



GUIDE TO ALLERGIES



Allergies in a nutshell

Put simply, allergies are an overreaction of the immune system. An allergy is a hypersensitivity to substances that are normally harmless but which cause the immune system to overreact and produce a violent reaction in the allergy sufferer. Allergy-inducing substances are called "allergens."

The number of people with an allergy seems to be increasing each year. It is worth noting though that many people self-diagnose their reaction to a particular substance as an allergy, when in fact it is simply an intolerance or irritation.

What happens during an allergic reaction?

The immune system normally protects the body against harmful substances such as bacteria, viruses and toxins. An allergy occurs when the immune system reacts to substances (allergens) that are generally harmless and in most people do not cause an immune response.



The first exposure to the allergen causes a mild immune response that sensitises the immune system to the substance - this triggers the immune system to recognise the substance in the future. The following exposures to the allergen however result in symptoms. The type of symptom that develops depends on the specific allergen, the part of the body where exposure occurs and the way the immune system reacts to the allergen.

When an allergen enters the body of a person with a sensitised immune system, it triggers antibody production. Histamine and other chemicals are released by body tissues as part of the immune response. This causes itching, swelling of affected tissues, mucus production, muscle spasms, hives, rashes and other symptoms. Symptoms vary in severity from person to person.

The most common symptoms are a runny nose, itchy eyes, ears or palate, coughing, severe wheezing, sinus problems or a nettle-like rash.

Many disorders are associated with, triggered or worsened by allergies. Some of these include hay fever, eczema and asthma.

Common allergens include environmental agents that contact the skin, breathing passages or the surface of the eye - such as pollen, dander and dust. Food allergies and drug allergies are also common. Allergic reactions can also be caused by insect bites, jewellery, cosmetics - in fact almost any substance that comes onto contact with the body.

Hay fever

Hay fever, otherwise known as seasonal allergic rhinitis, is the most common of the allergic diseases and refers to seasonal nasal symptoms that are caused by a reaction to pollens. Year round or 'perennial allergic rhinitis' is a similar allergy but is usually caused by indoor allergens such as dust, mites or pets.

Symptoms result from the inflammation of the tissues that line the inside of the nose after allergens are inhaled. The ears, sinuses, throat and eyes can also be involved.

The most common symptoms include:

- runny nose
- stuffy nose
- sneezing
- nasal itching (rubbing)
- itchy ears and throat
- post nasal drip (throat clearing).



Managing hay fever

One of the quickest and easiest ways to relieve the symptoms of hay fever is with an antihistamine. Nasal sprays and eye drops may also help keep symptoms at bay.

Besides medicines, there are other things that you can do to help beat the effects of hay fever:

- Be aware of the pollen count and try to plan activities when the pollen count is at its lowest.
- Wear wrap-around sunglasses to keep pollen out of your eyes. Also try not to rub your eyes if they do become itchy as this will only make them worse.
- Buy a negative ioniser, a small plug-in box that helps remove pollen from the air.
- Buy a car with an integral pollen filter.
- Hoover and dust regularly and try to keep your windows closed at night.

Quick fact

Around one or two people out of every 100 in the UK have a food allergy, but food intolerance is more common.²

Food allergies

Adverse reaction to food can be split into two categories: food allergy and food intolerance.

Food allergy is caused when the body mistakenly makes an antibody (IgE) to 'fight off' a specific food. When the food is next eaten (or sometimes is just in contact with the skin, or is smelt) it triggers an immune system response which results in the release of histamine and other naturally occurring chemicals in the body as discussed already.

These chemicals cause various symptoms, depending on where in the body they are released. For example, in the gut they may cause abdominal pain, vomiting and diarrhoea and in the skin, itching and swelling. Very rarely the immune system chemicals are released throughout the body, causing a 'systemic' reaction (such as anaphylaxis).

Without immediate treatment, usually with adrenaline, anaphylaxis may cause death.

On the other hand, food intolerance is a non-allergic, abnormal reaction to food that does not necessarily involve the immune system and is much more common. The onset of symptoms is usually slower and may be delayed by many hours after eating the offending food; the symptoms may also last for many hours, even into the next day.

Managing food allergies

Medicines, such as adrenaline or antihistamine can be taken to treat the

symptoms of food allergies. You should wear a "medic alert" bracelet or medallion and inform work colleagues, first aiders and occupational health about your allergies so they are prepared to support you. The only way to effectively manage a food allergy is by strict avoidance.

Anaphylaxis

Thousands of people in the UK have life-threatening allergic reactions. This condition is known as anaphylaxis.

Anaphylaxis is an extreme allergic reaction that affects the whole body. It generally occurs within minutes of exposure to the allergen but sometimes after hours. Peanut allergy and nut allergy are frequently severe and for that reason have received widespread publicity.

However, there are other causes of anaphylaxis, such as insect stings, latex, drugs and other foods. On rare occasions there may be no obvious trigger.

What are the symptoms?

- generalised flushing of the skin
- nettle rash/hives on the body
- swelling of the throat and mouth
- difficulty in swallowing or speaking
- alterations in heart rate
- severe asthma
- abdominal pain, nausea and vomiting
- sudden feeling of weakness (drop in blood pressure)
- collapse and unconsciousness.

Managing anaphylaxis

The only way to avoid anaphylaxis is to strictly avoid the allergen that causes the anaphylactic reaction. If you do go into anaphylactic shock you will need an adrenaline injection. Those believed to be at risk should carry a pre-loaded adrenaline injection kit which is available on prescription.

The injection must be given, as directed, as soon as a serious reaction is suspected and an ambulance must be called. If there is no improvement in 5-10 minutes, you will need a further injection.

Those at risk from anaphylaxis should develop a crisis plan for how to handle an emergency. Your allergist or GP can help. This crisis plan should be written out for family and friends. You should also carry one in your pocket.

If a child is the person at risk, their teachers and friends' parents should have a copy - along with the adrenaline. Make sure everyone knows where the adrenaline is when you go out or when you are at home.



Asthma

Asthma is a condition that causes narrowing of the airways to the lungs. Triggers, which can be allergic or environmental, make these airways swell and release mucus, restricting the flow of air. The result is difficulty breathing. The bronchial narrowing is usually either totally or at least partially reversible with treatments.

Asthma can be referred to as being "extrinsic" or "intrinsic." Extrinsic (or allergic), asthma is more common. It accounts for 90% of all cases and typically develops in childhood.

The most common symptoms of asthma are shortness of breath, wheezing, coughing and tightness of the chest.

Managing asthma

Asthma affects people differently and each individual is unique in their degree of reactivity to triggers. Naturally this influences the type and dose of medication prescribed, which varies from one individual to another. Although there is no cure for asthma, there are some excellent medicines available to help to control the symptoms.

There are two main treatments for asthma - relievers and preventers. These come in a variety of delivery devices called inhalers. When using inhalers medicine is breathed in through the mouth, directly to the lungs.

Eczema

There are many different types of eczema: infantile eczema, which babies experience as an allergy that they usually grow out of (at least half of those by 18 months and most by age 3 or 4); atopic dermatitis, which is the more persistent form; and contact dermatitis, a sensitive reaction to touching an allergic substance.

Eczema feels itchy, hot, painful and dry and moisturising is essential to help discomfort. Many people find that certain foods make their condition worse and asthma sufferers can often predict an attack through a visible worsening of their skin. Eczema can have physiological side effects too as sufferers can feel isolated as a result of their appearance.

Common symptoms of eczema include redness, flaking and cracking of the skin. The skin will also be itchy, hot and sore and may come out in small water blisters. Repeated scratching can lead to thickened wrinkled skin.



Managing eczema

Treatment for eczema can involve steroid creams, chinese herbal medicines, homeopathy, sedating antihistamines and even antibiotics if skin becomes infected.

There are also some other ways in which you can try to relieve the symptoms of eczema:

- avoid known triggers, i.e. the substance that causes the reaction
- apply moisturiser regularly
- use gentler cleaning products
- avoid soap, bubble bath and harsh detergents and use bath oils and aqueous creams instead
- wear non-allergenic gloves for cleaning
- wash all new clothes before wearing them and avoid wool, tight clothing and elastic
- pat or gently slap irritated skin – do not scratch
- try to avoid stress, fatigue and conflict
- avoid pets
- avoid sunburn and try to keep skin cool as perspiration can irritate the skin.

Quick fact

Almost half of all allergy sufferers in the UK are children.³

Testing for allergies

How will I know if I have an allergy?

If you suspect that you have an allergy you should consult your doctor. To identify the allergen that is causing the reaction your doctor will take a clinical history from you including your symptoms, details of when they occur and any other relevant information. There are also various tests that can be undertaken:

- **Skin-prick test** - a small needle is used to gently prick the skin through a drop of fluid containing a known allergen. This is a painless procedure. If there is a positive reaction skin will become irritated.
- **Blood test** - a sample of your blood is taken and sent to a specialist laboratory. Over 400 different allergens can be tested for in this way.
- **Patch test** - this test is used to diagnose delayed allergic reactions, such as eczema, which affect the skin. The test involves taping traces of various known contact allergens onto the skin underneath special aluminium discs and keeping them there for 48 hours.

Quick fact

1 in 4 in the UK suffer from an allergy at some point in their lifetime.¹



Treating and controlling allergies

Unfortunately there is no way to address the cause of our over-sensitive immune system and so no way to completely cure an allergy. The best way to control an allergy is to avoid the allergen in the first place. However, this is not always possible.

As such, there are various treatments available to help relieve the symptoms of allergies, some of which have already been discussed.

For further information and advice consult your doctor.

Useful Links

You can also obtain more information from the following websites:

www.allergyuk.org

www.talkallergy.com

www.anaphylaxis.org.uk

www.webmd.boots.com

References

1. <http://www.nhs.uk/Livewell/Allergies/Pages/Allaboutallergies.aspx>
2. <http://www.nhs.uk/livewell/allergies/pages/foodallergy.aspx>
3. <http://www.nhs.uk/Livewell/Allergies/Pages/Allaboutallergies.aspx>

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