

BSACI

Improving Allergy Care through education, training and research

Anaphylaxis

What is anaphylaxis?

Anaphylaxis is a severe and potentially life-threatening allergic reaction which is triggered when the immune system overreacts to a usually harmless substance (allergen). Anaphylaxis is a medical emergency requiring immediate treatment and urgent hospital emergency department (ED) attendance. It responds well to treatment with adrenaline (see below). However, if it is not treated promptly and effectively, it can be fatal.

How common is anaphylaxis?

Approximately 3 in 1000 people within the general population in Europe will experience anaphylaxis during their lifetime. Each year 10-20 deaths from anaphylaxis are reported in the UK.

The 4 commonest causes of anaphylaxis are:

- **Foods:** such as peanuts, tree nuts, and milk.
- **wasp or bee stings**
- **Medicines** (such as antibiotics)
- **Idiopathic** where the reaction appears to occur spontaneously, and no external trigger can be identified.

Infrequent causes include natural latex (rubber), and exercise— either on its own or in combination with other factors such as food or medicines.

Who is likely to have anaphylaxis?

Most people with an allergy will not experience anaphylaxis. Those with poorly

controlled asthma or who have had anaphylaxis before are at a higher risk. Allergic reactions can be more severe if they also involve exercise, alcohol, emotional distress and certain medications.

What are the symptoms of anaphylaxis?

Symptoms typically appear within minutes of exposure to a trigger substance and usually progress rapidly. Very occasionally, symptoms may occur up to a few hours after exposure.

Symptoms can include:

- **AIRWAY:** persistent cough, hoarse voice, difficulty swallowing, swollen tongue
- **BREATHING:** difficult or noisy breathing, wheeze, or persistent cough
- **CONSCIOUSNESS:** dizziness, light-headedness, collapse, or loss of consciousness

These severe symptoms may occur alongside milder symptoms, such as:

- Stomach pain, vomiting and diarrhea.
- Swelling of the face, lips and/or eyes
- Skin hives or welts.

Anaphylaxis can occur in the absence of a rash.

What treatments are available?

Adrenaline auto-injectors (AAIs) are prescribed for people at risk of anaphylaxis. Epinephrine is the international name for adrenaline. There are three brands of AAI licensed in the UK – EpiPen, Jext and Emerade.

The UK's Medicines and Healthcare Products Regulatory Agency (MHRA) and the National Institute for Health and Care Excellence (NICE) recommend that medical professionals prescribe two AAIs, to be carried at all times in case one is broken or misfires, or a second injection is needed before emergency help arrives. Each device injects a single dose of adrenaline into the muscle to treat anaphylaxis. Adrenaline starts to relieve symptoms within minutes.

The technique of administration varies with the device so training is required if a different device has been prescribed. Auto-injectors should be registered on the manufacturer's website so that expiry alerts can be received.

Auto-injectors have a short shelf life and so the expiry date should be checked and a repeat prescription for a replacement from the GP should be organized when required. Trainer pens are available for free: <http://www.epipen.co.uk>, <http://www.jext.co.uk> <https://www.emerade.com/>

Everyone who carries an auto-injector should also have a personalized anaphylaxis action plan from a relevant health care professional. This should be kept with the in-date adrenaline auto-injectors. Allergy action plans can also be found on the BSACI website at:

[Allergy Action Plans - BSACI](#)

Common myths

'Anaphylaxis often results in death'

– anaphylaxis is life-threatening, but death is rare.

'Adrenaline is dangerous'

– Adrenaline given into outer mid-thigh muscle is a safe and effective treatment for anaphylaxis.

'There is no rash, hives or swelling so it can't be anaphylaxis'

– skin symptoms can be absent in up to 10% of anaphylaxis cases.

'The next time you react it will be more severe'

– symptoms are not more severe in subsequent reactions.

'Anaphylaxis to one trigger (e.g. food) automatically means that reactions to another trigger (e.g. a different food) will also involve anaphylaxis'

– this is not true, people can have mild reactions to some triggers and more severe reactions to others.