What is allergy?
ASCIA Education Resources
patient information

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. However, the good news is that for most allergies, effective prevention and treatment options are available.

Allergy - a definition

Allergy occurs when a person's immune system reacts to substances in the environment that do not bother most people. These substances are known as allergens and are found in house dust mites, pets, pollen, moulds and foods.

Atopy is the genetic 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
- 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. For instance, when you are allergic to cats and a cat scratches you, you get an immediate itchy swelling along the scratch line. This is caused by the release of histamine.

Examples of common allergens in Australia

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

Similar reactions can occur to some chemicals and food additives.
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 (commonly known as 'hay fever'). Allergy to foods usually causes stomach or bowel problems, and may cause hives. Allergic reactions can 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 - http://www.allergy.org.au/aer/infobulletins/allergy_and_the_skin.htm

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, insect stings, drugs and shellfish. If you know that you have a very severe allergy, you should have an Anaphylaxis Management Plan from your doctor, which should include an Anaphylaxis Action Plan. These are available from the ASCIA website - http://www.allergy.org.au/aer/infobulletins/index.htm#anaph

Effective prevention and treatment options are available
The first step should be to try to identify the cause of your allergy and then take 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 essential.

Information on allergy testing is available on the ASCIA website:
http://www.allergy.org.au/aer/infobulletins/what_is_causing.htm

Allergen avoidance information is available from the ASCIA website -

Antihistamines have been the first line of allergy treatment for many years. These medications block histamine release from mast cells, thereby reducing many irritating and uncomfortable symptoms. Non-sedating antihistamines such as Claratyne, Telfast and Zyrtec rarely cause drowsiness and are available from your local pharmacy. These tablets can be taken if driving, operating heavy machinery or whenever it is important to maintain concentration.

Nasal sprays and eye drops can be used to prevent or relieve symptoms - ask your pharmacist or doctor for advice.
Information is also available on the ASCIA website:
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, usually by injections.

Information is available on the ASCIA website:

You do not have to put up with the symptoms of hay fever and 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 an allergy specialist.

Disclaimer
The content of this article has been reviewed by ASCIA members, represents the available published literature at the time of review and is not intended to replace professional medical advice. Any questions regarding a medical diagnosis or treatment should be directed to a medical practitioner.

For further information on allergy, asthma or immune diseases, visit www.allergy.org.au – the web site of

ASCIA

australian society of clinical immunology and allergy inc.
ASCIA is the peak professional body of Clinical Allergists and Immunologists in Australia and New Zealand.

Contact details
PO Box 450 Balgowlah NSW Australia 2093
Email: education@allergy.org.au

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