



australasian society of clinical immunology and allergy inc.

## Allergy Testing

### ASCIA EDUCATION RESOURCES (AER) PATIENT INFORMATION

**Avoiding known allergic triggers is an important part of allergy and asthma management. Allergy testing using skin prick tests or blood tests for allergen specific IgE (RAST) helps your doctor to confirm which allergens you are sensitive to, so that appropriate avoidance advice can be given.**

#### **Which allergens should be tested for?**

Allergy testing is usually performed in people with suspected allergic rhinitis (hay fever), asthma or reactions to insects or food allergy. In people with allergic rhinitis or asthma, allergy testing usually includes house dust mite, cat and dog dander (perhaps 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 or stinging insects.

It is important to note that:

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

#### **Skin prick testing**

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

Skin prick testing is most commonly performed on the forearm, although the back is sometimes used. The arm is first cleaned with alcohol. A drop of commercially produced allergen extract is placed onto a marked area of skin. Using a sterile lancet, a small prick through the drop is made. This allows a small amount of allergen to enter the skin.

If you are allergic to the tested allergen, a small lump (wheal) will appear at the site of testing over 15-20 minutes.

Skin prick tests are slightly uncomfortable, but are usually well tolerated, even by small children. Local itch and swelling normally subside within 1-2 hours. More prolonged or severe swelling may be treated with an oral antihistamine, topical corticosteroid cream and

## **ASCIA EDUCATION RESOURCES (AER) PATIENT INFORMATION**

an ice pack. Occasionally people will experience feel dizzy or light-headed and need to lie down. Severe allergic reactions from allergy testing in 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 who knows how to interpret the results. A doctor with knowledge of the management of acute allergic reactions should be present, to select the allergens, interpret the results and have access to resuscitation facilities in the case of an emergency.

Medications with antihistamine like actions (such as antihistamine tablets, some cold remedies and antidepressants) should not be taken for 3-7 days before testing as these will interfere with the results of testing. You may also be advised to avoid creams and moisturisers on your forearms for a similar period of time to reduce the likelihood that allergen extracts will run into each other.

Skin prick testing is not a reliable way of confirming suspected reactions to aspirin or food additives, and you will need to discuss such concerns with your doctor.

### **Alternative skin testing methods**

Alternative skin testing methods such as scratch testing have generally been abandoned because of greater patient discomfort. Whilst it is not widely used in Australia and New Zealand, intradermal skin testing is sometimes used to test for allergies to antibiotic drugs or stinging insects, when greater sensitivity is needed.

### **Blood tests for allergen specific IgE (RAST)**

Immunoglobulin E (IgE) antibodies directed against specific allergens can be measured with a blood test, commonly referred to as RAST tests. RAST was the abbreviation for the original name of the technology (RadioAllergoSorbent Test). These tests are often performed when skin testing is not easily available, when skin conditions such as severe eczema exist, or when a person is taking medications (such as antihistamines) that interfere with accurate testing.

### **Total IgE testing**

Measurement of total IgE antibody can be estimated from a blood sample. Total IgE is often, but not always raised in people with allergies. High IgE antibody levels are also found in people with parasite infections, eczema and some rare conditions. High IgE levels do not prove that symptoms are due to allergy, and a normal IgE level does not exclude allergy. Therefore, measuring total IgE levels has a limited role to play in allergy testing.

### **Eosinophil counts**

Eosinophils are specialised white blood cells that are designed to kill worms and parasites. They can also cause inflammation in the tissues in allergy. High levels are sometimes seen in blood samples from people with allergic rhinitis (hay fever), asthma and eczema, as well as in a number of 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.

## **ASCIA EDUCATION RESOURCES (AER) PATIENT INFORMATION**

### **Patch testing**

Patch testing is useful for testing for contact allergic dermatitis, such as that triggered by nickel metal, cosmetic preservatives or various plants. Using hypoallergenic tape, commercial standardised allergen paste is applied to a rash free area of skin, most commonly the back. The tapes are normally 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.

### **Challenge testing**

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 a specialist in allergy and clinical immunology with appropriate resuscitation facilities 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 you to take 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 advised. Further information on these methods is available on the ASCIA website: [www.allergy.org.au/content/view/27/8/#2](http://www.allergy.org.au/content/view/27/8/#2)

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The Australasian Society of Clinical Immunology and Allergy (ASCIA) is the peak professional body of Clinical Immunologists and Allergists in Australia and New Zealand.

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