

# Anaphylaxis

## Using Adrenaline Auto-Injectors

### Patient information



## Allergy Centre

Wythenshawe Hospital



# ANAPHYLAXIS

## What is anaphylaxis?

Anaphylaxis is the term doctors use to describe a very serious allergic reaction. It can happen very quickly and can cause death. Anaphylaxis can happen after a person:

- eats a food they are allergic to, such as peanuts, tree nuts, shellfish, etc.
- takes a medicine they are allergic to, such as penicillin
- is stung by an insect they are allergic to, such as bee, wasp
- touches something made out of latex if they are allergic to latex
- other triggers can also cause anaphylaxis, such as exercise
- sometimes the cause is unknown – this is called idiopathic anaphylaxis.

You might know if you are allergic to something, but you can also have anaphylaxis even if you do not know you have an allergy.

Your doctor has also given you a leaflet on anaphylaxis where you will find more information about this, including symptoms, diagnosis and what can be done.

## Anaphylaxis is unpredictable

Anaphylaxis is highly unpredictable. This is the case when the cause cannot be identified (idiopathic), but also when you know and avoid what you are allergic to, because accidental exposures can happen. While you may have a mild reaction one time, a serious or even life-threatening reaction can occur the next time.

## ADRENALINE AUTO-INJECTORS/PENS

An adrenaline auto-injector has been prescribed to you to enable you to start treatment of anaphylaxis without delay. You must make sure you understand why it has been prescribed. You should be confident that you know exactly when and how to use it. If you are unsure, please ask to have the instructions repeated to you by the doctor or nurse in the clinic. There are more details below.

## Adrenaline is the best treatment for anaphylaxis

Adrenaline is the best and most effective treatment for anaphylaxis. It is a natural hormone that your body produces when you are excited or frightened. Adrenaline works best if it is given within the first few minutes of a severe allergic reaction. It increases your heart rate and



your blood pressure and rapidly treats all of the most dangerous symptoms, including throat swelling, difficulty breathing, and low blood pressure.

In most cases of anaphylaxis that resulted in death (which is rare), the person who died either did not have adrenaline available or had it available but did not use it. By having an adrenaline auto-injector and knowing how to use it, you already have a significant advantage. However, adrenaline is not a perfect, fail-proof treatment, so allergic triggers should be carefully avoided.

### **Antihistamines or asthma inhalers are not sufficient treatment for anaphylaxis**

Other medicines that are used in the treatment of allergic reactions can help with some of the symptoms, but only adrenaline treats the entire reaction. Antihistamines, such as cetirizine or Piriton®, help with itching and hives. Asthma inhalers, such as salbutamol, can help with coughing and wheezing. However, these medications do not treat the dangerous symptoms of throat swelling and low blood pressure. In addition, antihistamines taken by mouth are too slow-acting to be effective in a rapidly-developing episode of anaphylaxis, whereas injected adrenaline works within a few minutes. Antihistamines and asthma inhalers are useful in the treatment of anaphylaxis, but they are NOT substitutes for adrenaline. There is no substitute for adrenaline in anaphylaxis.

### **You must carry BOTH your adrenaline auto-injectors with you at ALL times**

This will enable you to start treatment without delay if you have anaphylaxis.

You may make the mistake of having your adrenaline auto-injectors on hand only in the places where you spend most time (home, school or work). However, you may be at particular risk of anaphylaxis when out of your normal routines (such as attending celebrations and banquets, traveling, during exercise, while eating out). You should find a way for your adrenaline auto-injectors to be available at all times. This may mean carrying a small bag with your adrenaline auto-injectors, antihistamines and other essential items that is taken everywhere, without exception.

## When should you use your adrenaline auto-injector?

You should use your adrenaline auto-injector **immediately** when you have an allergic reaction and:

- **You are having trouble breathing**; this may include chest tightness and wheezing.  
(If you have asthma and an attack starts because of the reaction, with no other problems, use your blue inhaler as many times as you need on your way to hospital. If you do not have a blue inhaler or it does not work, use the adrenaline auto-injector immediately).
- **You feel any tightness in the throat**; you may have voice hoarseness/croakiness, make a harsh noise whilst taking a breath (made by air going through a blocked windpipe) and difficulty breathing.
- **You have any symptoms of blood pressure dropping**, such as light-headedness, dizziness, blurred or tunnel vision, a feeling you may “pass out” or a feeling of “impending doom”.
- **If you develop severe and persistent gastrointestinal symptoms**, such as profuse vomiting and/or diarrhoea, associated with other signs or symptoms of allergy (such as urticaria/hives, or other), you should also use your adrenaline auto-injector.

If you were given an auto-injector for your child, in addition to the indications above, use it right away when your child has an allergic reaction and if they:

- seem groggy, there is sudden weakness or floppiness or the child passes out
- vomit a lot
- cough a lot
- have hives all over their body.

Any one of these signs is a serious reaction. Shout for help. Someone **must** dial **999**, call an ambulance and tell them the emergency is **anaphylaxis**.

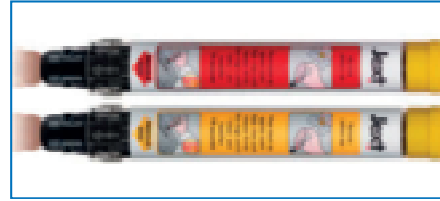
**Use it without delay** - Adrenaline is most effective when given in the first few minutes after an allergic reaction.

## How do you use your adrenaline auto-injector?

You will have been given a thorough demonstration in clinic. In the UK there are three different devices for adrenaline auto-injectors available (as at Jun 2018). Two of them have only minor differences in terms of how they look and are used – **Jext®** and **Epipen®**. Emerade® is a new auto-injector that is used in a slightly different way from the other two. This leaflet provides information on how to use all three devices.



**Epipen® and Epipen Jr®**



**Jext 300® and Jext 150®**



**Emerade® 150 microgram, Emerade® 300 microgram and Emerade® 500 microgram**

## Instructions for Jext® and Epipen®

Lie down and raise your legs if possible (for example by placing something underneath), use your adrenaline auto-injector and call for help (in this order).

**STEP 1** Take the auto-injector out of its case.

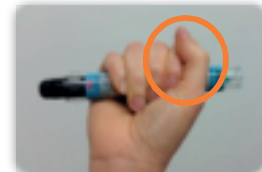
**STEP 2** Remove the safety cap:

**Jext** → **Yellow** cap

**Epipen** → **Blue** cap



**STEP 3** Grasp the auto-injector in your dominant hand (the one you use to write with) with your thumb closest to the cap, making sure that your fingers are not over either end.



**STEP 4** Place the tip of the auto-injector on the outer part of your thigh, holding the auto-injector at a right angle (approx. 90°) to the thigh.

**Jext** → **Black** tip to **B**ody

**Epipen** → **Orange** tip to thigh



**STEP 5** Press the tip firmly into your outer thigh until you hear a 'click' confirming the injection has started. Keep it pushed in, holding it firmly in place against the thigh for 10 seconds (a slow count to 10) and then remove. The tip will extend automatically and hide the needle.



**STEP 6** Massage the injection area for 10 seconds.

**STEP 7** Seek immediate medical help – dial 999, say 'anaphylaxis'.



Auto-injectors can go through clothes, but take care to avoid hitting zips, buttons, buckles, seams and pocket contents.

## Instructions for Emerade®

Lie down and raise your legs if possible (for example. by placing something underneath), use your adrenaline auto-injector and call for help (in this order).

**STEP 1** Take the auto-injector out of its case.

**STEP 2** Remove the needle shield.



**STEP 3** Grasp the auto-injector in your dominant hand (the one you use to write with) with your thumb closest to the cap, making sure that your fingers are not over either end.

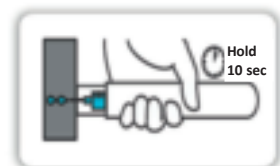
**STEP 4** Place the tip of the auto-injector on the outer part of your thigh, holding the auto-injector at a right angle (approx. 90°) to the thigh.



**STEP 5** Press the tip firmly into your outer thigh until you hear a 'click' confirming the injection has started.



**STEP 6** Keep it pushed in, holding it firmly in place against the thigh for 10 seconds (a slow count to 10) and then remove. The tip will extend automatically and hide the needle.



**STEP 6** Massage the injection area for 10 seconds.

**STEP 7** Seek immediate medical help – dial 999, say 'anaphylaxis'.



Auto-injectors can go through clothes, but take care to avoid hitting zips, buttons, buckles, seams and pocket contents.

## **What should you expect to happen when you use your adrenaline auto-injector?**

Adrenaline will:

- help your breathing if this is difficult because of the swelling in the throat or asthma
- prevent you becoming faint (if you feel faint, you must lie down on your back with your legs elevated if possible)
- make your pulse race, but if your pulse is already racing from the allergic reaction, it will slow it down a little
- lessen any allergic swelling or rash
- make you feel shaky or jittery
- may give you a headache.

The effects usually last 5-10 minutes. After that, your reaction may resolve or you may need another dose of adrenaline.

## **What if the adrenaline auto-injector does not work?**

### **More than one dose may be needed**

Did the adrenaline auto-injector fire? Check you removed the safety cap and try again if not.

Adrenaline should cause your symptoms to improve within a few minutes. However, a second dose of adrenaline may be needed if symptoms do not appear to be stabilising or improving. A second dose may also be needed if your symptoms get worse or return before you reach the hospital. This may be given 5 to 15 minutes after the first dose, on the other leg.

## **What is biphasic anaphylaxis?**

Sometimes, after complete recovery of anaphylaxis, symptoms may recur within about 72 hours with no further exposure to the allergen. This is one of the reasons why it is important you seek medical help when you have an episode of anaphylaxis, even when you have used your adrenaline auto-injector and feel recovered.



It is also for this reason that you should always carry your two adrenaline auto-injectors with you at all times. This is because you may need a second after having used one and recovered, especially when you are away from medical help.

## **What should you do after you have used the adrenaline auto-injector?**

Adrenaline auto-injectors are designed as an emergency rescue treatment but you must get medical attention as soon as possible after you used them, even if you feel better. Always dial 999 immediately, to be assessed and transported to the nearest A&E as soon as possible. This is because your symptoms of anaphylaxis may recur after adrenaline wears off. They may also get worse, even without further exposure to the trigger.

Take the used adrenaline auto-injectors with you to show what treatment you have had.

## **Regularly remind yourself on how to use your adrenaline auto-injector**

You have been given a training device that is identical to your injector but does not contain a needle or medication (adrenaline). You should practise periodically with your training device to be able to use it effectively if and when the time comes.

## **Teach others close to you when and how to use your adrenaline auto-injector**

Inform others close to you, such as family, friends and colleagues about your allergic condition. It may be essential that those around you can recognise an allergic reaction, so that they can react effectively by giving you the adrenaline and calling for assistance if you become incapacitated. Use the training device to teach them when and how to use your adrenaline auto-injector.

## **Where should you keep it?**

Your adrenaline auto-injector is best kept in the carry case provided at room temperature. Avoid storing it in locations where it may overheat or get too cold, such as in the glove compartment in the car or in an uninsulated bag on the beach.

## **What should you do if the adrenaline auto-injector goes past its use by date?**

It is important to make sure your adrenaline auto-injectors are within their expiry date. They have a limited shelf life and need to be replaced after 12 to 18 months. For free expiry alerts, register at [www.jext.co.uk](http://www.jext.co.uk), [www.epipen.co.uk](http://www.epipen.co.uk) or [www.emerade-bausch.co.uk](http://www.emerade-bausch.co.uk) or complete the freepost form on the patient information leaflet in your Jext®, Epipen® or Emerade® pack. Get a repeat prescription from your GP and replace the adrenaline auto-injector before its expiry date.

Do not throw unused pens away. They can be dangerous to others and should be handed in to a pharmacy or your doctor.

It is preferable to use an out-of-date auto-injector, if that is all you have available, than injecting no adrenaline at all.

## **Which is the right adrenaline auto-injector for you?**

The 500µg auto-injector is used for adults, the 300µg is used for anyone over 30 kg (4 ¾ stone) and the junior auto-injector (150µg) is used below this weight. For growing children, check with your doctor they still have the right dose.

## **Could the adrenaline auto-injector harm you?**

Adrenaline is a life-saving emergency treatment for life-threatening allergic reactions. There is no reason not to use an adrenaline auto-injector during an allergic emergency.

For most people, the adrenaline auto-injectors are safe if used as instructed. Some medicines change the way adrenaline works and you may need a different treatment. You should make sure that the doctor giving you adrenaline knows about every medicine you take. When you have an adrenaline auto-injector, you should remind your doctor(s) of this whenever they prescribe other medicines for you.

## **Accidents sometimes happen**

If you inject your thumb by mistake, it will go white or blue because the adrenaline has cut off its blood supply. You should get immediate medical help.

## Contact details

Please phone the Allergy Nurses, UHSM Allergy Centre, on 0161 291 5314 if you need any further information.

<https://www.uhsm.nhs.uk/services/specialist/respiratory/allergy/>

## Patient Support Groups



[www.anaphylaxis.org.uk](http://www.anaphylaxis.org.uk)

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