



ANAPHYLAXIS - WHAT IS IT & HOW AND WHEN TO ADMINISTER AN EPIPEN

In the last couple of years I have encountered a very small number of beekeepers who have developed a life threatening allergy to bee stings which is known as Anaphylaxis. Some have had to give up beekeeping but others don't want to and are prepared to operate as carefully as possible and carry an EpiPen which can be administered quickly should they be stung and start to show the signs of anaphylaxis.

This article is not meant to alarm you. Indeed only a very small proportion of beekeepers will ever become anaphylactic. It is more about helping other people should you find yourself in a situation with someone who has an anaphylactic reaction. I wanted to learn more about it and how I could help should I find myself in an apiary with a beekeeper going into anaphylactic shock and I thought there may be others who might feel the same, hence me sharing this information with you. I am very grateful to one of our Tavistock GPs, Dr Sam Herbert, who kindly checked what I have written and has added some comments you will see further on.

There are 3 parts to this article;

1. What is Anaphylaxis? Symptoms of anaphylaxis and also normal and medium reactions.
2. How to deal with each type of reaction should it arise and how to administer an EpiPen if needed. (Includes a link to a short video).
3. An interview with beekeeper, Jo O'Driscoll, who has developed anaphylaxis, how she realised her reactions were becoming serious and how she is dealing with it.



1. WHAT IS ANAPHYLAXIS? (anna-fill-axis)

Anaphylaxis is serious and can be a potentially life-threatening type of allergic reaction. Symptoms can start within seconds or minutes of exposure to the substance you are allergic to, called allergy 'trigger' or 'allergen'.

It is the result of your body's immune system overreacting to a harmless substance, such as certain types of food. The body reacts and releases chemicals to protect itself. This potentially life-threatening allergic reaction produces symptoms in more than one body system such as the airways, heart, circulation, gut and skin. In this article we are concerned with a reaction to honeybee stings.

SYMPTOMS OF ANAPHYLAXIS (SEVERE ALLERGIC REACTION);

- Difficulty/noisy breathing
- Swelling of throat and mouth
- Difficulty in swallowing and/or speaking
- Wheezing or persistent cough
- Loss of consciousness and/or collapse
- Pale and floppy (young children)
- Feeling light headed, faint or confused
- Fast heartbeat
- Confusion and anxiety, 'sense of dread'
- Blue skin or lips

Note this is not a full list of symptoms (source EpiPen)

MILD/MODERATE ALLERGIC REACTION;

- Red raised itchy rash
- Swelling of face/lips/eyes
- Abdominal pain, nausea and/or vomiting
- Stomach ache
- Tingling mouth

Note this is not a full list of symptoms (source EpiPen)

'COMMON/NORMAL' REACTION;

- Initial pain of the sting, reddening of skin and swelling in the localised area of the sting.
- In next 24 hours localised itching.
- Usually gone in 2 - 3 days.

2. HOW TO DEAL WITH EACH SITUATION - Helping others and yourself

In all cases move away from the apiary and quickly remove the sting scraping it sideways. Do not grab the sting from above as squeezing it will only force more venom from the sac into your body. You might have time to smoke the area to dissipate the pheromone which attracts more bees to sting.

'Normal' Symptoms;

If you have a 'normal' reaction and feel fine, you can wash your hands/gloves or smoke the area stung and continue with your work. You may wish to take antihistamine. If you have a lot of stings on a suit and can change into a spare clean one that might stop the bees showing an 'interest' in attacking you.

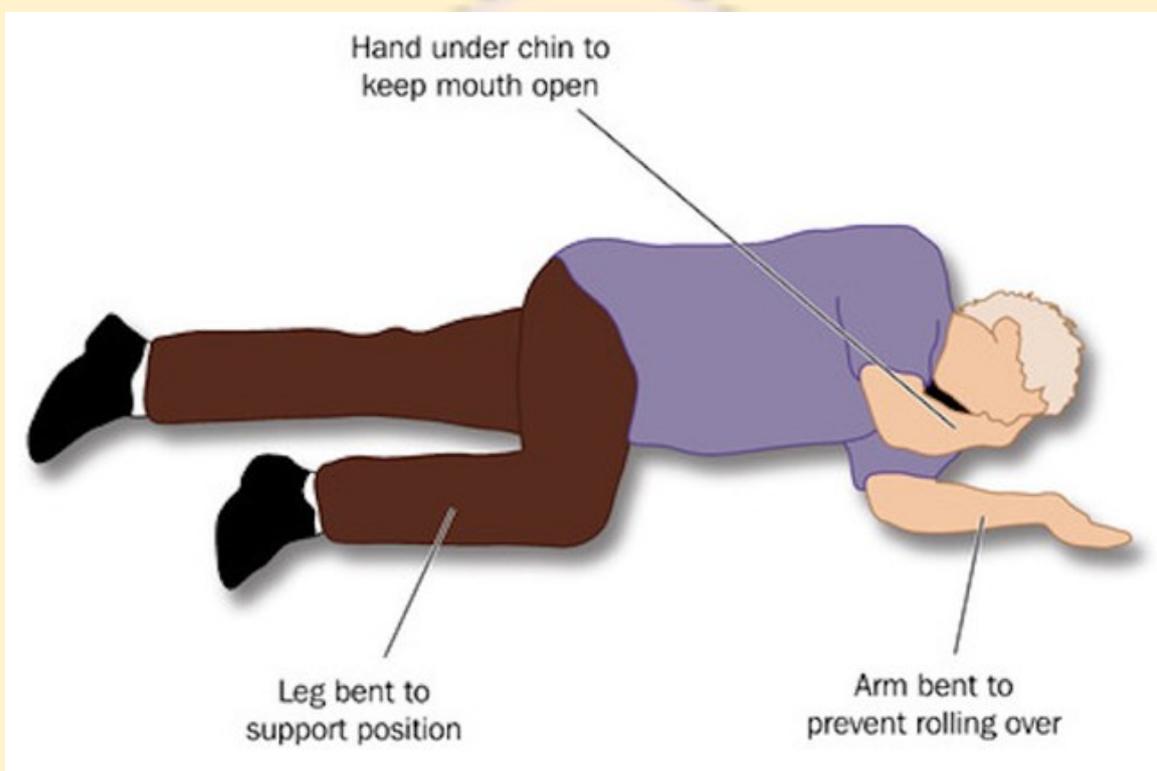
Mild/Moderate Reaction;

- Keep away from the apiary
- Sit or lie down
- Take an antihistamine
- If necessary call 111 for medical advice
- Watch out for worsening symptoms and call 999 if necessary
- You may wish to consult your Doctor if every time you get stung the symptoms get worse.
- If you anaphylactic and already have an EpiPen keep it ready to use.



Severe Allergic Reaction (Anaphylaxis)

- If able, an anaphylactic can apply the EpiPen themselves. Help them call 999 and immediately state 'anaphylaxis'.
- If they unable to and you have spoken about it locate and inject their EpiPen immediately and call 999 and state 'anaphylaxis'. You will be fast tracked. If they don't have an EpiPen still call 999 as above and continue as below.
- Lie the person down flat unless they are unconscious, pregnant (lie on the left side) or having breathing difficulties
- If they pass out place in the recovery position. (see the following diagram)
- If they stop breathing/heart stops, carry out CPR.



- If symptoms don't improve you can administer a second EpiPen after 5-15 minutes (2 are usually carried in case) Note the times the EpiPen was given and hand used EpiPen in to ambulance crew/hospital/pharmacy.

Most beekeepers find that they can tolerate stings more easily with time. However, should you find that you are noticing your reactions to stings are becoming worse it is recommended that you speak to your Doctor for advice. If you have visitors to your apiary ask if they are allergic to bee stings and if so do they carry an EpiPen and would they want you to use it.





How to administer an EpiPen;

Please watch the video, narrated Dr George Du Toit, by clicking on the link below. The video appears *just over half way down* the web page.

<https://www.epipen.co.uk/en-gb/patients/your-epipen/how-to-use-your-epipen>

How to use EpiPen® or EpiPen® Jr

Remove the **EpiPen®** from the carry case. Lie down with your legs slightly elevated to keep your blood flowing or sit up if breathing is difficult.

1

Pull off Blue Safety Cap.
Grasp **EpiPen®** in dominant hand, with thumb nearest blue cap and form fist around **EpiPen®** and pull off the blue safety cap.
Remember: "Blue to the sky, orange to the thigh".



2

Position Orange Tip.
Hold the **EpiPen®** at a distance of approximately 10cm away from the outer thigh. The orange tip should point towards the outer thigh.



3

Jab Orange Tip.
Jab the **EpiPen®** firmly into outer thigh at a right angle (90° angle). Hold firmly against thigh for 3 seconds. **EpiPen®** should be removed and safely discarded. The orange needle cover will extend to cover the needle.



4

Dial 999.
Dial 999, ask for ambulance and state "anaphylaxis".



All instructions are the same for **EpiPen®** and **EpiPen® Jr**

Adverse events should be reported.

Reporting forms can be found at www.yellowcard.gov.uk or search for MHRA Yellow Card in Google Play or Apple App Store. Adverse events should be reported to Mylan, Building 4, Trident Place, Hatfield Business Park, Mosquito Way, Hatfield, Hertfordshire, AL10 9UL, or phone no. +44 (0) 0800 121 8267, E-mail: ukpharmacovigilance@mylan.com.

Each **EpiPen®** can only be used once. If symptoms don't improve, you can administer a second **EpiPen®** after 5-15 minutes.

“You Must call 999, ask for an ambulance and state ‘anaphylaxis’.”

Stay lying down or seated and have someone stay with you until you have been assessed by a paramedic.

Unconscious patients should be placed in the recovery position.



KEEP YOUR HAND AND FINGERS WELL AWAY FROM THE NEEDLE END!!



INTERVIEW WITH ONE OF OUR BEEKEEPING MEMBERS, JO O'DRISCOLL, ABOUT DEALING WITH ANAPHYLAXIS



Jo is one of our branch members who has been beekeeping for 3 years. She has been diagnosed as anaphylactic to bee stings. Jo has kindly agreed to be interviewed about her experience with it in the hope that it might help others.

Q. When did you first start noticing and suspect you were overreacting to bee stings?

A. *'At the end of my first season of beekeeping I had my first bee sting on my wrist and had a very bad local reaction. The swelling started fast and spread up my arm. I went to the Tavistock Minor Injuries unit who sent me on to Derriford and I had to have my wedding ring cut off and antibiotics because the joints in my hand and arm were affected'*

Q. Were you stung again after that?

A. *'Yes, I had just one more sting since then; just a partial sting through my jeans onto my thigh. Within 5 minutes I felt extremely unwell. I felt dizzy, nauseous, and went very pale. My son helped me back to the house and made me lie down on the sofa and raised my legs up. I had no difficulty breathing but I had a 'sense of dread'. I took a double dose of antihistamines and after about 1 hour I felt better. We did not feel the need to call an ambulance. I should point out that I already have other allergies which had been becoming worse. I went to see my GP who referred me to the Allergy Clinic at Derriford and in the*

meantime she gave me two EpiPens and explained how and when to use them.'
(More about the Allergy Clinic to follow.)

Q. How do you try and avoid being stung while beekeeping?

A. *'My husband is my assistant and does the actual handling of the bees whilst I watch and participate from a safe distance behind him. I am also lucky that I have gentle bees and should they start to show signs of irritability I simply walk away.'*

Q. Have you had to use your EpiPen?

A. *'No but I have a 'dummy' to practise with. They should be carried in pairs in case the first one isn't effective enough. When beekeeping I keep two handy in my suit pocket.'*

Q. Where did you get your EpiPen and how often do you need to change it?

A. *'I get them on prescription from my GP. They last about 2 years and have a use by date on them. The out of date ones are returned to the pharmacy'*
Note the EpiPen has a little 'window' to see the adrenaline. If it appears clear it is fine if it goes dark it should not be used.

Q. You have now started a Bee Venom Desensitisation Course at Derriford. How did that come about?

A. *'When I went to the Allergy Clinic at Derriford, I had a series of tests on my arm to confirm the things which I am allergic to. I have always had hay fever but have developed allergies to fruits with stones eg cherries and apricots, also apples, pears, hazel nuts and almonds and of course honeybee stings. I am not allergic to honey! I told the Consultant that I loved beekeeping and did not want to give it up. She thought that I would be a suitable candidate for the 'Venom Desensitisation Therapy' and soon afterwards I received authorisation to take part in the programme.'*

Q. What does this entail?

A. *'The aim of the programme is to train your body to 'recognise' bee venom and not overreact to it. About 85% of people taking part in the programme will achieve this. The first part of the programme takes about 8 - 12 weeks depending on how you react to the treatment. During this time you are injected*

with increasing amounts of bee venom. It starts with a tiny dose and ends up with a 'normal' bee sting's worth of venom. Once you reach this level you will have doses at this level every month or two for the next 3 years, longer if necessary.'

Q. How far are you along with the treatment and how is it going?

A. *'It is still early days for me. I am in the first 'weekly' phase of treatment. It was going very well until week 4 when I did not feel very well at all, so it will take longer for me as they won't increase the dose until I am ready. The dose is injected into the upper arm which felt very itchy and I felt generally unwell the next day as well.*

I have to take an antihistamine tablet 1 hour before the venom dose. For the first few weeks of treatment I have to stay in the clinic for several hours so that they can monitor my reaction carefully. This includes taking my blood pressure as a sudden drop is one of the symptoms of anaphylaxis.

I am not able to drive home either so I would have to take public transport/taxi if my husband was not able to spare the time to drive.'

Q. That's quite a commitment.

A. *'Yes, especially the first part of the programme.'*

Q. At the end of it will you still need to carry an EpiPen?

A. *'Yes, always, just in case and I will always take an antihistamine straight away if I get stung. I make sure that the antihistamines I use make me less drowsy than others can (*notes near the end)'*

Q. Is there anything else you would like to add?

A. *'Yes. **No Bees are Harmed** in the extraction of venom. They extract it by getting bees to walk over a glass plate which is wired and sends tiny electric shocks which stimulates the bees to release venom but not lose their sting and die.'*

Q. Have you any words of advice to beekeepers - anaphylactic or not?

A. *'Yes, if you are finding that your reactions to stings start to become worse, do consult your GP and keep antihistamines handy.'*

End Interview



If you are anaphylactic to bee stings and are visiting another beekeeper's apiary, please tell them and let them know where you keep your Epipen.

If you are a beekeeper and have anyone visit your apiary, do ask them if they are severely allergic to bee stings and if they carry an Epipen and if they want you to administer it if they can't.

Also, if you can, download the 'What 3 Words' app onto your phone - it would save an ambulance crew a lot of time finding you, especially in a remote out apiary.

* Antihistamines.

I hadn't realised until Jo told me that you could get 'less' drowsy antihistamines. She uses Piriteze which contains 'cetirizine hydrochloride'



I have been using Piriton and Boots equivalent which contain 'chlorphenamine maleate' and I find it makes me quite drowsy - but everybody is different.



Obviously there are other brands with the same active ingredients but ***most importantly I should point out that we are not medically qualified, this is our own personal experience, so you must speak to a Pharmacist or GP for advice about which antihistamines are suitable for you.***



I leave the final words to Dr Sam Herbert, Tavistock GP:

"It is sometimes hard to tell if a person is or isn't in true anaphylaxis which leads to uncertainty over whether or not to administer their EpiPen. It can be a stressful situation. Reassuringly the Adrenaline dose is small and is unlikely to do any harm even if a person isn't truly suffering from anaphylaxis. If there is a strong suspicion of anaphylaxis an EpiPen can be lifesaving, especially in a remote environment. Always call 999 in any suspected anaphylaxis situation"

Susanne Allen
Chairman Tavistock Branch, DBKA
March 2022

References/Acknowledgements; EpiPen UK (Viatris UK), Yates Study Notes, Jo O'Driscoll Tavistock Member and Dr Sam Herbert, Tavistock GP

