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## What is an allergic reaction?

Your body has a system designed to protect it from outside harm, called your immune system. The immune system works by identifying harmful substances such as germs, or poisons, and produces antibodies: specialist proteins that help white blood cells to 'fight' the harmful substance. However, sometimes your body can mistakenly identify a harmless substance, such as pollen, as a threat. It produces antibodies to try to fight off the threat, and it is these antibodies that produce side effects. Depending on the allergen, the side effects will differ. If the body is releasing the antibody histamine, side effects will include sneezing, swollen eyes and a runny nose. For skin allergies, symptoms include redness and dryness, or a rash.



#### **Causes of allergic reaction**

Although it is possible to have an allergic reaction to almost any substance, there are a few common allergies that many people suffer from. Dust mites are a big cause of allergic reaction. Dust mites live in house dust, often in bedding or soft furnishings, and it is their waste that the body reacts to. For this reason, it is advised to change pillows and bedding regularly to prevent build-up of this allergen. Pollen is another very common allergen, so common in fact that we see pollen count recorded in many weather reports. As the temperatures rise, more pollen is found in the air, especially in less urban areas. Tree pollen is especially problematic as it is high in the air, meaning that as it falls

it irritates those who are susceptible to it. Less common causes of allergic reaction include some prescription drugs or painkillers. Some people are allergic to antibiotics, and do not find out until they take the medication.

#### Symptoms and reactions

Symptoms of allergic reaction differ hugely. Some people only ever experience very mild symptoms – for example, sneezing when the pollen count is very high. Anaphylactic shock is the most severe reaction to an allergy and is rapid in onset. If untreated it can cause death, so it is very important that those with allergic reactions seek medical guidance in case they are in danger of reacting this severely.

#### Why does this happen?

It is not clearly understood why the body reacts in this way to certain harmless substances. There is a strong argument that genetics plays a part, as allergies often run in the family, and those born into families where parents suffer from allergies are more likely to suffer themselves. Although only one in five children are likely to develop an allergy in the UK, this risk is doubled if one or both of their parents suffer from an allergy themselves.

The hygiene hypothesis may also explain why allergies are increasing at a higher rate now than ever previously recorded. This hypothesis is the belief that the immune system needs to come into contact with a wide range of substances whilst still in its infancy, but that due to modern hygiene practice, young children are no longer exposed to allergens. Infrequent exposure to micro-organisms may lead to the immune system developing a tendency towards allergy.

There is also evidence to suggest that an allergy can develop later in life as a result of stress on the body. This could be due to an unrelated illness or a major life event, for example bereavement.

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## How to test for allergies

Allergy testing can be undertaken in many different ways, and it's hard to know which method of testing will work best for you without knowing a little more about your options. Visiting your GP can be a useful start but they may not always be able to help, and there are many other ways to test for allergies that may provide you with more information.

#### Skin prick testing

Skin prick testing is the most common allergy test performed in an allergy clinic by specially trained staff. It is a simple, safe and quick test, providing results within 15-20 minutes. This will enable you to receive a diagnosis and management plan at your appointment.

The skin prick test introduces a tiny amount of allergen into the skin, eliciting a small, localised allergic response, in the form of a wheal (bump) and flare (redness) at the site of testing. These tests can be carried out on all age groups, including babies.

- ✓ Skin prick testing is usually carried out on the inner forearm, but in some circumstances may be carried out on another part of the body, such as the back or thigh. For example, there is a larger area on the back or thigh to perform testing on a baby, similarly, for those with troublesome eczema. The test can be performed on any clear patch of skin
- ✓ The test allergens are selected following a discussion with your clinician and based on your history
- ✓ As few as 3 or 4 or up to about 25 allergens can be tested
- The skin is coded with a marker pen to identify the allergens to be tested
- ✓ A drop of the allergen (extract) solution is placed on the skin
- ✓ The skin is then pricked through the drop using the tip of a lancet – this can feel a little sharp but should not be painful and should not bleed.

The patient needs to avoid taking anti-histamines and certain other medications before the test. Long acting antihistamines (those that do not cause drowsiness) should be stopped for five days; short acting antihistamines can be stopped 48 hours beforehand. Many cough mixtures contain an antihistamine; therefore please tell your consultant who is performing the test, any medication that you have taken.



#### **Intradermal testing (ID)**

- ✓ Intradermal tests are used to investigate allergies to some medications e.g. penicillin and venoms of bee and wasp. The test involves a small injection of often diluted medications or venoms into the dermis of your skin.
- ✓ ID is carried out on the inner forearm
- ✓ The skin is coded with a marker pen to identify the medications/venoms to be tested.
- A drop amount of the medication/venom is injected into the skin
- √ The results are ready within 15-20 minutes
- In case of negative intradermal skin tests to medication, the consultant may suggest a challenge with a particular medication to rule out a possibility of an allergic reaction.

#### **Blood tests**

Blood tests measure the amount of Immunoglobulin E (IgE) antibody circulating in the blood. The test is carried out on a small sample of blood, usually taken from a vein in the arm in the usual way. The sample is then sent to a laboratory and the results are available in 7 to 14 days.

These tests are particularly useful when skin prick testing is impractical, for example, when the patient has extensive eczema. They may also be used for someone who cannot stop taking anti-histamine medications for any period of time, and so would not be suitable for a skin prick test. Blood tests can also be used to confirm skin prick test results. For example, before a food challenge test.

There are a number of different blood tests for IgE available:

Specific IgE (previously known as a RAST): this measures the amount of IgE to a specific food allergen, (a protein that can cause a reaction), such as a peanut or an egg. However, the test can give an elevated result without the patient having any symptoms (this is called "sensitisation"; it affects one-third of the population) and the elevated IgE is harmless. When an elevated result is seen in conjunction with symptoms to that allergen, we can term the condition an "allergy" and measures should be taken. Therefore, specific IgE testing should only be requested against an allergen against which the patient has complained of symptoms and random testing is not recommended.



✓ Component resolved IgE testing: also known as component resolved diagnosis (CRD) – this is a very recent development in specific IgE testing, whereby the laboratory can detect IgE to specific pieces of an allergen. Early evidence demonstrates that for some food allergens, such as peanut, a positive CRD to a particular part of the peanut protein may be more likely to indicate severe rather than mild allergy. Certain tests are therefore now available in specialist clinics using CRD methods.

#### **Challenge Testing (Provocation test)**

Like all medical tests, allergy tests have their drawbacks and are not perfect. Skin prick testing and blood tests are not always correct, so the only way to be certain that an allergy is present is to give the patient the food or medications in question under carefully controlled conditions. This is known as an allergy challenge.

The challenge test is usually offered for one of three reasons:

- This test may be used after skin prick and blood tests have suggested a food allergy but the results are inconclusive.
- This test may be offered when it is suspected that a person (often a child) has grown out of a particular food allergy, as is often the case with childhood allergies.
- 3. Challenge testing is the main test to establish allergy to medications. Blood tests and skin tests are often not reliable in case of drug allergy and the only way to rule out or confirm allergy to a particular drug is to receive it again in graded doses under supervision. The medication can be administered orally e.g. penicillin, subcutaneously (small injections into soft tissues on your upper arm) local anaesthetics, intravenously (into your vein), intramuscularly (into your muscles on your upper arm).

Challenge tests are always undertaken in hospital under close medical supervision where resuscitation equipment and emergency medication are available in case a severe reaction occurs. This is a precaution, but one that is taken very seriously by staff involved.

To check for a reaction, small amounts of the allergen are given to the patient at set times. Sometimes, a small amount is first placed on the lips (this is called a lip dose). If no reaction is seen some of the allergen-containing food is then eaten. Care is taken over the amount of allergen eaten, and the timings, so that any reactions can be monitored carefully.

Sometimes the food is disguised in a 'double-blind' trial so that neither the tester nor the patient knows whether it is the allergen or a placebo (a harmless substance) which is being eaten. In this way, reactions caused by the idea of eating a risky food, can be avoided.

If at any time there is a reaction, the challenge will be discontinued and appropriate avoidance advice will be given.



## How are they treated and can they be cured?

The science behind allergies is in some ways little understood. It is true to say that allergies can be cured but it's not entirely clear to scientists how the process works – and they can't be cured in every case. However, there are plenty of treatments available and new discoveries in allergy research are being made all the time. As with many ailments, sometimes it is a case of trial and error to see which treatment is best for an individual, and in some cases a combination of treatments will be used.

#### **Managing Your Allergy Involves Two Steps:**

- 1. Reducing the risk of an allergic reaction by avoiding the allergen, wherever possible.
- Medical treatments to reduce symptoms including medications and immunotherapy.

Avoiding allergens requires 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 mites in the house may help to reduce symptoms.

However, allergic reactions will still happen. Sometimes, this will be due to accidental consumption of the allergen (e.g. peanut). With many allergens, particularly those in the air or environment, it is impossible to stop allergen exposure altogether. Hopefully, avoidance techniques can improve symptoms, but medicines are often needed (especially with eczema, atopic asthma and hay fever) to provide symptom control.

Nonetheless, in almost all cases, a combination of these two approaches will result in significant improvement in allergic symptoms.

#### **Medication:**

#### **Antihistamine**

Most people with mild allergies find that taking antihistamine tablets when exposed to allergens will help. These can be taken on a daily basis and help to reduce the symptoms of allergens, such as sneezing, a runny nose and red, swollen eyes. Antihistamine works by stopping the histamine antibody from affecting the body's cells in the way it normally would, thereby countering the symptoms. Although taking antihistamine regularly is a good preventative measure, it deals with the symptoms of the allergy rather than working to cure it.

#### **Steroids**

For more serious allergies, steroids are sometimes prescribed to tackle the symptoms. Although steroids are used to treat a variety of medical conditions, they are a good option for many allergy sufferers. This is because some steroids, called corticosteroids, are nearly identical to cortisol. Cortisol is a natural hormone produced by the adrenal gland, and regulates immune response. Low doses of steroids are very safe to use, however those using steroids regularly will need to have regular check-ups.

#### **Emollients**

Emollient creams are generally used for skin conditions. In simple terms, they are creams which contain water and oil to keep the skin protected from allergens and lubricated to lessen the symptoms of eczema. They also keep the skin clean and free from breakages caused by scratching, which then open up the skin to the possibility of infection. These creams can also sometimes contain a small amount of steroid, known as topical steroid application.

#### **Adrenaline**

The use of adrenaline (epinephrine) as an emergency allergy treatment is well understood by doctors, and it has saved many lives. It is used to treat anaphylactic shock, where the sudden, high levels of histamine and other substances



released during an allergic reaction cause the patient to have difficulty breathing, and can also cause loss of consciousness.

Anaphylactic shock can occur immediately after contact with an allergen, or up to a few hours later. Adrenaline is a hormone produced by the body that decreases swelling associated with an allergic reaction, relieves asthma symptoms, eases breathing, tightens blood vessels and stimulates the heart.

Research has shown that the sooner adrenaline is given once an anaphylactic reaction has started, the better the health outcome for the patient. This makes rapid treatment of anaphylaxis possible, rather than having to wait for ambulances carrying the medication to arrive.

For this reason, people who are at risk of anaphylaxis are often prescribed adrenaline auto injector devices (for example, Epipen, Jext or Anapen) for use by themselves or others in an emergency. It is essential that these are always carried with the allergic individual and are available for use.

Adrenaline auto-injectors look like pens and are prescribed according to the weight of the patient. Most children will be given a junior injector, but larger children and teenagers will be prescribed the adult version. Whichever style or type of device is prescribed, the doctor prescribing it should arrange training on using it. If the doctor does not offer this, ask for it.

Once a dose of adrenaline has been given, an ambulance needs to be called and the patient should go to hospital so that any further reaction can be treated. It may be that another dose of adrenaline is needed before they can get to the hospital, and allergy sufferers who are at danger of anaphylaxis often carry two injectors for this reason. By the time they reach hospital, the patient may have a late phase reaction, for which the hospital can provide further treatment.

#### **Antibiotics**

The symptoms of some allergic conditions can increase the likelihood of localised infections. In particular, irritated skin caused by eczema can be vulnerable to infection, as can the nasal sinuses of people who suffer from hay fever or perennial rhinitis. For this reason it is important that infections are diagnosed and treated as soon as possible.

#### Other Medication

Cromoglicate works by blocking the responses of the cells that release the histamine during an allergic reaction, and can be a useful alternative to an anti-histamine in preventing allergic reactions. However, this treatment only works if taken before contact with the allergen, and it can take a number of weeks for the effects of the treatment to be seen. Cromoglycate is mostly used in eye drops, and is most beneficial in this treatment since anti-histamines do not always offer much relief from allergic eye symptoms.

Anti-Leukotrienes Leukotrienes are chemicals released by the immune system that cause swelling and secretion, and can cause allergy symptoms to persist. Anti-leukotrienes reduce inflammation and mucus production and work in a similar way to steroids, but with fewer side effects. These drugs have often been used as add-on treatments alongside treatments for asthma and allergic rhinitis. However, they are now being used more often as a first choice in treating asthma, especially in children.

Anti-IgE Drugs The IgE antibodies are the most common cause of the immune system reacting to an allergen and initiating an allergic response. New anti-IgE drugs are being developed, which aim to take the IgE antibodies out

of circulation. A number of studies have been conducted using anti-IgE drugs as an add-on treatment for people with severe allergic asthma. They showed that the anti-IgE medication could allow some people to reduce, and even stop, their inhaled steroid treatments. Anti-IgE drugs are now licensed for the treatment of severe asthma in adults and children over 12 in the UK, but there is still a lot of work to be done to find their place in the treatment of allergic disease.

Calcineurin Inhibitors Calcineurin inhibitors are a new treatment, currently available as two creams – Tacrolimus and Pimecrolimus (also known as Protopic and Elidel) – for use on children over the age of two. They work by reducing the sensitivity of the immune system when the skin comes into contact with an allergen. In this way they reduce inflammation, primarily in the case of atopic eczema, and can lessen itching and relieve rashes associated with allergic skin conditions.

These creams are suitable for use on almost every part of the body, and are often used when steroids have proved unsuccessful, or are not suitable, for example, on sensitive skin around the eyes. Emollients should continue to be used as well as these creams, but should not be applied within two hours of applying the cream.

Vaccinations should be avoided for a period before and after, and during, the course of this treatment.

A common side effect of these creams is a burning sensation on application, which generally settles down after a few days. These drugs are thought to be safe and extremely effective in the short-term, but their safety with long-term use has yet to be proven.



### **Immunotherapy**

Immunotherapy is a type of treatment for allergies that works by suppressing a specific immune response. It is a way of changing the body's immune system to help it to recognise harmless substances and learn not to respond negatively to them. This is known more specifically as suppression immunotherapy, and is the only available treatment for allergies that deals with the allergy itself rather than treating the symptoms, such as antihistamine or steroids.

Immunotherapy works by exposing the body to the allergen a miniscule amount at a time, allowing the body to slowly adjust and become less sensitive to it. This process is known as desensitisation. The treatment is administered by a course of injections, tablets or drops under the tongue over a period of one to three years by a doctor or allergist and is normally only used in very serious cases, especially if the patient is at risk of anaphylactic shock, or if they find it hard to live a normal life due to their allergies. It is not usually recommended for food allergies, although recently clinical trials have begun to try and develop immunotherapy for food allergies.

Another method of immunotherapy for allergies is known as 'rush' immunotherapy. This is normally delivered in hospital, as it involves a more rapid administration of the allergen over a shorter period of time. This is often appropriate for bee or wasp sting allergies, as speeding up the process means that the patient will be safer from another sting more quickly. This method can be just as effective as the slower method but due to the associated risks, care must be taken.

Patients considered for immunotherapy are normally those whose allergies are life-threatening. Immunotherapy does not work for everyone, and in some people will only improve symptoms rather than cure the allergy completely. It is most effective when started as early as possible, in children or as soon as the allergy has been diagnosed.

## Why use a private allergy clinic?

It is estimated that one in four people will suffer with allergies at some point in their lives, and allergic reactions continue to be a growing problem with ever more severe side-effects. For such a common and yet potentially life-threatening condition, it is not surprising that there are a number of clinics dedicated to dealing with treatment and allergies to all kinds of substances, including drugs, pollen and dust. Allergies are notoriously difficult to diagnose and the more specialist knowledge available the better a patient's chances are of getting a fast and accurate diagnosis. There are countless treatment options for those suffering with allergies, and talking to a professional in the field of allergy science can help to decide which of the treatments available would be best for an individual. The advantages of a private allergy clinic are outlined below.



#### **Expertise**

Private allergy clinics specialise in dealing purely with allergies. The consultants will be knowledgeable about all types of allergy. They will have details of the latest treatment options, have a good understanding of allergies in adults and children of all ages and will have detailed information about living with allergies and improving quality of life at the same time. They will have access to rapid testing and will often be able to provide you with test results on site.

#### **Experience**

Due to the number of allergies that a clinic will encounter, a practitioner will have had a vast amount of experience with allergies and will be good at spotting things that a GP may not be able to clearly recognise. Using a private allergy clinic provides you with peace of mind that your practitioner will see patients with allergies on a daily basis, and their specialist knowledge will assist them in diagnosing and treating your allergies.

#### Personalised treatment plans

Treatment for an allergy is not always straightforward. Different treatments will work for different people, which is why a private allergy clinic will usually provide a personalised treatment plan to ensure that the patient's specific needs are addressed. Sometimes, a few treatments will need to be tried before one can be established as successful at dealing with the allergy.

#### A holistic approach

Often, allergies can be caused by more than just a physical reaction to a substance. A private clinic will often look at the whole picture, taking into account changes in lifestyle or major life events.

#### **Excellent service**

The main benefit of visiting a private clinic is the excellent service provided by the facility as a whole. Private clinics are known for their dedication to the patient, their cleanliness, their facilities and their professional staff. The staff will have time to discuss your symptoms in detail before deciding the tests that would be most appropriate.

## **Food allergy**

There are many different kinds of food allergies – in fact; it is possible to be allergic to almost any kind of food. A food allergy is caused by your body mistakenly identifying a certain kind of food as a threat. One food allergy in particular that is very common is peanut allergy, but allergies to soya, eggs, milk and wheat are also prevalent. It can be hard to recognise whether you are suffering from food intolerance or from an allergy, because the symptoms can be similar. Food intolerance can occur when the body fails to produce a sufficient quantity of a particular enzyme needed to break down a food and aid digestion. For example if a person suffers wind and bloating every time they consume milk or milk products they may be suffering from lactose intolerance, a condition caused by lack of the lactose-digesting enzyme lactase. Allergy tends to be more serious and will usually respond to taking antihistamine, whereas food intolerance will not.

#### Symptoms of a food allergy

Symptoms of a food allergy will differ greatly depending on the severity of the allergy. If the allergy is mild, you may notice a slight burning or itching sensation in your throat when eating certain foods. It is possible to have a histamine reaction from a food allergy, which can include a runny nose, sore or itchy eyes, and a rash on the skin. A more serious allergy can lead to anaphylactic shock, where the throat can close up and make it very difficult to breathe. A shot of adrenaline e.g. Epipen will be administered in these cases to counteract the effects.



#### Treatments for food allergies

It can be hard to regularly treat a food allergy. Taking an antihistamine when you notice a reaction will help, as will avoiding eating certain types of foods and keeping an eye on food labels to check that food hasn't been in contact with allergens.

## **Drug allergy**

Drug allergies, like any other allergies, are caused by the body mistakenly recognising the drug taken as a threat to the immune system and producing antibodies to try to rid the body of the perceived threat. Common drug allergies include penicillin, other antibiotics, painkillers. It can be hard to diagnose a drug allergy, as you may not take the drug often. When you take a drug you have never taken before it is a good idea to keep an eye on your body to make sure you do not have an adverse reaction.

#### Symptoms of drug allergy

Symptoms of a drug allergy are normally a little different to other allergies. Whilst many allergic reactions will display themselves through a skin rash or the development of hives, itching, breathing problems or swelling, drug allergies are often also accompanied by vomiting and feeling dizzy or light headed. Keeping a diary of symptoms can be helpful if you suspect you may be allergic to a certain drug. It is important to keep your doctor informed of any suspected allergies to drugs, as they can be very serious. Like all allergies, they may worsen over time.

#### Treatments for drug allergies

Often there is no obvious treatment available for a drug allergy except to stop using the drug and try an alternative. Your doctor will be able to advise you on this. There are normally plenty of alternative medications available so it isn't always a problem. There are very few treatment programmes for drug allergies for this reason. However, in cases where the medication is essential, a desensitisation programme can be used. This involves a very slow, gradual introduction to the drug until the desired level

is reached and the body can tolerate it. Allergy to medications may resolve over years so it's worth undergoing a challenge test with a particular drug to see whether you are still allergic. Some patients mistake side effects of the medications for an allergic reaction which limits the treatment options or the co-existing infection can be responsible for the symptoms, not necessary the medication e.g. 90% of patients who report allergy to penicillin are not actually allergic to them.

## Venom allergy (bee and wasp)

Bee sting venom is an irritant, causing swelling and pain around the affected area in not just those with a venom allergy but anyone who is stung by a bee or wasp. However, the body can overreact to a sting, producing antibodies that have an adverse reaction to the immune system and the whole body. If you have reacted to a bee or wasp sting before, it is highly likely that you will react adversely if you are stung again.



#### Symptoms of venom allergies

Bee and wasp stings will affect anyone who is stung as they are irritants. However, if you are allergic to bee or wasp sting venom the reaction will be more pronounced and severe. A mild reaction is normally identified by pain at the sting site, a welt or mark where the sting entered the body, and a small area of swelling that disappears in a couple of days. A moderate reaction may include more serious swelling and a rash that spreads to other parts of the body

other than the affected area. If the swelling is pronounced for longer than a day or two it is likely that you have suffered from a moderate allergic reaction. A severe allergic reaction can result in anaphylactic shock. If you are a parent, you will be pleased to know that children are of a lesser risk of anaphylaxis than adults are, but if your child has a moderate reaction to a bee or wasp sting it is always advised to see a doctor to make sure that it is not serious. Anaphylaxis is life threatening as it can block the airways and so it is essential that if you suspect someone may be suffering with it you seek medical help immediately.

#### Treatments for venom allergies

For minor reactions, it is best to try and remove the sting as soon as possible. Only bee stings leave a stinger in the skin – wasp stings do not. Applying a cold compress can then help reduce swelling. For moderate or more serious reactions, contact your doctor for advice. You may benefit from having adrenaline pen and be referred for immunotherapy which is often a lifesaving treatment.

## Seasonal and perennial allergic rhinitis (hay fever)

Hay fever is caused by the body producing an inappropriate immune response to pollen, producing antibodies which try to 'fight' the pollen and result in unpleasant side effects such as a runny nose, dry and itchy eyes, sneezing and coughing, and skin irritation. It is prevalent during the summer months and in dry weather, where there is more pollen in the air. Often, tree pollen is the culprit as it will fall from higher in the air, but pollen from flowers and crops can also have the same effect. The higher the pollen count, the more severe the symptoms can be. Hay fever can also make the symptoms of asthma worse and vice versa.

#### Symptoms of hay fever

Most people will be able to recognise the most common symptoms of hay fever. Feeling tired and lethargic, coupled with irritated nose and throat symptoms, dry and itchy eyes and itchy skin are the most common, but other symptoms include feeling sick, finding it hard to breathe normally, loss of sense of smell, pain in the face caused by blocked sinuses, headaches and earache.

#### Treatments for hay fever

Because hay fever is so common, there are many treatment options available. Many people find that taking antihistamine quickly relieves their symptoms. Taking it preventatively every day also means that you are protected even before you go outside, so symptoms are lessened. You can also administer nose and throat sprays, which may include steroids or antihistamines. These help to relieve localised symptoms such as itchy eyes, a runny nose and sneezing or coughing. If your symptoms are more severe, you can take steroid tablets, though these are not recommended as a long-term solution. Eye drops can be used if you are suffering with sore or itchy eyes. Although most cases of hay fever can be treated with over-the-counter medication, if you feel that you have particularly severe symptoms or the medications you have tried aren't working sufficiently then it is best to discuss further treatment options with your doctor.

#### **Asthma**

It is not definitively known what causes asthma, but it is likely to be a combination of factors. There is some evidence to suggest that asthma is a genetic condition, with children whose parents suffer from asthma being more likely to develop asthma themselves. Exposure to irritants such as cigarette smoke and air pollution are likely to contribute to asthma and are certainly irritants, though there is little evidence to suggest that they are the cause. The hygiene hypothesis, the suggestion that being in a very clean environment growing up can lead to a lack of exposure to certain substances, may also be a factor in the development of asthma.

#### Symptoms of asthma

Asthma is a potentially serious condition, though many people only experience mild symptoms. The most common symptoms include wheezing (a 'whistling' sound when you breathe), a feeling of tightness in the chest, shortness of breath and coughing. These symptoms are often worse at night and early in the morning, in the cold, or when exercising. Sometimes asthma can be triggered by exposure to an allergen, such as pollen. Another key symptom is what is known as an asthma attack, or 'acute asthma exacerbation.' This is when asthma symptoms become unmanageable and the patient experiences shortness of breath, fast breathing and a fast heartbeat, and being unable to eat, drink or sleep.



#### Treatments for asthma

The most common treatment for asthma is the use of inhalers, devices that deliver drugs directly to the lungs as the patient breathes in. These may contain steroids or other medication specific to the type and severity of the asthma. There are two main types of inhaler – preventer inhalers that are usually administered daily or regularly to prevent symptoms, and reliever inhalers that are taken when the patient is feeling short of breath or struggling with other symptoms. Other types of treatment for asthma include theophyllines, preventer tablets that help to stop the swelling of the airways, and steroid tablets for when other medications are not working sufficiently. A new drug called Xolair works by binding to the protein involved in the immune response, reducing its level in the blood. For more information on any of these treatments, discuss them with your Doctor.

## Urticaria (hives and nettle rash)

Urticaria is the swelling of the skin due to histamine or other chemicals released from under the skin's surface. This reaction can be short term or long term. Short term triggers include food allergies (for example to peanuts or shellfish), a reaction to pollen or other environmental allergens, infections, insect bites or stings and emotional stress. Some medications can also produce urticaria as a side effect. Long term urticaria is often more serious, and occurs when the body attacks its own tissues, known as an autoimmune response. The third kind of urticaria is known as chronic urticaria, which comes and goes. Some people find that it is triggered by certain foods or environments. Common triggers include stress, alcohol, caffeine, warm temperatures, prolonged pressure on the skin (for example wearing tight clothing) medications, insect bites and stings, and exposure to heat, cold or water.

#### Symptoms of urticaria

Urticaria is most obviously recognised by a red, raised and itchy rash. The rash is made up of marks on the skin which can vary in size from a few millimetres to ten or so centimetres. These marks are usually raised and are also known as weals or hives. They are also itchy. The marks can appear all across the body, or in just one area. They can last a few hours before they fade, but when they do the skin will return to normal. The symptoms are normally temporary and will be most severe after 8 to 12 hours. But it will usually completely clear up within 24 hours. The pattern of symptoms in those who suffer from chronic urticaria can be unpredictable, with around half of people suffering with the condition having outbreaks of symptoms lasting 6-12 weeks, followed by a period of remission where the symptoms improve or disappear completely.

#### Treatments for urticaria

Urticaria usually does not need any treatment, as symptoms are usually mild and will clear up after two or three days. However, some people will suffer with more persistent symptoms, and if you find that they are not clearing up by themselves then over the counter antihistamine medication will help.

### **Anaphylaxis**

Anaphylaxis is a severe and in some cases life-threatening allergic reaction that develops rapidly in response to an allergen. It is caused by an overreaction of the immune system. Any allergic reaction can lead to anaphylaxis, though it is not common. For this reason, it is important to seek medical attention as they may be able to help with preventative measures such as immunotherapy to avoid a similar reaction in the future.

#### Symptoms of anaphylaxis

The most important and obvious symptom of anaphylactic shock is difficulty breathing. Anyone struggling to breathe will require medical attention and it is very important to seek this as quickly as possible. There are a number of other common symptoms that occur alongside or before difficulty breathing. These include a weak and rapid pulse, swelling of the throat, tongue and sometimes mouth, skin reactions including hives and flushed or pale skin, nausea, vomiting or diarrhea, dizziness or fainting and loss of consciousness.



#### **Treatments for anaphylaxis**

If you suspect that someone is suffering from anaphylactic shock, call an ambulance immediately and use an adrenaline injector or Epipen if one is available. Removing any obvious sting in the skin will also help. The patient will need to go to hospital even if they receive adrenaline, as they may need oxygen and to be kept under observation to make sure the symptoms do not return. For a short period of days afterwards, the patient will need to take antihistamine or similar drugs to prevent the symptoms from reoccurring.

#### References

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