

Your quick guide to: Anaphylaxis and Severe Allergic Reactions

This Factsheet has been written to provide information on severe allergic reactions which have an immediate or rapid type onset (also called anaphylaxis, pronounced – ana-fill-axis).

It aims to provide an understanding of what anaphylaxis is, highlight the common causes, how to recognise the different types of symptoms and what to do when such a severe allergic reaction happens. The words anaphylaxis and severe allergic reaction will be used interchangeably throughout.

What is anaphylaxis?

Anaphylaxis is a severe and potentially life-threatening allergic reaction. It should always be treated as a medical emergency. Symptoms need to be recognised early and treated quickly with the medicine 'adrenaline'. An ambulance should always be called for a person having anaphylaxis and the operator informed that it is anaphylaxis.

What causes anaphylaxis?

Certain substances can trigger this severe rapid onset allergic reaction. These are called allergens and include:

- Foods (e.g. cow's milk, eggs, peanuts, tree nuts, fish, and shellfish). These are the most common food culprits, but several other foods have the potential to cause anaphylaxis.
- Insect venom (e.g. bee and wasp stings)
- Medications (e.g. antibiotics, aspirin, anaesthetic drugs and chlorhexidine)
- Latex (e.g. latex gloves, balloons and condoms)
- Sometimes there is no known cause for an anaphylactic reaction. This is called idiopathic anaphylaxis.

What happens in severe allergic reactions?

- Following the body coming in contact (e.g. by ingestion, skin contact, a sting, or injection) with one of these allergens – the Immune System may mistakenly recognise the allergen as harmful and make specific antibodies against this allergen and can be

measured in the blood (called specific IgE)

- The next time the body meets that particular allergen the Immune System now has the potential for these specific IgE antibodies to recognise it and essentially 'attack' it. In so doing, the beginning of an allergic reaction is set off
- Chemicals (e.g. histamine) are first released by the Immune System
- These then cause allergic signs to develop rapidly – usually within minutes but often an hour or two later, although often there are some symptoms that have started to happen before this time that might then rapidly progress to anaphylaxis, so do not ignore them. Understanding anaphylaxis
- Most rapid onset reactions will only cause mild to moderate symptoms
- However, a more severe reaction (anaphylaxis) can occur and cannot easily be predicted
- Whilst such a severe reaction is potentially life-threatening – deaths are rare.

Symptoms of a mild to moderate allergic reaction include one or more of the following:

- Rash / hives (red raised, itchy bumps)
- Swelling of the lips, eyes or face
- Itchy or tingling mouth
- Stomach pain, nausea, vomiting
- In the case of sting or bites, localised swelling at sting site

Symptoms of a severe allergic reaction (anaphylaxis) include one or more of the following:

Airway:

- Swollen tongue
- Difficulty swallowing/speaking
- Throat tightness
- Change in voice (Hoarse or croaky sounds)

Key facts:

Anaphylaxis is a severe and potentially **life threatening allergic reaction**. It should always be treated as a medical emergency

Adrenaline is the emergency medicine used to treat a severe allergic reaction. It works quickly to reverse the symptoms of anaphylaxis

For people with both **asthma** and a **food, drug, venom or latex** allergy there is a greater risk of a more severe allergic reaction.

Allergy UK Helpline

Mon-Fri, 9am-5pm:

Call: 01322 619 898

Email: info@allergyuk.org

Visit us at:

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Breathing:

- Difficult or noisy breathing
- Chest tightness
- Persistent cough
- Wheeze (whistling noise due to a narrowed airway)

Circulation:

- Feeling dizzy or faint
- Collapse
- In babies and young children this may look like the sudden onset of paleness and floppiness
- Loss of consciousness (unresponsive)

Recognising the symptoms of anaphylaxis

Most rapid onset allergic reactions present with mild to moderate symptoms and will usually settle in a short time. The most common symptoms are those which affect the skin as mentioned above. An oral antihistamine can further help this. However, it is wise for the person to watch for signs symptoms carefully in case any of the more severe symptoms suggesting anaphylaxis (also see above) should begin to develop. The emergency management that will be then needed is described below.

What can make an allergic reaction more likely to be severe (anaphylaxis)

- Having had a previous severe allergic reaction or reactions
- Having a history of asthma, especially if this is not well controlled – see further advice below
- The greater the dose/amount of allergen exposed to – the greater the risk of a severe reaction
- How the exposure happens: e.g.
- Higher risk – a food being ingested, a sting, or a medicine being given by injection
- Lower risk – food particles being inhaled or touching the skin, a medicine taken by mouth

- In some people – exercise just before or after eating certain foods
- (More rarely in some people – exercise alone can cause a severe reaction which is called exercise induced anaphylaxis)
- Sometimes some people on certain regular medications can be at higher risk – your doctor should advise on this
- Flying
- Travelling abroad
- Consuming alcohol
- Stress and emotional upset
- Being unwell with an infection/high temperature
- Hormones

Asthma and anaphylaxis

For people with both asthma and a food, drug, venom or latex allergy there is a greater risk of a more severe allergic reaction. This risk can be reduced by having good asthma control and knowing your asthma triggers, avoiding these and knowing how and when to take your asthma medication. If asthma and signs of a severe allergic reaction occur at the same time, adrenaline should always be given first and the asthma relief inhaler afterwards.

Treatment for a severe allergic reaction

Adrenaline is the emergency medicine used to treat a severe allergic reaction. It works quickly to reverse the symptoms of anaphylaxis by:

- Helping to reduce swelling
- Opening the airway
- Improving the blood pressure

Adrenaline auto-injector devices (more commonly known as Epi-pen and Jext) all contain the medicine adrenaline, which is given by intramuscular injection (into the muscle) into the middle of the outer thigh (upper leg). The dose of this medicine will vary depending on whether

it is for a younger child or an older child/adult. Adrenaline auto-injector devices are prescribed by a doctor for those at risk of a severe reaction based on an individual need assessment carried out by the doctor. They are designed to be user-friendly and to be used by anyone. However, you should be shown how to use your device by a healthcare professional (e.g. doctor, nurse and/or pharmacist).

For more information on adrenaline auto injector devices please see our factsheet on Adrenaline auto-injectors. It is important to know that antihistamines should never be taken instead of adrenaline in a severe allergic reaction.

A new administration route called EURneffy for the management of anaphylaxis has been approved for use in the UK. This is a nasal spray device that delivers the medicine adrenaline into the nose where it is absorbed. It comes in a 2mg dose and is approved for use in people who weigh 30kg or more. There is current research to look at whether this treatment is safe and effective for people who weigh less than 30kg. Just like the advice for those who have adrenaline auto injector devices it is important to have two devices available.

How quickly this treatment option becomes available to patients will depend on several factors. If you think that this treatment option may be suitable, please discuss suitability with your GP or allergy doctor.

[Allergy UK has put together some FAQ's so you can find out more information on this.](#)

Action:

- Give adrenaline – WITHOUT DELAY – if an adrenaline auto-injector is available
- Call an ambulance (999) and tell the operator it is anaphylaxis
- Position is important – lie the person flat with legs raised (or sit them up if having breathing problems)
- Avoid standing or moving the person having the allergic reaction
- Stay with the person until medical help

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arrives

- If the first dose of adrenaline given has not helped improve symptoms after 5 minutes, if available, another dose of adrenaline can be given in a different part of the body.
- A person who has a severe allergic reaction and/ or is given adrenaline should always be taken to hospital for further observation and treatment
- Sometimes anaphylaxis can re-occur after the first episode has been treated and appeared to have settled. This is called bi-phasic anaphylaxis and can occur within hours of the first reaction, sometimes up to 72 hours after.

for autoinjector renewals

8. Ask your doctor to provide you with an Allergy Action Plan (a written set of instructions including medication and dose) – especially useful for schools and childcare
9. If asthma present, ensure it is well controlled, and preferably use a spacer device with the inhaler
10. Consider contacting patient support organisations like www.allergyuk.org for further information and advice

10-point checklist for anaphylaxis management

1. Know your triggers and how to avoid them
2. Know what to do when accidental exposure happens
3. Be able to recognise the symptoms of an allergic reaction
4. Always carry or have available your recommended allergy medication
5. Know how to use your adrenaline auto-injector (practice with a trainer device)
6. Show family, friends, work colleagues how to use your auto-adrenaline device
7. Check expiry dates, and set reminders

Clinical contributions:

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