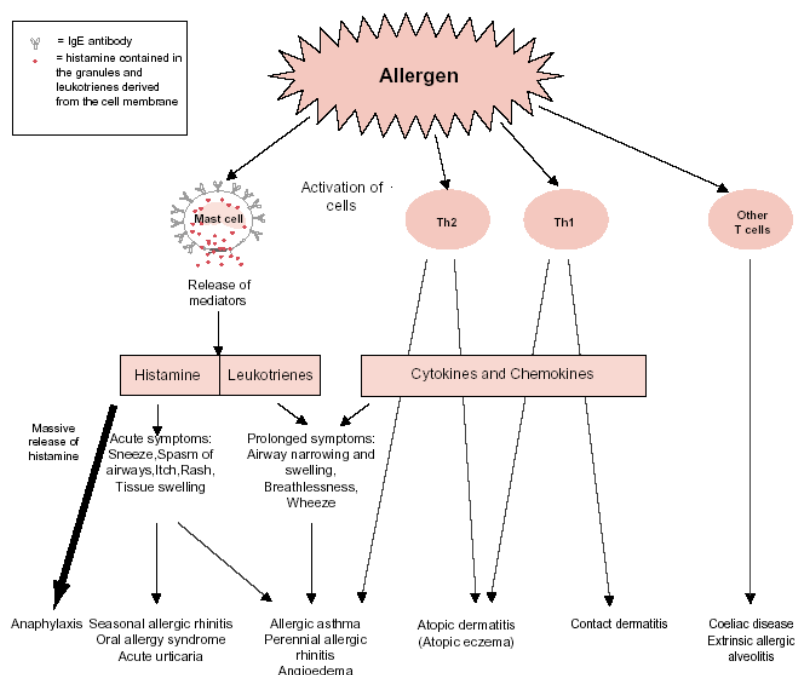


ALLERGY: Symptoms, Causes & Testing

There are around 18 million allergy sufferers in the UK and the incidence across Europe has more than doubled in the last 20 years. With the exception of anaphylaxis and severe asthma attacks, the illnesses are more debilitating than life threatening and as such have remained a relatively low priority within the health service. With less than 100 Allergy Specialists in the UK, many sufferers do not even know precisely what the causes of their symptoms are.

The Nature of the Condition

Allergic reactions occur when the allergy sufferer comes into contact with an airborne allergen or a food to which they have previously become sensitised. Unfortunately, in allergy sufferers, the particle or food derivative is perceived as a hostile invader by the body and prompts the release of white blood cells designed to protect the body from disease. The type of allergen and the attendant reaction dictate the nature of the symptoms as illustrated below.



The immune system is made up of two parts – Th1 & Th2. The Th2 system is active at birth and represents the first action defence mechanism of the body. The Th1 system not only releases defensive white cells, it also releases the cells that destroy these cells once they have carried out their function.

The Th1 system develops gradually between birth and age 7 and it is a learnt response i.e. acquired only when infants are exposed to sources of infection and dirt.

In the allergy sufferer, the Th2 system tends to be over-active and the Th1 is underdeveloped. This has led scientists at the Imperial School of Medicine in London to conclude that excessive cleanliness and the use of vaccines and immuno-suppressant drugs may be causal factors in the increase in the incidence of allergies. The debate is on-going.

The Symptoms & the Causes

Anaphylaxis is the most severe, acute allergic reaction common in people who are allergic to peanuts, seafood, wasp stings or certain anaesthetics.

The patient may start with a constricting throat, swelling of the tongue and lips followed by breathing difficulties and loss of consciousness.

This condition is life threatening and requires immediate medical treatment. People who know that they are vulnerable are generally recommended to carry an EpiPen – a pen like syringe that releases adrenalin into the blood stream to stimulate the heart and maintain breathing.

Acute Histamine reactions are best known in the form of **hayfever** and **hives**.

Hayfever in the UK is seasonal and associated with the release of different types of pollen into the air that are inhaled by the sufferer. Grass pollen is the prevalent cause of hayfever from around mid-May to late July. Tree pollen sufferers tend to suffer March to mid late May. Hayfever can also be caused by moulds and people who are allergic to pollen or mould are often allergic to pets and dustmite too so a year round programme of prevention can reduce the seasonal hayfever reaction.

The symptoms – itchy, swollen & streaming eyes, itchy throat, runny nose and wheezing. Whilst hayfever is not ordinarily life threatening, it is very debilitating and can lead to complications such as perennial rhinitis (permanent stuffy/runny nose & sinusitis), asthma, secondary bacterial infections and a susceptibility to other allergens.

There are a plethora of drugs and treatments on the market for this condition. Although they are effective in reducing symptoms, they all have side-effects and the use of preventatives can ameliorate the effect significantly.

Hives are an itchy rash that progressively swells and reddens. The spots are often random on the body and not necessarily at the point of contact with the offending allergen. The most common causes:

- Stress
- Genetic tendency
- Food allergens
 - Milk, cheese & eggs
 - Some proteins
 - Wheat & cereals
 - Certain Indian Daals
 - Peas & Oranges
- Drugs
 - Antibiotics especially Penicillin
 - Anti-inflammatories (e.g. aspirin & indomethacin)
- Infections
 - Insect bites
 - Bacterial especially urinary
 - Viral (Hepatitis)
- Synthetic chemicals in cosmetics & toiletries
 - Parabens
 - Fragrances
 - Alcohols
 - Lanolin
 - Paraffin & Petroleum Jelly
 - Coal Tar & Sulphates
 - Mono, di & triethanolamines
 - Preservatives & Colours
- Environmental
 - Pet – Feld1 from cats, Canf1 from dogs & others from horses birds and small pets
 - Dustmite
 - Fungi & molds
 - Pollen
 - Extremes of temperature

In the case of foods, avoidance is the best strategy but often easier said than done. Drug treatments should always be taken with great care and discussed with your Doctor before taking them if you are prone to allergic reactions. Infections tend to be a short term response and the use of chemical friendly antimicrobial products is recommended to ease the condition until it clears. In the case of cosmetics and toiletries, always check ingredients listings before use and if in doubt ask the retailer or manufacturer. Environmental allergens such as pet, dustmite and moulds levels can be controlled using Bio-Life's allergy preventatives.

Asthma & Perennial Rhinitis are the most common long term reactions to excessive histamine and Th2 immune activity. Known as a Type 1 allergic reaction, asthma is frightening and permanently blocked noses & sinuses are at best debilitating. The symptoms are only too well known – wheezing & breathing difficulties. Sufferers can rely on antihistamines and steroids but long term use damages an already imbalanced immune system as well as resulting in serious side-effects such as skin thinning & bruising, bloating & weight gain, osteoporosis, glaucoma and growth retardation in children.

It is far better to discover the cause than continuously subdue the symptoms. That is not to say that an asthma sufferer should not have an inhaler on hand in case of an attack but this should be perceived as an emergency measure and not the cure.

Allergy testing is not always easily available within the NHS but private companies e.g. YorkTest do provide such services. The one-off cost to find the source is especially recommended to asthma sufferers. If in doubt, consult Allergy UK and they can advise on the best test for your condition.

Over 70% of asthma sufferers are allergic to dustmites so routine treatments of mattresses, sofas and soft furnishings as well as bed clothes with natural de-naturers of dustmite & dustmite allergens is recommended. Bio-Life's HomeCleanse & FabriCleanse are designed for this purpose and are Allergy UK approved and bear a Consumer Care Award.

Similarly, 72% of asthma sufferers will suffer an asthma attack in the presence of a cat and 38% in the case of a dog or small pet.

Bio-Life pet cleansers and air cleansers are designed for just such cases and in independent trials are proven successful in over 97% of cases! Again, they are Allergy UK Consumer Care recognised products.

Atopic dermatitis commonly known as eczema is a persistent problem for many allergy sufferers. Known as a Type 4 Allergic reaction, it is caused by a release of a combination of white blood cells activated by the Th1 & Th2 system. The symptoms are red, itchy, dry skin that is vulnerable to secondary bacterial or viral infections & the formation of "hotspots".

Atopic dermatitis appears first in childhood & may or may not disappear in adulthood where there is a familial tendency. In others, it often occurs after periods of extreme stress or illness treated with antibiotics that suppress the immune system.

The allergens in order of importance:

- Dustmite in mattresses, soft furnishings, carpets & clothes
- Chemicals in fabrics, furnishings, herbicides, pesticides, toiletries, paints, inks & cleaning materials, jewellery
- Pets
- Foods

Again according to researchers in the USA, over 70% of eczema sufferers are allergic to dustmite and routine treatments with natural denaturers that are safe for allergy sufferers is recommended such as the Allergy UK approved HomeCleanse™ & FabriCleanse™ products is recommended. Pets can be cleansed routinely with PetalCleanse™.

Chemical sensitivity is also a factor and details of how to avoid the worst offenders are provided in the "Chemical Sensitivity" article provided on this site. Food intolerance is a very difficult area and allergy testing is recommended for people with a persistent eczema problem. If it is not available in your area, then an Allergy UK approved private provider such as YorkTest is recommended.

Contact Dermatitis is a Th1 response to an irritant or allergen. It can happen to anyone who comes into contact with an irritant at any time. The causes are many & varied --- plants (e.g. poison ivy, nettles), insect bites, latex, chemicals, herbicides, pesticides, molds and foods. In addition, Neomycin commonly found in antibiotic first aid ointments can also trigger these reactions.

The typical symptoms: a red dry rash initially followed by skin discolouration, discharge & cracking. The location where it occurred should give you some indication of the source but bear in mind that symptoms often do not appear until 48 to 72 hours after the contact was made. Severe reactions (e.g. anaphylactic shock) require emergency medical attention and the use of an epipen. In moderate cases, keeping the skin cool, clean, moisturized and free from infection is sufficient to restore to normal health. The Chemical Friendly, anti-microbial range, Bio-Life MediCleanse is ideal for this purpose, soothing as well as healing.

Coeliac Disease is strictly speaking an auto-immune disease and not an allergy or simple food intolerance. In this case, the body attacks its own tissues principally the lining of the small intestine. The reaction is triggered by gluten, a protein present in cereals namely wheat, rye and barley. Some people are also sensitive to oats. Symptoms can range from mild to very severe.

Symptoms in adults:

- Bloating, stomach pains, wind, diarrhoea, nausea, heartburn, indigestion and/or constipation
- Iron, B12 or folic acid deficiency
- Tiredness &/or headaches
- Weight loss (but not always!)
- Mouth ulcers, hair loss, skin rashes
- Tooth enamel problems
- Osteoporosis
- Depression
- Infertility
- Repeated miscarriages
- Joint or bone apin
- Nerve problems, poor muscle co-ordination and numbness of feet and hands

In babies:

- Muscle wasting in arms & legs
- Bloated tummy
- Irritability
- Failure to gain weight after previously growing well

If you think you or your child has Coeliac Disease, you should see your GP for advice and you may also wish to consult the Coeliac UK organisation on www.coeliac.org.uk for help and advice on a gluten free diet.

Extrinsic Allergic Alveolitis or hypersensitivity pneumonitis is an inflammation of the lung caused by repeated inhalation of organic antigens in dusts. Chronic conditions can lead to emphysema and permanent lung damage. Among the best known are Pneumoconiosis in miners and farmer's lung.

The most vulnerable:

- Miners
- Farmers
- Bird Fancier's
- Cheese makers
- Malt workers
- Chemical workers
- Mushroom growers

Acute symptoms usually start within 4-6 hours after exposure with a flu like fever, chest tightness, dry cough and associated malaise ranging from chills, headaches, aches & pains anorexia & tiredness.

The sub-acute or intermittent form is less severe with a gradual onset of a cough, breathlessness, fatigue & anorexia. It can present as repeated pneumonia.

The chronic form results in progressive breathlessness, weight loss, respiratory distress culminating in blood pressure problems and even heart failure.

Clearly, anyone who is in a high risk profession should consult the GP if any of these symptoms materialise. The illness can be managed but the most important action is to ensure that workers are not exposed to such particles in the first place. Today, there are strict Health & Safety Guidelines for workers in high risk professions and in this instance, they are essential and should be strictly adhered to.

Allergy Testing & Diagnostics

In the case of anaphylaxis, there is not much doubt as to the cause and effect. However, the majority of allergic reactions are not so dramatic and result in chronic long term illnesses.

There are innumerable technologies available for testing for food, chemical and environmental allergen sensitivities and intolerances. None of these tests are perfect but if they are done by qualified practitioners and reputable commercial companies, they can at least direct the allergy sufferer towards the cause. Coupled with a daily diary, a diagnosis should be possible.

The NHS allergy service is patchy and availability depends on where you live and the priority attributed to allergies by the local trust. This would be your first port of call but if it is not available then we would recommend using Allergy UK approved testing companies e.g. YorkTest. Dog testing may be provided by any veterinary surgery.

The main Allergy Tests Used and Strengths and Weaknesses:

Skin-prick test

This is the most common allergy test. It is reasonably accurate for environmental allergens – dustmite, dog, cat, other pet & pollen but opinions on its validity for food intolerances differ significantly.

A small needle is used to scratch the skin on the arm or the back and droplets of the suspected allergen are applied. The results are available almost immediately within 15 to 20 minutes.

The presence or absence of a red, itchy "wheal" determines positive or negative. The size of the wheal gives an indication of the level of sensitivity or intolerance and fades within 1 hour.

Blood Test

This involves taking a small sample of blood and measuring the amount of allergen specific immunoglobulin E antibodies (IgE) generated. This is used for testing intolerance to environmental and food allergies. It is generally regarded as safer than the skin prick test because the allergy sufferer is not directly exposed to the allergen. Results are graded from 0 – no reaction to 6 – strong positive. More than 400 different allergens can be tested this way.

IgE Rast can also be used to detect other allergens such as latex rubber, bee, wasp and even some antibiotics. It is not suitable for testing for sensitivity to food preservatives, food colouring or aspirin because they do not cause an IgE reaction.

In the past total IgE was measured as an allergy indicator but this is not accurate because total IgE may be raised by parasitic infection, eczema and other conditions. Some people have raised IgE even though they are not allergy sufferers.

This test needs to be allergen specific and is best interpreted by an expert who also has a record of your medical history. Your GP would obviously provide this to the NHS Specialist. Reputable private companies will ask you to complete a detailed questionnaire as well as provide you with the blood testing kit and carry out the laboratory test on the blood sample that you submit. This way, they can ensure that you receive the most appropriate test for you.

The tests are usually packaged for:

- Environmental – pet, pollen, mould and dustmite
- A variety of food groupings e.g. nut or seafood
- Children – cow's milk, hen's eggs, wheat, codfish, soy & peanut
- Specialist tests on request e.g. antibiotics, latex
- Coeliac package (IgA specific not IgE)

Blood tests for immunoglobulin G (IgG) is not generally recommended by The Royal College of Pathologists because it often implicates innocent foods such as milk, wheat and yeast and exclusion diets in infants have resulted in cases of serious malnutrition. Ig G has now been replaced by specific IgA or the CAST (Cellular allergen stimulation test) for testing non-IgE allergic reactions namely gluten (Coeliac disease) and for some of the causes of Urticaria or Hives.

Patch Tests

This is commonly used to detect delayed allergic reactions to chemicals:

- Nickel in jewellery
- Rubber or latex in dressings
- Chemical & preservatives in cosmetics, toiletries, perfumes, drugs and skin medications.

All Bio-Life products are repeat patch tested by chemically sensitive volunteers (including Mary Lloyd, the formulator at Bio-Life who has very sensitive skin).

Samples of known allergens are taped under an aluminium disc that is applied to the skin initially for 48 hours and subject to a satisfactory result, then repeated for a minimum of 6 weeks. The skin is graded for redness, irritability and any blistering.

Atopy patch testing or ATP is a similarly adapted form to detect delayed reactions to foods in children.

Although considered less reliable than skin prick testing, ATP does have advantages in identifying the longer term effects of foods or repeated exposure to skin formulations.

Allergen Challenge Testing

- Allergen provocation testing – is done in a controlled environment where inhaled allergens are introduced into a room and the extent of the allergic reaction is monitored
- Double blind placebo controlled food challenge is done by placing offending items in capsules and feeding it to the patient. Some patients known to be allergic receive only the broth (known as the placebo) and some receive the broth with capsule. Patients are not told which to avoid any psychosomatic responses.

Needless to say, this type of testing should only be done in a hospital environment under strict medical supervision because they are extremely dangerous to the individual sufferer.

There are many more tests and many are highly controversial. We would always recommend that you consult your GP, an Allergy Specialist or organisations such as Allergy UK and the Coeliac Society before embarking on any testing. If you have any questions whatsoever about the Bio-Life product range, CONTACT US using the on-line facility or call

the Allergy Helpline, (0044) 1608 686626, open 8 am to 8 pm, 7 days per week. WE DO NOT MIND HOW MANY QUESTIONS YOU ASK – we will do everything we can to help and re-direct you to an appropriate expert if we do not know the answer.