

Adrenaline Auto-Injectors information sheet

This information is intended for use by healthcare professionals.

Key Message:

This resource supports prescribers to review all patients currently prescribed adrenaline auto-injectors on both repeat and acute. To ensure that the correct strength, dose, and quantity is prescribed, that there is a coded allergy documented in the clinical notes and that the patient is regularly monitored to ensure safe and appropriate prescribing.

Background:

Adrenaline is the first-line treatment for anaphylaxis. It should be used in patients with significant airway involvement or hypotension, occurring as part of an anaphylactic reaction.

The onset of anaphylaxis can be very fast. Signs of a severe reaction include:

- Swelling in the throat, tongue, or upper airways. (Tightening of the throat, hoarse voice, difficulty swallowing).
- Sudden onset wheezing, breathing difficulty, noisy breathing.
- Dizziness, feeling faint, sudden sleepiness, tiredness, confusion, pale clammy skin, loss of consciousness.

An adrenaline auto-injector (AAI) should be prescribed for those at risk of anaphylaxis and should be considered for long-term provision in these patients. Early administration improves outcomes.

An AAI should be considered a first-aid measure in addition to calling for emergency services. Following acute anaphylaxis, it should be prescribed before the patient is sent home and a specialist allergy appointment referral triggered. This is for emergency use in case of another reaction prior to the specialist allergy appointment, in line with NICE guidance.¹

Specialist allergy experience is required to make a risk assessment to determine the continuing need for an AAI and where long-term provision may be required. Prescribing an AAI cannot be a substitute for allergy referral.

Prescribing the AAI is only one step in managing anaphylaxis risk. It should be combined with specialist allergy advice on avoidance of triggers, a treatment plan and re-training in the use of auto-injectors.

If a patient is prescribed an AAI, the prescriber should ensure that the patient or carer thoroughly understands the indications and use of their particular device – technique varies between injectors (see Appendix 1). The MHRA has information on their website.

[Adrenaline auto-injectors \(AAIs\): new guidance and resources for safe use - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/adrenaline-auto-injectors-aais-new-guidance-and-resources-for-safe-use)

Paediatric Adrenaline Auto-Injectors

The change from the paediatric to the adult dose of AAI is based on weight (see Table 1.). The local Medicines Safety Officer (MSO) network became aware of a patient who had continued to be prescribed the paediatric dose of EpiPen® Jr. despite requiring an adult dose of an AAI, and there had been no trigger to change to a higher dose. Following audit work, the ICB Medicines Optimisation team highlighted multiple further incidents in practices where paediatric patients prescribed AAIs showed that they had not received a recent documented weight check or were receiving the incorrect strength. Although no patient harm occurred, this represents a serious risk of patient harm due to patients not receiving an adequate dose in an emergency.

Table 1: Adrenaline auto-injectors recommended doses.

Information in the table below was sourced from SmPC

Brand	Weight	Recommended product
EpiPen® Adrenaline (Epinephrine) Auto Injector ²	7.5kg - 25kg	EpiPen® Jr. auto injector 0.15 mg
	>25kg	EpiPen® auto injector 0.3 mg (adult formulation)
Jext® Adrenaline Auto Injector ³ <i>(As a dosage below 150 micrograms cannot be administered with sufficient accuracy, use in children weighing <15 kg is not recommended unless life-threatening situation and under medical advice)</i>	15kg – 30kg	Jext® 150 microgram Adrenaline Auto Injector
	>30kg	Jext® 300 microgram Adrenaline Auto Injector

Please refer to [Nottinghamshire Area Prescribing Committee Formulary \(nottinghamshireformulary.nhs.uk\)](https://nottinghamshireformulary.nhs.uk) for the current formulary status for AAI prescribing.

Refer to Appendix 1 - Auto- Injectors licensed in the UK.

Actions:

Prescribing of Adrenaline Auto-Injectors should be continuously reviewed to ensure the following:

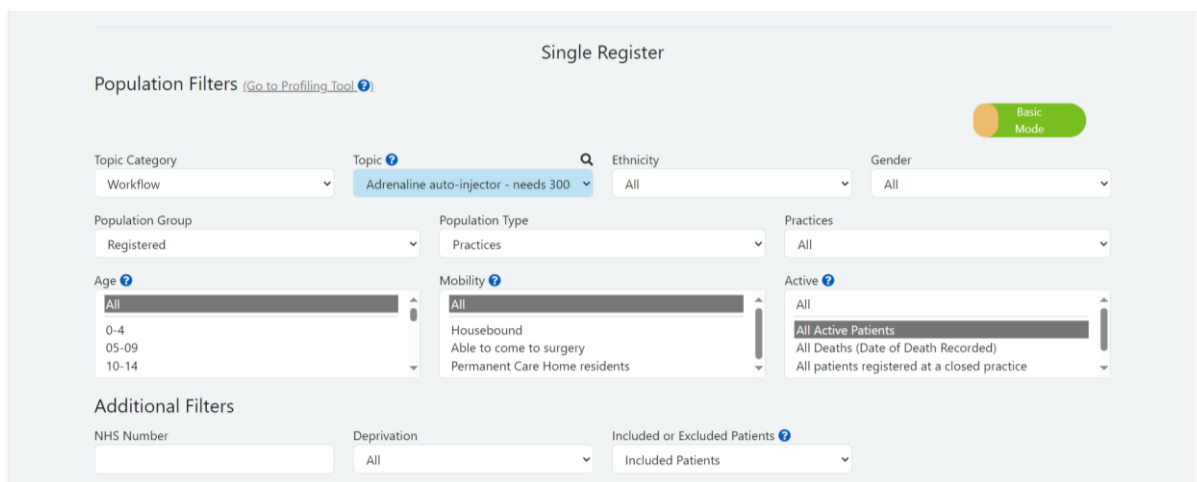
- All patients prescribed an AAI should have them added as a repeat medication; this will ensure that they are being continuously reviewed. If the practice does not wish to have the items on a patient's repeat, then it must be very clear on the patient's records that they are receiving these medications, so they are reviewed at the patient's medication review.
- The MHRA⁶ recommend that **two** AAI's are prescribed, and these should be carried by the patients at all times. This is particularly important for people who have allergic asthma due to an increased risk of a severe anaphylactic reaction.
- **Primary school-aged** children who are unable to carry their own pens at school require **two pens for school and two for other times**. Parents/carers may require up to four pens to be renewed if pens have expired. **This should be done by issuing two prescriptions for two pens each**. This is in line with the Nottingham and Nottinghamshire APC recommendation.
- All patients prescribed AAI should have a coded allergy in line with the prescribing of their AAI; this will ensure that any allergies that may be linked to the prescribing of medicines are flagged/notified to the prescriber.
- Paediatric AAI prescribing is based on the weight of the patient therefore weight checks should be undertaken every six months to ensure the correct dose is being prescribed. Weight should be recorded in kilograms. See table 1.
- Full dosing directions should be written on the prescription. Use of 'as directed' as a stand-alone direction is not recommended. Current SystmOne formulary instruction includes "Inject into the outer thigh as directed".
- Check date of last order; ensure patients have ordered within the last 18 months. If not contact patient to arrange a review of their adrenaline usage.

Data:

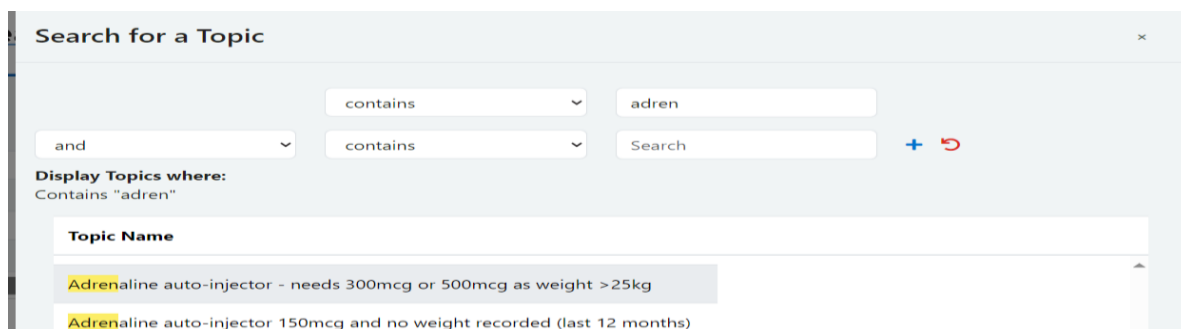
Patient identifiable data is available through eHealthscope.

eHealthScope

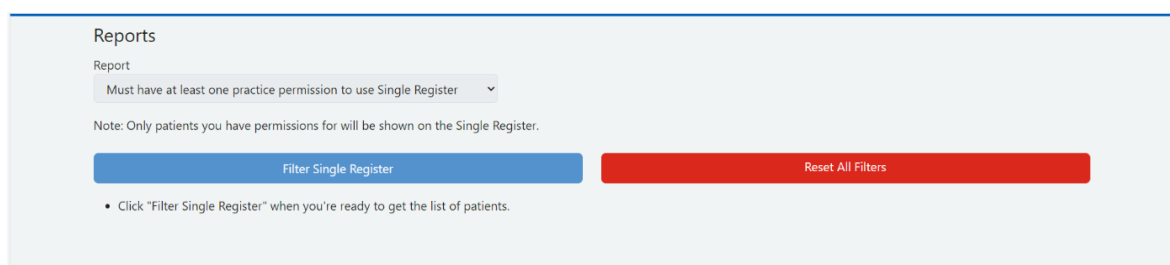
1. Open eHealthscope in a web browser (<https://ehs.notts.icb.nhs.uk>)
2. Click on “Single Register” in the “Registers” menu.
3. Choose “Workflow” from the “Topic Category”.



4. Pick the topic you wish to look at - Adrenaline auto-injector and select one of the two options below



5. Click “filter single register”.



Disclaimer:

- This resource has been developed to facilitate the safe and effective review of AAI, using current accessible references and is correct at the time of approval.
- The output of the searches relies on accurate read coding. Clinicians using this resource must refer to local guidelines, use their own clinical judgement and take responsibility for their prescribing decisions.
- Nottingham and Nottinghamshire ICB (N&N ICB) Medicines Optimisation team only have oversight for the management of errors occurring within their own organisation. Each organisation is therefore responsible for any prescribing errors or omissions that may occur within their organisation because of using this resource and must follow their own safety governance process.
- Organisations must inform N&N ICB Medicines Optimisation team should they become aware of any errors or updates required within the AAI review documents.



References:

1. NICE (2011), Anaphylaxis: assessment and referral after emergency treatment (CG134). Available at: <https://www.nice.org.uk/guidance/cg134> (Accessed 03.07.24)
2. [EpiPen Jr Adrenaline \(Epinephrine\) 0.15 mg Auto-Injector - Summary of Product Characteristics \(SmPC\) - \(emc\) \(medicines.org.uk\)](#) (Accessed 23.01.25)
3. [EpiPen Adrenaline \(Epinephrine\) 0.3 mg Auto-Injector - Summary of Product Characteristics \(SmPC\) - \(emc\)](#) (Accessed 23.01.25)
4. [Jext 150 micrograms Solution for Injection in pre-filled pen - Summary of Product Characteristics \(SmPC\) - \(emc\) \(medicines.org.uk\)](#) (Accessed 23.01.25)
5. [Jext 300 micrograms Solution for Injection in pre-filled pen - Summary of Product Characteristics \(SmPC\) - \(emc\)](#) (Accessed 23.01.25)
6. Nottinghamshire Area Prescribing Committee Formulary. Available at: [Nottinghamshire Area Prescribing Committee Formulary \(nottinghamshireformulary.nhs.uk\)](#) (Accessed 03.07.24)
7. MHRA Adrenaline auto-injectors: updated advice after European Review (August 2017) Available at: [Adrenaline auto-injectors: updated advice after European review - GOV.UK \(www.gov.uk\)](#) (Accessed 03.07.2024)

Appendix 1

Adrenaline Auto-Injectors licensed in the UK

In the UK there are two AAI devices on the market, EpiPen® and Jext®. These different brands of AAI are not used in exactly the same way and specific training and advice for patients and carers should be provided as appropriate. Training devices can be ordered via the websites of each manufacturer. There is also an [MHRA fact sheet](#) and [YouTube video](#) with advice on the use of adrenaline auto-injectors, which patients or carers are encouraged to read. This advice is relevant to all AAIs available on the UK market. Information in the table below sourced from Patient Information Leaflet

Name of the Auto-injector Prescribe by brand	EpiPen®	Jext®
<p>How to use the Device</p> <p>The instructions for use are the same for both adult and child devices.</p> <p>Patients, relatives and carers should be counselled.</p>	 <ul style="list-style-type: none"> • Grasp EpiPen in dominant hand (the hand you use to write), with thumb nearest blue cap and form fist around unit (orange tip down) • With other hand pull off blue safety cap. • Hold the EpiPen at a distance of approximately 10 cm away from the outer thigh. The orange tip should point towards the outer thigh. • Jab the EpiPen. firmly into outer thigh at a right angle (90 degree angle) (listen for click). • Hold firmly against thigh for 3 seconds. The injection is now complete and the window on the auto injector is obscured. • EpiPen should be removed (the orange needle cover will extend to cover needle) and safely discarded. • Dial 999, ask for ambulance, and state anaphylaxis. 	 <ul style="list-style-type: none"> • Grasp the Jext injector in your dominant hand (the one you use to write with) with your thumb closest to the yellow cap. • Pull off the yellow cap with your other hand. • Place the black injector tip against your outer thigh, holding the injector at a right angle (approx 90°) to the thigh. • Push the black tip firmly into your outer thigh until you hear a 'click' confirming the injection has started, then keep it pushed in. • Hold the injector firmly in place against the thigh for 10 seconds (a slow count to 10) then remove. The black tip will extend automatically and hide the needle. • Massage the injection area for 10 seconds. Seek immediate medical help. Dial 999, ask for ambulance, state anaphylaxis.
Recommended dose directions	Inject into the midpoint of the outer thigh. A 2nd injection can be used after 5-15 minutes if needed. If administered call 999 and say "anaphylaxis". Always carry 2 pens. Check expiry dates regularly. Contains adrenaline.	