

Allergy and asthma

FACT SHEET prepared by the Asthma and Respiratory Foundation NZ

An allergy occurs when the body's immune system over-reacts to a normally harmless substance, which may be in the air, water or in things we touch or eat. A substance that triggers an allergic reaction is called an allergen. When an allergic person comes in contact with an allergen their immune system produces a specific type of antibody (IgE). The antibody triggers the release of histamine and other chemicals within the body that cause the allergy symptoms.

Why do some people develop allergies?

We don't know for certain. Similarities between the allergic response and the way the body's immune system responds to infection with intestinal worms have led some researchers to believe that allergies are caused by an over-reaction of this part of the immune system.

Unfortunately for some people, their bodies 'misread' other substances they come into contact with, and react in the same way as they would to the presence of worms (even if these substances are nowhere near the digestive tract). People who react to substances in this way are said to have an allergy to them, and the substances themselves are described as allergens.

It is important to realise that not all reactions or side effects caused by contact with substances in the environment are caused by allergies. There are lots of reasons why people may be intolerant of substances such as foods or medicines. The intolerance may have nothing to do with the immune system.

How are allergies and asthma related?

Approximately 70-80% of asthma in New Zealand is associated with allergy. When someone with allergic asthma breathes in an allergen their immune system reacts by releasing histamine and other chemicals. This causes their airways to become inflamed and to constrict, causing symptoms such as wheezing and tightness in the chest. These symptoms can start within two to three minutes of exposure to the allergen. Worsening of the breathing difficulties can occur four to six hours later as the body's immune system continues to react.

Sometimes more than one part of the body can be affected by allergens, which is why many people with asthma also experience hay-fever and eczema.

What are the most common allergens for people with asthma?

In New Zealand, the most common asthma-producing allergens are related to house dust mites, animals, pollens, moulds and fungal spores. Asthma due to food and drink allergy is uncommon.

What can I do to reduce the risk of allergy-associated asthma?

If you have asthma that is triggered by allergens you should try to identify the allergen, in order to avoid or minimise exposure to it.

There is little evidence that avoiding allergens in childhood will prevent the development of allergies. In fact, exposure to animals may reduce a child's risk of allergic disease – however, more research is needed in this area. Once allergic asthma has developed, however, it is important to minimise exposure to avoid triggering asthma attacks.

For further information on triggers in asthma see the fact sheet "House Dust Mites", the booklet "Triggers in Asthma" or visit our website asthmaandrespiratory.org.nz.

How can I find out what I am allergic to?

Skin Prick Test: A skin prick test can help to determine if a substance is a trigger. This involves testing a small amount of the suspected allergen on the skin to see if a reaction occurs. A positive reaction is when an itchy red swelling with a weal develops in 15-20 minutes (looks a little like a chicken pox). This subsides within a couple of hours. A positive reaction does not always mean the substance reacts in the same way in the lungs. Other information, such as clinical symptoms, need to be taken into account to determine if the substance is an asthma trigger.

Note that skin prick tests are generally not used for children under the age of three, as they are less reliable in very young children.

Specific IgE or RAST: The radioallergosorbent test (RAST) measures the amount of IgE in the blood that is directed to a specific allergen. It identifies reactions to specific allergens e.g. dust mite, pollen, animal dander, moulds, foods and some insect venoms. A positive response does not necessarily mean that the allergen tested is a major trigger.

Anyone who is interested in one of these tests, or would like more information about them, should discuss this with their doctor.

The Asthma and Respiratory Foundation NZ can help you

The Asthma and Respiratory Foundation NZ is New Zealand's not-for-profit sector authority on asthma and other respiratory illnesses. We advocate to government and raise awareness of respiratory illnesses, fund research for better treatments and educate on best practice.

Check out our comprehensive website at asthmaandrespiratory.org.nz.

For further information on allergy and immune diseases, visit allergy.org.nz