, temperature)
- Oral food challenges are often carried out in an open plan setting, with other children and adults attending oral food challenge/allergy appointments
- The start of the oral food challenge involves being given a very small and measured amount of the food. Once this first dose has been given you/your child will be closely observed. The allergy nurse/doctor will be closely observing you for signs of an allergic reaction, for example a rash or swelling. It is important to tell them if you are experiencing any symptoms

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that they may not be able to see, for example itching or tingling

- Infants and children will be fed and encouraged in an age appropriate way.

It is very normal for anyone having an oral food challenge to have questions and concerns and the nurse or doctor will be able to respond to these and reassure you.

Discuss any concerns or anxieties with the nurse or doctor at your appointment who should be able to answer any questions you have.

How long does an Oral Food Challenge take?

The amount of time you will spend at your food challenge appointment will depend on many factors, including the schedule for the food to which you are being challenged and the staff and resource availability. Expect to be at the hospital/clinic for several hours and make provisions for any commitments later in the day as food challenge appointments often run over their scheduled time.

What do I need to do?

It is important to be well on the day of the oral food challenge. Even minor conditions like a cold, cough or high temperature may mean that the oral food challenge will not be carried out on that day. If you are unsure, call the allergy department for further advice.

Asthma should be well controlled. If asthma has been a problem, either on the day of the appointment or in the days leading up to the appointment, the oral food challenge will not be carried out and will need to be re-scheduled.

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Clinical contributions:

Allergy UK Clinical Team

Holly Shaw, Nurse Advisor

Allergy UK Clinical Team

Margaret Kelman, Acting Head of Clinical Services

What should I bring to my food challenge appointment?

The hospital allergy department/clinic may provide the food to be trialled on the day. If it cannot provide the food you may be asked to bring it with you. It is important to take all the allergy medication you would normally carry with you to the appointment although the hospital or clinic will have their own allergy medication if it is needed. Take a change of clothes and spare nappies for children.

You may be in the hospital/clinic for several hours so it's a good idea to take something to read or occupy your time. For parents, taking a special toy/comforter as well as some toys or books is a good idea.

What happens if there is a reaction during the Oral Food Challenge?

You or your child will be closely observed for any signs or symptoms of an allergic reaction throughout the oral food challenge. If you develop any signs of an allergic reaction you will be treated appropriately for your individual symptoms. Depending on the symptoms, and whether the allergic reaction is mild, moderate or severe, the treatment for allergic reactions in an allergy clinic/hospital setting may be different from how you would manage an allergic reaction at home.

Unproven allergy testing

There are a number of tests that are not recommended for the diagnosis of food allergy because they are not reliable and have not been scientifically proven. However, they are easily accessible online or on the high street and, at first glance, may seem like good value for money. They should be avoided because of their

methods and misleading results. These include the dietary avoidance of lots of food groups which can lead to an individual becoming unwell because they are not meeting their nutritional requirements. Talk to your GP or nurse before considering any of these tests.

Unconventional methods of allergy testing include:

- Serum IgG antibodies blood testing
- Hair analysis
- Vega Testing (electro dermal testing)
- Kinesiology (Muscle testing)
- Cytotoxic food testing
- Iridology
- Homeopathy
- Herbal Medicine

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