

## Allergy Testing

Avoiding or minimising exposure to allergic triggers is an important part of allergy and asthma management. Allergy testing using skin prick tests or blood tests for allergen specific IgE helps your doctor to confirm the substances to which you are allergic so that appropriate advice can be given.

### When allergy testing is appropriate

Allergy testing is usually performed on people with suspected allergic rhinitis (hay fever), asthma or allergic reactions to insects or foods. In people with allergic rhinitis or asthma, allergy testing usually includes house dust mite, cat and dog dander (or other animals if contact occurs), mould spores, pollen from relevant grasses, weeds or trees and in some cases, occupational allergens. Testing can also be used to confirm suspected allergies to foods, stinging insects and some medicines.

It is important to note that:

- Allergy test results cannot be used on their own and must be considered together with your clinical history.
- Medicare rebates are available for skin prick tests or blood tests for allergen specific IgE (formerly known as RAST) in Australia.
- In some cases, you may be referred to a clinical immunology/allergy specialist for further assessment.

### Skin prick testing

Skin prick testing is the most convenient method of allergy testing. It has been shown in clinical studies to improve the accuracy of diagnosis of allergy. As results are available within 20 minutes, this allows you to discuss the outcome with your doctor at the time of testing.

Most commonly performed on the forearm or the back, the skin is first cleaned with alcohol. It may be marked with numbers corresponding to the allergens. Using a sterile lancet, a small prick is made through a drop of allergen extract. This allows a small amount of allergen to enter the skin. If you are allergic to the tested allergen, a small itchy lump (wheal) surrounded by a red flare will appear within 15-20 minutes.

The tests are slightly uncomfortable but are usually well tolerated, even by small children. Local itch and swelling normally subside within one to two hours. More prolonged or severe swelling may be treated with a non-sedating antihistamine, a painkiller tablet and/or a cool compress. Occasionally people will feel dizzy or light-headed and need to lie down. Severe allergic reactions from allergy testing for asthma or allergic rhinitis (hay fever), are very rare.

Skin prick testing should only be performed by a health professional who has been trained in the procedure and knows how to select the allergens, interpret the results and manage with any generalised allergic reaction that may occur. Allergic reactions to skin prick testing are rare.

Antihistamine tablets, syrups or medications with antihistamine-like actions (such as some cold remedies and antidepressants) should not be taken for three to seven days before testing, as these will interfere with the results. You may also be advised to avoid creams and moisturisers on your forearms or back on the day of the test, to reduce the likelihood that allergen extracts will run into each other.

Skin prick testing has no value in the investigation of suspected reactions to aspirin, food additives, or respiratory irritants such as smoke or perfumes.

**Other skin testing methods**

Intradermal testing (also known as scratch testing) should not be used to test for allergy to inhalants or foods. Intradermal testing was used in the past, however it is less reliable than skin prick testing, and causes much greater discomfort. Intradermal testing may be used to test for allergies to antibiotic drugs or stinging insect venom, when greater sensitivity is needed.

**Blood tests for allergen specific IgE**

Immunoglobulin E (IgE) antibodies directed against specific allergens can be measured with a blood test. These tests are often performed when skin testing is not easily available, when there is a skin condition such as severe eczema, or when a person is taking medication (such as antihistamines), that interferes with accurate skin prick testing.

**Total IgE testing**

Total IgE antibodies may be raised in people with allergies, and can be measured from a blood sample. High total IgE levels are also found in people with parasite infections, eczema and some rare medical conditions. High total IgE levels do not prove that symptoms are due to allergy, and a normal total IgE level does not exclude allergy. Therefore, measuring total IgE levels is not routinely recommended in allergy testing.

**Eosinophil counts**

Eosinophils are specialised white blood cells that are designed to kill worms and parasites. They can also cause tissue inflammation in allergy. High levels are sometimes seen in blood samples from people with allergic rhinitis (hay fever), asthma and eczema, as well as other less common conditions. However, a high eosinophil count does not prove that symptoms are due to allergy, and a normal eosinophil count does not exclude allergy. Therefore measuring eosinophil counts has a limited role to play in allergy testing.

**Patch testing**

Patch testing is useful to test for allergic contact dermatitis, that can be triggered by metal, cosmetic preservatives or various plants. It involves applying patches with test substances in small chambers or discs to a person's back, which are secured with hypoallergenic tape. The tapes are left in place for 48 hours and kept dry for the entire time. The test site is then read at different time intervals. An eczema-like rash can indicate sensitivity to a particular allergen.

**Oral allergen challenge testing**

Oral allergen challenge testing may sometimes be required to confirm diagnosis when the cause of a severe allergic reaction has not been confirmed. This will normally only be performed using foods or medications under the supervision of an clinical immunology/allergy specialist with appropriate resuscitation facilities immediately available.

**Unproven methods**

There are several methods that claim to test for allergy. These include cytotoxic food testing, kinesiology, Vega testing, electrodermal testing, pulse testing, reflexology and hair analysis. These tests have not been scientifically validated and may lead to unnecessary, costly and (in the case of some changes in diet), dangerous avoidance strategies. No Medicare rebate is available in Australia for these tests and the use of these methods is not recommended.

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