

Insect sting allergy – the facts



Anyone stung by a bee or wasp is likely to suffer a painful swelling at the site of the sting. For most people, the sting is not dangerous.

Some people also experience an allergic reaction to the venom. For most of these people, the allergic reaction is mild resulting in increased swelling at the site of the sting. But for a small minority, an allergic reaction to an insect sting can be systemic – meaning it affects parts of the body away from the site of the sting.

Systemic allergic reactions are sometimes severe and potentially life-threatening – a condition known as anaphylaxis. If you are in this category, you may find the prospect of being stung very frightening but be assured there are steps you can take to reduce the risk. This includes getting medical advice, carrying prescribed medication at all times, and taking precautions to avoid being stung.

This factsheet aims to answer some of the questions you may have if your allergy to insect stings is systemic and severe.

Who is at risk?

Anyone can become allergic to an insect sting. People who have other allergies, such as hay fever or food allergies, are not at increased risk of having a severe allergic reaction to an insect sting.

You are more at risk of severe allergic reactions to insect stings if you have frequent or multiple stings. Beekeepers and people with a rare condition called mastocytosis are more at risk of having severe sting reactions.

What are the symptoms?

The symptoms of a severe systemic allergic reaction to an insect sting may include:

- swelling in the throat and/or mouth
- difficulty breathing
- severe wheezing
- feeling faint, dizzy, or very sleepy
- itching and swelling away from the site of the sting

- severe abdominal (stomach) pain

The term for this more serious form of allergic reaction is anaphylaxis. There could be a dramatic fall in blood pressure and the person may become weak and floppy. This may lead to collapse and loss of consciousness.

Most healthcare professionals consider an allergic reaction to be anaphylaxis when it involves difficulty in breathing or affects the heart rhythm or blood pressure. Read our Anaphylaxis factsheet for further information:

<https://www.anaphylaxis.org.uk/fact-sheet/anaphylaxis-the-facts/>

How can I get a diagnosis?

Anyone who has previously experienced symptoms away from the site of the sting – such as those listed above – should see their GP and ask for a referral to an allergy clinic. Your GP can locate an allergy clinic by visiting the website of the British Society for Allergy and Clinical Immunology (BSACI):

<https://www.bsaci.org/find-a-clinic/index.htm>

People who have large reactions at the site of the sting, with swelling of more than 10 centimetres, typically increasing over 24 to 48 hours, will usually have similar reactions if stung again. Such people have a slightly increased risk of a future systemic reaction. Anyone who has suffered a large local reaction like this should see their GP. Most people will not need to be referred to an allergy clinic. However, those at increased risk of future stings, such as beekeepers, may benefit from a referral to see an allergy specialist.

If you are at all worried about your insect sting allergy, a visit to your GP is advisable.

How is an allergic reaction treated?

A small allergic reaction at the site of the sting, however painful, will usually respond to antihistamine medicine and the use of a cold compress.

A severe systemic allergic reaction (anaphylaxis) requires an urgent injection of adrenaline. If you are at risk of anaphylaxis, you will be prescribed your own pre-loaded adrenaline auto-injectors (AAIs).

You should carry two AAIs with you at all times and know how and when to use them. An AAI should be used as soon as anaphylaxis is suspected.

After an adrenaline injection is given, someone must dial 999 immediately, as symptoms may return after a short period and more than one injection may be required. The emergency service operator must be told the person is suffering from anaphylaxis (pronounced ana-fill-axis).

Read our Adrenaline factsheet for further information about adrenaline and AAIs.

<https://www.anaphylaxis.org.uk/fact-sheet/adrenaline/>

Avoiding insect stings

If you are allergic to insect stings, you should take steps to minimise risk. Here are some ideas:

- Avoid walking around in bare feet or sandals when outdoors.
- Avoid using strong perfumes during the summer. Products such as hairsprays and other cosmetics may contain strong perfumes. These attract stinging insects.
- If possible, keep your arms and legs covered.
- If a bee or wasp comes near you, don't try and swat it. Move away slowly and calmly. If it lands on you, try not to panic. Keep calm and be patient. The insect will usually fly away after a few seconds. Make sure you leave no crumbs or drink on your face, which will attract insects.
- If you find a nest of wasps or bees in your house or garden, telephone the local authority or a insect expert to come and remove the nest. Do not try to do this yourself.
- If you are planning to eat outside, check to find an area where there are no wasps or bees before you start eating. It is better to bring your picnic inside than to risk being stung.
- Food attracts insects. When outside, avoid open rubbish bins and keep food covered. Always look at what you are eating before you take a bite or a sip of a drink as wasps will slip into food and even into open drink cans. Boxed drinks with a straw may be safer but check the straw.

Types of insects

The insects that cause most systemic allergic reactions in the UK are wasps and honeybees. People are not usually allergic to both bees and wasps, although allergy tests can be positive for both. In the UK, systemic reactions are also possible to bumble bees and to hornets. Elsewhere in the world, other species of bees, wasps, ants and other insects can cause allergic reactions. Allergy tests will

help to identify which type of stinging insect you are allergic to. But they will not be able to predict the severity of any future reaction.

Bees: The bee leaves its stinger (with venom sac attached) in the skin. Because it takes a few minutes for all the venom to be injected, quick removal of the stinger is important. Avoid squeezing the venom sac as this will only inject more venom. The sac should be flicked upwards with one quick scrape of the fingernail or a credit card. This will reduce but not eliminate the risk of a serious reaction.

Beekeepers should take special care. They must always wear protective clothing when collecting swarms or honey. In our view any beekeeper who is known to be at risk of suffering a severe, systemic allergic reaction to bee venom should seek medical advice on how they may safely continue beekeeping.

Wasps: Wasps are often aggressive, especially towards the end of the season (late summer and autumn) when they turn to eating any decomposing foods. From autumn until the end of the year, sleepy wasps can still be found and are then perfectly still and not buzzing, so it is much easier to accidentally touch or step on one. Queen wasps hibernate over winter and may choose your bed, curtains, gloves or boots, or tuck themselves into a stack of plant pots in the greenhouse. A wasp does not leave its sting in the skin – it can sting many times.

Hornets: Hornets in the UK are larger than a standard wasp. They are brown/orange in colour and often much noisier too, with a loud buzzing sound. Despite their rather threatening size they are not as aggressive as wasps. But, when they do sting, the volume of venom usually makes the stings particularly painful.

Immunotherapy treatment

Your GP or allergy specialist may decide you are a suitable candidate for immunotherapy (also known as desensitisation). Immunotherapy is available at a number of specialist centres in the UK, but your need for such treatment must be assessed at an allergy clinic.

The treatment consists of a course of injections of insect venom. It starts at very low doses and rises over an agreed period of time to reach a safe level of venom – usually 100 micrograms. This is the sort of dose you might encounter with multiple stings.

Immunotherapy treatment requires a considerable amount of time and has two phases – known as

“initial” (or “up-dosing”) and “maintenance”. The initial phase lasts for about 12 weeks, during which the very low starting dose is slowly increased to reach the required maintenance levels. Once this has been achieved you may be asked to return every month for injections. This may last for up to three years. Some centres may have different treatment schedules.

Anyone receiving immunotherapy has to remain in the allergy clinic for a period of time after the treatment in case they suffer an allergic reaction. The risk of a severe reaction is low, and most patients successfully complete the course.

Key messages

- Most allergic reactions to insect stings are mild.
- In a small number of people, insect stings can be life-threatening.
- Anyone who has suffered a systemic allergic reaction to a sting should see their GP and ask for a referral to an allergy specialist. Swelling at the site of the sting is unlikely to be a cause for concern – but if you are at all worried, see your GP.
- If adrenaline auto-injectors are prescribed, they should be carried with you everywhere, at all times.
- Desensitisation may be offered as an immunotherapy treatment in certain cases.

Feedback

Please help us to improve our information resources by sending us your feedback at: -

<https://www.anaphylaxis.org.uk/information-resources-feedback/>

Sources

All the information we produce is evidence based or follows expert opinion and is checked by our clinical and research reviewers. If you wish to know the sources we used in producing any of our information products, please contact info@anaphylaxis.org.uk and we will gladly supply details

Reviewers

The content of this factsheet has been peer-reviewed by Dr Mich Lajeunesse, Consultant in Paediatric Allergy, Southampton Children’s Hospital and Dr Cherry Alviani, Southampton Children’s Hospital.

Disclosures

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Disclaimer

The information provided in this factsheet is given in good faith. Every effort is taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About Anaphylaxis UK

Anaphylaxis UK is the only UK-wide charity solely focused on supporting people at risk of serious, life-threatening allergic reactions. We provide information and support to people living with allergies through our free national helpline and local support groups. We also campaign and fundraise to achieve our ultimate aim, to create a safer environment for all people at risk of serious allergies. Visit our website www.anaphylaxis.org.uk and follow us to keep up-to-date with our latest news. We're on Facebook @anaphylaxixUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK and YouTube.