

The Medicine Cabinet: FAQs for Allergies and Anaphylaxis

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What is an allergy?

Allergy occurs when there is an immune modulated response to an environmental substance that to some has no response or a therapeutic response. These substances are then called *allergens* and these can include house dust mite, pets, pollen, insects, moulds, foods and some medicines. Some people have inherited a tendency to be allergic and thus are called atopic.

Mast cells in the body (gut, skin, lungs and eyes) are designed to kill worms and parasites. These mast cells are filled with irritant chemicals including histamine. Mast cells are also armed with proteins called IgE antibodies which act to detect allergens in the local environment. When the mast cells recognise the allergen then they can dump the irritant chemicals such as histamine into the surrounding body cells.

What does an allergic rhinitis look like?

Allergic reactions also known as allergic rhinitis occurs in 1 in 5 Australians. Symptoms include runny nose, rubbing a nose, itchy nose, sneezing, itchy and irritable eyes, blocked nose and snoring at night. Many people with asthma also have allergic rhinitis.

These symptoms are usually treated with over the counter preparations from the community pharmacy such as non-sedating antihistamines and limiting exposure to the allergen if possible. If these symptoms persist, longer term management with immunomodulating medications such as nasal steroid preparations may be used.

What is allergic conjunctivitis?

Allergic conjunctivitis is inflammation of the thin membrane on the inside of the eye and this can be itchiness, redness and watery eyes. Mostly these are mild symptoms and usually occur with allergic rhinitis but can be severe and involve the eye's cornea and then be sight threatening.

What is eczema or allergic dermatitis?

This is the most common form of dermatitis and occurs in 15-20% children but only 1-2% of adults. This usually occurs in people who are atopic i.e. have inherited the tendency such as family history of allergic rhinitis, atopic dermatitis, and asthma. There are both environmental and genetic factors in play. How the eczema looks varies with age of the child

The skin in people with eczema is more brittle and does not

absorb and retain water levels as effectively as other people due to reduced ability to make fats and oils in the skin. Thus people with eczema have a less effective barrier to the environment than those without eczema and although might not have patches of dermatitis the skin is never normal.

Treatment can involve years of moisturising and other topical treatments including topical steroids but for some more complicated treatments involving the immune system are necessary.

What is urticaria or hives?

This is an intensely itchy rash that can occur in children and adults. It may occur by itself or as part of a generalised allergic reaction. This is frequently the first symptom to a food, sting or medication. Acute urticaria can occur as a one off event or the episode can continue for 2-3 weeks. It is often caused by an allergy and the most common cause is food or medication. In children this urticaria can also be associated with infection and it not an allergic reaction. Treatment is often with antihistamines.

What is food allergy?

Food allergy occurs in 1 in 20 children and 2 in 100 adults. The majority of food allergies are not severe and will 'grow out it' in time. But not all food reactions are due to allergies, some can be due to intolerances or even poisonings or toxic reactions.

Symptoms of food allergy can be urticaria (hives), swelling around the mouth, vomiting and usually within 30 minutes of eating the food. Other symptoms include runny or blocked nose, abdominal pain or diarrhoea.

But food allergies can also be very SERIOUS and dangerous. Symptoms of severe allergic reaction can occur affecting the breathing and heart. These can include difficult and/or noisy breathing, swelling of the tongue, swelling or tightness in the chest, difficulty in talking or hoarse voice, wheeze or persistent cough, persistent dizziness and/or

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collapse. Young children are often described as floppy and pale.

What about medication allergy?

Allergies can occur to complementary and alternative medicines (CAM) both by interacting with conventional (western) medicines in how they respond in the body and just to the substance itself. CAM is often considered very safe as it can be advertised as 'natural' or 'organic' but allergic reactions such as allergic rhinitis and /or are common. People with other allergic conditions are often sensitive to many allergens and these can include herbal medicines.

It is very important when starting new medications both CAM and conventional for the prescribing doctor and pharmacist know all the medications that are being taken. This helps identify adverse effects from allergies when a reaction does occur.

Antibiotic hypersensitivity (adverse effects from the antibiotics that resemble allergic reactions) is reported to be as high as 10% in children and adults, are often dose independent, particularly noxious and unintended result of a normal dose given to humans.

- Only when there is a distinct immunological response should these reactions be called allergies.
- Immediate hypersensitivity reactions are usually IgE mediated occur within 1 hour and these are usually urticaria, angioedema, conjunctivitis, rhinitis, bronchospasm, gastrointestinal symptoms and anaphylactic shock.
- Non immediate reactions occurring over 1 hour from taking the medication are often associated with delayed T cell dependent type of allergic mechanism.
- The most common nonimmediate reactions are maculopapular exanthemas and delayed-appearing urticaria and/or angioedema; more rarely, fixed drug eruption, exfoliative dermatitis, acute generalized exanthematous pustulosis (AGEP), Stevens-Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN) can be elicited. These can be life threatening. Assessment of hyper-

sensitivity reactions can be complex with the final diagnosis needing skin test. These can be used for IgE mediated reactions (immediate) using drug provocation testing. Nonimmediate reactions are evaluated by several laboratory tests after delayed reading skin pricks, patch tests and drug provocation testing. In some cases, intradermal testing is not used due to the previous severity of the reaction. Penicillin is the most common drug allergy occurring in 5-10% of adults and children. In people with well documented hypersensitivity reactions there is a potential for cross sensitivity particularly amongst penicillins and cephalosporins. Thus these people should avoid the causal penicillin and related penicillins as well as other β lactams – cephalosporins.

What is anaphylaxis?

A serious allergic reaction that should be considered as a medical emergency, this occurs after exposure to an allergen which the person is extremely sensitive. Anaphylaxis signs include difficult or noisy breathing, swelling of the tongue, swelling and/or tightness of the throat, difficulty talking and/or hoarse voice, wheeze or persistent cough, loss of consciousness and/or collapse, pale or floppy in young children. In some cases there are preceding symptoms such as swelling of face and/or eyes and lips, hives or welts on skin, and abdominal pain or vomiting.

When seeking medical help for anaphylaxis, it is important to be able to identify the allergen causing the anaphylaxis so a series of questions will be asked. Once recovered, a series of tests to formally identify the allergen may also be done. It is important that these are done by a referral to a qualified immunologist or allergy specialist.

Adrenaline (US name epinephrine) is the first line treatment. This may be administered using an autoinjector or an intramuscular or intravenous injection. For more information and videos about how to use the autoinjectors :-

Epipen [http://www.allergy.org.au/images/stories/anaphylaxis/multinew/ENG.How to give EpiPen 2011.pdf](http://www.allergy.org.au/images/stories/anaphylaxis/multinew/ENG.How%20to%20give%20EpiPen%202011.pdf) and Anapen [http://www.allergy.org.au/images/stories/anaphylaxis/how to give anapen 2011.pdf](http://www.allergy.org.au/images/stories/anaphylaxis/how%20to%20give%20anapen%202011.pdf) .

Helpful websites

www.allergy.org.au - website for Australasian society of clinical immunology and allergy.

www.allergyfacts.org.au - website for the charitable organisation Allergy and Anaphylaxis

<http://www.schn.health.nsw.gov.au/parents-and-carers/fact-sheets/#cat10> for paediatric centred factsheets on allergy.

References:

www.allergy.org.au (accessed 10/12/14)

Romano A, Caubet JC. Antibiotic Allergies in children and adults: From clinical symptoms to skin testing diagnosis. J Allergy Clin Immunol Pract 2014;2:3-12