

What is allergy?

Allergies are very common and increasing in Australia and New Zealand, affecting around one in three people at some time in their lives. There are many different causes of allergy and symptoms vary from mild to potentially life threatening. Allergy is also one of the major factors associated with the cause and persistence of asthma. Fortunately effective prevention and treatment options are available for most allergies.

Allergy - a definition

Allergy occurs when a person's **immune system** reacts to substances in the environment that are harmless for most people. These substances are known as **allergens** and are found in house dust mites, pets, pollen, insects, moulds, foods and some medicines.

Atopy is the genetic (inherited) tendency to develop allergic diseases. People with atopy are said to be atopic. When atopic people are exposed to allergens they can develop an immune reaction that leads to **allergic inflammation** (redness and swelling).

This can then cause symptoms in the:

- nose and/or eyes - **hay fever (allergic rhinitis / conjunctivitis)**
- skin - **eczema, hives (urticaria)**
- lungs - **asthma**

A substance that is an allergen for one person may not be for another - everyone reacts differently. The likelihood (or risk) of developing allergies is increased if other family members suffer from allergy or asthma.

What happens when you have an allergic reaction?

When a person who is allergic to a particular allergen comes into contact with it, an allergic reaction occurs. This begins when the allergen (for example, pollen) enters the body, triggering an antibody response. The antibodies attach themselves to special cells, called mast cells. When the pollen comes into contact with the antibodies, the mast cells respond by releasing certain substances, **one of which is called histamine**. When the release of histamine is due to an allergen, the resulting swelling and inflammation is extremely irritating and uncomfortable.

The most common causes of allergic reactions in Australia are:

- dust mites
- pollen
- foods such as peanuts, cow's milk, soy, seafood and eggs
- cats and other furry or hairy animals such as dogs, horses, rabbits and guinea pigs
- insect stings
- moulds
- medicines

Similar reactions can occur to some chemicals and food additives, however if they do not involve the immune system, they are known as "adverse reactions" rather than "allergy".

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Which areas of the body may be affected?

Depending on the allergen and where it enters your body, you may experience different symptoms. For example, pollen, when breathed in through the nose, usually causes symptoms in the nose, eyes, sinuses and throat (allergic rhinitis). Allergy to foods usually causes stomach or bowel problems, and may cause hives (urticaria). Allergic reactions can also involve several parts of the body at the same time.

The nose, eyes, sinuses and throat

When allergens are breathed in, the release of histamine causes the lining of your nose to produce lots of mucus and to become swollen and inflamed. It causes your nose to run and itch and violent sneezing may occur. Your eyes may also start to water and you may get a sore throat.

The lungs and chest

Asthma can sometimes be triggered during an allergic reaction. When an allergen is breathed in, the lining of the passages in the lungs swells and makes breathing difficult. Not all asthma is caused by allergy, but in many cases allergy plays a part.

The stomach and bowel

Most stomach upsets are caused by richness or spiciness in the food itself, rather than an actual allergy. However, foods which are most commonly associated with allergy include peanuts, seafood, dairy products and eggs. Cow's milk allergy in infants may occur and can cause eczema, asthma, colic and stomach upset. It may also lead to failure to thrive. Some people cannot digest lactose (milk sugar). This intolerance to lactose also causes stomach upsets, but must not be confused with allergy.

The skin

Skin problems such as eczema (dry, red, itchy skin) and urticaria (also known as hives) often occur. Hives are white itchy bumps which look and feel like insect bites. Food may be a factor in some cases of hives and eczema. More information is available on the ASCIA website www.allergy.org.au/content/view/295/236/

Life threatening allergic reactions require immediate treatment

Most allergic reactions are mild to moderate, and do not cause major problems, even though for many people they may be a source of extreme irritation and discomfort. However, a small number of people may experience a severe allergic reaction called anaphylaxis. It is a serious condition which requires immediate life saving medication. Some of the more frequent allergens which may cause this are peanuts, shellfish, insect stings and drugs. If you know that you have a very severe allergy, you should have an Anaphylaxis Management Plan from your doctor, which should include an ASCIA action plan for anaphylaxis. These are available from the ASCIA website www.allergy.org.au/content/view/10/3/

Effective prevention and treatment options are available

Allergen avoidance (or reduction) relies on identifying the cause of your allergy and then taking steps to reduce your exposure to the allergen. For instance, many people are allergic to dust mites. Therefore reducing dust mite in the house is important.

Information on allergy testing is available on the ASCIA website www.allergy.org.au/content/view/104/116/
Allergen avoidance information is also available on the ASCIA website www.allergy.org.au/content/view/187/126/

Medications used to treat allergies include:

- **Antihistamines** - these block histamine release from mast cells, thereby reducing many irritating and uncomfortable symptoms. Non-sedating antihistamine tablets rarely cause drowsiness and are available from pharmacies without a prescription. Antihistamine nasal and eye sprays can also be used.
- **Intranasal corticosteroid nasal sprays (INCS)** - are very effective for treatment of moderate to severe allergic rhinitis (hay fever) when used appropriately and regularly. A prescription may be required for stronger dose INCS. Ask your pharmacist or doctor for advice.
- **Medicated eye drops** - ask your doctor or pharmacist for advice.
- **Adrenaline** - is used for first aid emergency treatment of life threatening severe allergic reactions (anaphylaxis). Adrenaline is usually given using an adrenaline autoinjector and this can be given without any medical training.

Non-medicated treatments such as saline douches and sprays are used for treating allergic rhinitis and sinusitis.

Specific allergen immunotherapy (also known as desensitisation) is a long-term treatment which changes the immune system's response to allergens. It involves the administration of regular, gradually increasing amounts of allergen extracts, by injections or sublingual drops. Information is available on the ASCIA website www.allergy.org.au/content/view/148/128/

You do not have to put up with the symptoms of allergy

If you think you may have an allergy your local pharmacist can advise you on what to do, or you may need to consult your doctor. In some cases you will be referred to a medical specialist (Allergist / Clinical Immunologist) for further investigations and advice.

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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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