

## **Adrenaline (epinephrine) autoinjectors frequently asked questions (FAQ)**

The following frequently asked questions (FAQ) and answers are based on inquiries that have been received by, or forwarded to ASCIA since 2003. This document is regularly updated as new information becomes available.

### **Q 1: What are adrenaline autoinjectors?**

Adrenaline autoinjectors are automatic injectors that contain a single, fixed dose of adrenaline, designed for use by anyone, including people who are not medically trained.

### **Q 2: Why do you need to use adrenaline to treat anaphylaxis?**

Adrenaline is the first line emergency treatment for anaphylaxis. Anaphylaxis is a potentially life threatening allergic reaction and must be treated promptly. Adrenaline works rapidly (within minutes) to reduce throat swelling, open up the airways and maintain blood pressure. Withholding or delaying adrenaline may result in deterioration and potentially death of an individual experiencing anaphylaxis.

### **Q 3: What types of adrenaline autoinjectors are available?**

In Australia and New Zealand, there are two doses of adrenaline autoinjectors available:

EpiPen® (containing 0.3mg adrenaline) - usually prescribed for adults and children over 20kg  
EpiPen®Jr (containing 0.15mg adrenaline) - usually prescribed for children 10-20kg

To access training videos, updated ASCIA Action Plans for Anaphylaxis and other resources go to [www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

### **Q 4: Who can use an adrenaline autoinjector?**

Adrenaline autoinjectors have been designed for use by anyone in an emergency, including people who are not medically trained, such as a friend, teacher, childcare worker, parent, passer-by, bystander or the individual with anaphylaxis themselves (if they are well and old enough). Instructions are shown on the label of each device and on the ASCIA Action Plan for Anaphylaxis.

### **Q 5: If I'm not sure it is anaphylaxis should I use an adrenaline autoinjector?**

If in doubt, it is better to use an adrenaline autoinjector, than not use it, even if in hindsight the reaction is not anaphylaxis. Under-treatment of anaphylaxis is more harmful (and potentially life threatening) than over-treatment of a mild to moderate allergic reaction. If in doubt, give the adrenaline autoinjector.

### **Q 6: If I am not sure if an individual is experiencing asthma or anaphylaxis, when should an adrenaline autoinjector be used?**

In an individual with asthma, who is also at risk of anaphylaxis, the adrenaline autoinjector should be used first, followed by asthma reliever medication, calling an ambulance, continuing asthma first aid and following the ASCIA Action Plan for Anaphylaxis.

If someone with known food or insect allergy suddenly develops severe asthma-like symptoms, give adrenaline autoinjector FIRST, then asthma reliever medication.

**Q 7: Why do adrenaline autoinjectors need to be administered into the outer mid-thigh?**

Adrenaline is most rapidly absorbed when the autoinjector is administered into the muscle of the outer-mid thigh (compared to other parts of the body), as shown in the diagrams on the label of the device, the package insert, and the ASCIA Action Plan for Anaphylaxis. Injecting adrenaline into the muscle of the outer mid-thigh makes it extremely unlikely that damage to nerves and tendons will occur, or that it will be accidentally be injected into an artery or vein. It is also the least painful part of the body to give an injection. Adrenaline autoinjectors can be administered through a single layer of clothing, but not through seams, or pockets.

**Q 8: What needs to be done after using an adrenaline autoinjector?**

An ambulance should be called immediately after using an adrenaline autoinjector to take the individual to hospital, so they can be given further treatment and remain under observation for at least 4 hours. The used adrenaline autoinjector should be provided to the ambulance or medical staff as well as the time it was given. Transient (temporary) side effects of adrenaline (e.g. increased heart rate, trembling and pallor) are to be expected.

**Q 9: Before, during and after using the adrenaline autoinjector should the individual with anaphylaxis be sitting, standing or lying down?**

It is important to lay an individual with anaphylaxis flat to improve blood flow to the heart. An upright position (standing) can lead to insufficient blood returning to the heart, a subsequent drop in blood pressure and increased risk of death. If breathing is difficult, allow the individual to sit, but not stand. If vomiting or unconscious, lay the individual on their side in the recovery position.

The individual experiencing anaphylaxis should not walk to their medication, therefore the adrenaline autoinjector should be brought to them as quickly as possible.

**Q 10: What should individuals avoid doing when they have anaphylaxis?**

Under no circumstances should individuals with anaphylaxis take a shower, even if they feel very hot, for the following reasons:

- Standing can cause a further drop in blood pressure.
- Warm showers promote vasodilation (widening of the blood vessels), which can also lower blood pressure.
- Bathroom floors are hard, so there is a greater risk of injury if the individual faints and falls.

They should also not eat or drink anything, as this can cause them to vomit, which may be inhaled (aspirated).

**Q 11: When does an additional adrenaline autoinjector need to be used?**

Further adrenaline doses may be given if there is no response 5 minutes after giving the previous dose.

**Q 12: Why are two adrenaline autoinjectors usually prescribed for individuals at risk of anaphylaxis?**

For children in childcare or schools having two adrenaline autoinjectors allows you to keep one with your child at all times (whilst in or out of the home) and another at school or childcare.

For older children or adults weighing 60 kg or more, this allows you to keep two adrenaline autoinjectors with you at all times, in case more than one dose of adrenaline is required.

Two adrenaline autoinjectors are PBS subsidised in Australia for individuals at risk of anaphylaxis and additional devices can be purchased at full price from pharmacies. Currently there is no Pharmac subsidy for adrenaline autoinjectors in New Zealand.

**Q 13: Can adrenaline autoinjectors be re-used?**

No. Each adrenaline autoinjector only releases a single, fixed dose of adrenaline once the device is triggered.

**Q 14: What precautions should be taken when using an adrenaline autoinjector?**

There are no absolute contraindications (factors which make it unwise to give treatment) for use of an adrenaline autoinjector in an individual who is experiencing anaphylaxis. However, it is important to follow the instructions and ensure that the needle end of the adrenaline autoinjector is on the individual's outer mid-thigh and that you do not touch the needle after administration, to avoid needle stick injury.

**Q 15: Where should adrenaline autoinjectors be stored?**

Adrenaline autoinjectors should be kept out of the reach of small children, however, they must be readily available when needed and not in a locked cupboard. An ASCIA Action Plan for Anaphylaxis should always be stored with an adrenaline autoinjector as the plan provides instructions on how to use the adrenaline autoinjector and the signs and symptoms of anaphylaxis. ASCIA Action Plans are available on the ASCIA website: [www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

**Q 16: At what temperature should adrenaline autoinjectors be stored?**

Adrenaline is light and heat sensitive so adrenaline autoinjectors need to be stored in a cool dark place at room temperature, between 15 and 25 degrees Celsius. If the temperature fluctuates below 15 or above 25 degrees Celsius this may be achieved by using an insulated wallet. These are available from patient organisations. Adrenaline autoinjectors must not be refrigerated nor stored on ice as temperatures below 15 degrees Celsius may damage the autoinjector mechanism.

**Q 17: At what age can students carry their own adrenaline autoinjector whilst at school?**

The decision as to whether a student can carry their own adrenaline autoinjector should be made when developing the student's anaphylaxis management plan, in consultation with the student, their parents/guardians and their medical practitioner. This decision is generally based on a combination of factors, including age, maturity and ability to use the device.

If a student carries their own adrenaline autoinjector device they:

- May not physically be able to self-administer due to the effects of anaphylaxis;
- Should be educated that if they self-administer, they should immediately alert a staff member and an ambulance must be called; and
- Need to have a second adrenaline autoinjector (provided by the parent/guardian) kept on site at the school in an easily accessible, unlocked location that is known to all staff.

**Q 18: When do adrenaline autoinjectors expire?**

The shelf life of adrenaline autoinjectors is normally around 1-2 years from date of manufacture. The expiry date on the side of the device needs to be marked on a calendar and the device must be replaced prior to this date. Registration with a reminder service (e.g. [www.epiclub.com.au](http://www.epiclub.com.au)) may be of assistance as they provide reminders about expiry dates.

Adrenaline autoinjectors with discoloured adrenaline or expired adrenaline autoinjectors are not as effective when used for treating anaphylaxis and should therefore not be relied upon to treat anaphylaxis. However, the most recently expired adrenaline autoinjector available should be used if no in-date device is available.

### **Q 19: Who should be prescribed the "Junior" (0.15mg) version of adrenaline autoinjectors?**

ASCIA Prescribing Guidelines recommends a 0.15mg adrenaline autoinjector (e.g. EpiPen®Jr) for children weighing 10-20kg and a 0.30mg adrenaline autoinjector (e.g. EpiPen®) for adults and children weighing more than 20kg.

This recommendation is based on consensus and standard practice by ASCIA members and is published in the Australian Medicines Handbook and the National Prescribing Service information on adrenaline autoinjectors. It is also consistent with recommendations from the American Academy of Allergy, Asthma and Immunology (AAAAI) position statement:

[www.aaaai.org/media/resources/academy\\_statements/position\\_statements/ps34.asp](http://www.aaaai.org/media/resources/academy_statements/position_statements/ps34.asp)

### **Q 20: Can a higher dose be given to a young child if no lower dose (0.15mg) device is available?**

A general guide to adrenaline autoinjector dose is as follows:

- Children under 10kg are not usually prescribed an adrenaline autoinjector. If anaphylaxis is suspected only a 0.15mg device should be given. Higher dose adrenaline autoinjectors should NOT be administered to children under 10kg.
- In children weighing 10-20kg, a 0.15mg adrenaline autoinjector should be used. However, if only a 0.3mg device is available, this should be used in preference to not using one at all.
- In children over 20kg or adults, a 0.3mg adrenaline autoinjector should be used. However, if only a 0.15mg device is available, this should be used in preference to not using one at all.

### **Q 21: Are adrenaline autoinjectors available at a subsidised rate?**

In Australia, adrenaline autoinjectors are available on the Pharmaceutical Benefits Scheme (PBS) for patients diagnosed to be at high risk of anaphylaxis. The PBS listing as at 1 July 2010 is as follows: Authority approvals are limited to a maximum quantity of 2 adrenaline autoinjectors (EpiPen®) at any one time. Repeat approvals for PBS subsidised devices will not be issued unless the device is about to expire or is used.

In New Zealand adrenaline autoinjectors are not currently subsidised by Pharmac.

### **Q 22: What documents do I require to take an adrenaline autoinjector in my airline flight hand luggage?**

ASCIA has developed a Travel Plan for people at risk of anaphylaxis which needs to be completed and signed by the individual's treating doctor and attached to the ASCIA Action Plan for Anaphylaxis.

The patient support organisation Allergy & Anaphylaxis Australia, also has information on travelling with severe food allergies: [www.allergyfacts.org.au](http://www.allergyfacts.org.au)

It is also prudent for individuals to carry their adrenaline autoinjector in a container which includes a pharmacy label (particularly if travelling in the USA) and to notify their travel agent, insurer and airline regarding their allergy and the need to carry an adrenaline autoinjector, in case additional documentation or preparation is required.

Further information about travelling with allergies including a checklist, is available from the ASCIA website:

[www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

**Q 23: Are adrenaline autoinjectors available without a prescription?**

Yes. Adrenaline autoinjectors are available from pharmacies without a prescription at full retail price (not PBS subsidised). If they are purchased directly from pharmacies without a prescription, individuals should request training from the pharmacist on how to use the adrenaline autoinjector.

**Q 24: Can an adrenaline autoinjector be purchased for general use (e.g. for inclusion in a first aid kit)?**

Some schools, childcare services, workplaces and restaurants choose to purchase an adrenaline autoinjector for general use, which serves as a back-up for the adrenaline autoinjectors prescribed for individuals. These should not be used as a substitute for individuals at risk of anaphylaxis having their own prescribed adrenaline autoinjector/s.

In most regions an adrenaline autoinjector for general use may be administered to individuals who appear to have anaphylaxis, but have not been previously diagnosed to be at risk of anaphylaxis. Advice and training from the local education and/or health authorities should be sought regarding adrenaline autoinjectors for general use. Further information about adrenaline autoinjectors for general use is available on the ASCIA website [www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

**Q 25: Why are adrenaline autoinjectors used to treat anaphylaxis in non-medical settings, instead of adrenaline ampoules, needles and syringes?**

ASCIA recommends that adrenaline autoinjectors are used to treat anaphylaxis in schools, childcare services and any other non-medical setting, to avoid delay in adrenaline administration and ensure that the correct dose of adrenaline is given.

Whilst adrenaline ampoules, needles and syringes are suitable for use by trained health professionals in medical settings to treat anaphylaxis, they are unsuitable for use in non-medical settings such as schools, childcare services and workplaces, as it is not feasible for school and childcare staff to be trained in the use of ampoules, needles and syringes. This is a health professional (medical/nursing) skill that is beyond the parameters of first aid care.

**Q 26: Where can I obtain adrenaline autoinjector training devices?**

Autoinjector trainer devices (which can be re-used for practice as they do not contain adrenaline and do not have needles) are available from pharmacies, patient support organisations and the adrenaline autoinjector distributors in Australia and New Zealand. Instructional videos are available on the ASCIA website: [www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

**Q 27: Where can I obtain information about training?**

ASCIA anaphylaxis e-training is available on the ASCIA website and is free of charge: [www.allergy.org.au/about-ascia/about-ascia-e-training](http://www.allergy.org.au/about-ascia/about-ascia-e-training)

ASCIA is a professional medical society and does not conduct face-to-face anaphylaxis training. The ASCIA website includes links to government and relevant patient organisation websites and most of these include information on how to access face to face training in different regions.

**Q 28: Where can I obtain other information?**

Anaphylaxis resources section of the ASCIA website: [www.allergy.org.au/anaphylaxis](http://www.allergy.org.au/anaphylaxis)

Patient support organisations:

- Allergy & Anaphylaxis Australia [www.allergyfacts.org.au](http://www.allergyfacts.org.au)
- Allergy New Zealand [www.allergy.org.nz](http://www.allergy.org.nz)

Adrenaline autoinjector distributor for Australia and New Zealand:

- Mylan (EpiPen<sup>®</sup>, EpiPen<sup>®</sup>Jr): [www.epiclub.com.au/](http://www.epiclub.com.au/)

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