

## Standard Operating Procedure

# Administration of Adrenaline Auto-injector Devices

Compiled by members of the BSACI Nurses in Allergy Committee

The following standard operating procedures outline how to administer adrenaline auto-injectors: Emerade, Epipen and Jext.

### Adrenaline auto-injectors

Drug generic name	Proprietary name	Route	Prescribed for	Dosage/weight
Adrenaline/Epinephrine	Emerade	Intramuscular injection	Adult and child	500 mcg age 12 years and over 300 mcg/ body- weight over 30 kg Child 150 mcg/ body- weight 15-30 kg
Adrenaline/Epinephrine	Epipen Epipen Jr	Intramuscular injection	Adult and child Child	300 mcg/ body- weight over 30 kg 150 mcg/ body- weight 15-30 kg
Adrenaline/Epinephrine	Jext 300 Jext 150	Intramuscular injection	Adult and child Child	300 mcg/ body- weight over 30 kg 150 mcg/ body- weight 15-30 kg

Standard Operating Procedures will be outlined for Epipen and Jext in sequence. Before each procedure the following steps are applicable:

PROCEDURE	RATIONALE
1. Gather equipment required – relevant auto-injector training device and corresponding Patient Information Sheet.	To prevent unnecessary delays.
2. Give an accurate and appropriate account of the procedure to the patient and/or carer.	To ensure the patient and/or carer are fully informed on how and when to administer their adrenaline auto-injector.

**How to train a patient and/or carer how to administer  
Emerade adrenaline auto-injector suggest add something about the  
training video and accessing other on-line resources for training and  
reminders on device expiry**

PROCEDURE	RATIONALE
<p>1. Provide a practical demonstration on how to administer the Emerade per manufacturer's instructions using a trainer pen device:</p> <p><u>Step 1:</u> Remove white needle shield.  <u>Step 2:</u> Note that the needle will come out of the white tip. Grip the Emerade firmly with the white tip pointing downwards, ensuring fingers and thumbs do not cover either end of device.  <u>Step 3:</u> Place the white tip of Emerade against upper outer area of the thigh at 90 degrees and press until it clicks.  <u>Step 4:</u> Hold the Emerade in place for a count of 5 seconds.  <u>Step 6:</u> Call for urgent medical attention: dial 999 and say 'anaphylaxis'.</p>	<p>Unless shield removed device will not be activated. A firm grip will prevent slipping.</p> <p>To ensure medication is delivered into a muscle. Click confirms activation of the device.</p> <p>5 seconds will enable the full adrenaline dose to be administered.</p> <p>Important to seek medical help to monitor recovery and in case further treatment is required.</p>
<p>2. Important information for patient and/or carer:</p> <ol style="list-style-type: none"> <li>a. Ensure patient is aware of appropriate dose of adrenaline for their weight, advise to check expiry date and that liquid in the syringe is not discoloured i.e. brown by checking the examination window.</li> <li>b. Advise patient to keep a copy of their Emergency Treatment Plan with their Emerade.</li> <li>c. Advise patient to inject directly onto exposed skin but Emerade can be administered through clothing with care to avoid thick seams.</li> <li>d. Carry Emerade on person at all times.</li> <li>e. Advise on safe disposal of sharps.</li> <li>f. Reassure patients and/or carer that there will be residual liquid left in syringe.</li> <li>g. Emerade does not replace allergen avoidance as the priority in prevention of allergic reactions.</li> </ol>	<p>Earlier corrective action has been associated with improved clinical outcomes. At all times summon urgent medical attention.            Dosage correlates with patient's weight (Table p.1.)            To renew Emerade as required.</p> <p>Written instructions support actions to take in event of an allergic reaction.</p> <p>To give medication promptly. The adrenaline auto-injector is first line treatment in the event of anaphylaxis.</p> <p>Equipped to administer emergency treatment.            To prevent accidental needlestick injury and cross-infection.</p>
<p>3. Allow time for patient/carers to practice with an auto-injector trainer pen device until correct technique is perfected. Instruct how to obtain a trainer pen.</p>	<p>To assess understanding and ability to administer correctly Emerade auto-injector technique.            Patients who practice with a trainer pen device retain their skills better than those who do not have a trainer pen.</p>
<p>4. Provide written Patient Information Sheet on 'How to use Emerade'.</p>	<p>To provide written reinforcement.</p>
<p>5. Retraining on use of Emerade device. Make patient demonstrate use of device at every given opportunity.</p>	<p>To check competence and provide further training if required.</p>

## How to train a patient and/or carer how to administer Epipen adrenaline auto-injector

PROCEDURE	RATIONALE
<p>1. Provide a practical demonstration on how to administer the Epipen per manufacturer's instructions using a trainer pen device:</p> <p><u>Step 1:</u> Remove blue safety release cap  <u>Step 2:</u> Note that the needle will come out of the orange tip. Grip the Epipen firmly with the orange tip pointing downwards, ensuring fingers and thumbs do not cover either end of device.  <u>Step 3:</u> From about 10 cm away firmly jab orange tip of Epipen against upper outer area of the thigh at 90 degrees until it clicks.  <u>Step 4:</u> Hold the Epipen in place for a count of 10 seconds.  <u>Step 6:</u> Get urgent medical attention: dial 999 and say 'anaphylaxis'.</p>	<p>Unless cap removed device will not be activated. A firm grip will prevent slipping. To ensure medication is delivered into a muscle. Click confirms activation of the device.</p> <p>10 seconds will enable the full adrenaline dose to be given.</p> <p>Important to seek medical help to monitor recovery and in case further treatment is required.</p>
<p>2. Important information for patient and/or carer:</p> <ul style="list-style-type: none"> <li>h. Ensure patient is aware of appropriate dose of adrenaline for their weight, advise to check expiry date and that liquid in the syringe is not discoloured i.e. brown.</li> <li>i. Advise patient to keep a copy of their Emergency Treatment Plan with Epipen.</li> <li>j. Advise patient that it is advisable to inject directly onto exposed skin but Epipen can be administered through clothing with care to avoid thick seams.</li> <li>k. Carry Epipen on person at all times.</li> <li>l. Advise on safe disposal of sharps.</li> <li>m. Reassure patients that there may be some residual liquid left in the syringe.</li> <li>n. Epipen should not replace allergen avoidance as this is the treatment priority to prevent allergic reactions.</li> </ul>	<p>Earlier corrective action has been associated with improved clinical outcomes. At all times summon urgent medical attention. Dosage correlates with patient's weight (Table p.1.) To renew Epipen as required.</p> <p>Written instructions support actions to take in event of an allergic reaction.</p> <p>To give medication promptly. The adrenaline auto-injector is first line treatment in the event of anaphylaxis.</p> <p>Equipped to administer emergency treatment. To prevent accidental needlestick injury and cross-infection.</p>
<p>3. Allow time for patient/carer to practice with an auto-injector trainer pen device until correct technique is perfected. Instruct how to obtain a trainer pen.</p>	<p>To assess understanding and ability to administer correctly Epipen auto-injector technique. Patients who practice with a trainer pen device retain their skills better than those who do not have a trainer pen.</p>
<p>4. Provide written Patient Information Sheet on 'How to use Epipen'.</p>	<p>To provide written reinforcement.</p>
<p>5. Retraining on use of Epipen device. Make patient demonstrate use of device at every given opportunity.</p>	<p>To check competence and provide further training if required.</p>

## How to train a patient and/or carer to administer Jext adrenaline auto-injector

PROCEDURE	RATIONALE
<p>1. Provide a practical demonstration on how to administer Jext per manufacturer's instructions using a trainer pen device:</p> <p><u>Step 1:</u> Observe the arrows on the device indicating the direction of injection. Grip the Jext firmly ensuring fingers and thumbs do not cover either end of device.</p> <p><u>Step 2:</u> Pull off the yellow cap with your other hand.</p> <p><u>Step 3:</u> Place the black tip firmly onto the upper, outer area of the thigh. Push firmly until you hear a click.</p> <p><u>Step 4:</u> Hold the Jext firmly in place for a count of 10 seconds, then remove. The black tip will extend automatically and cover the needle.</p> <p><u>Step 5:</u> Get urgent medical attention: dial 999, say 'anaphylaxis'.</p>	<p>Simple reminder. A firm grip will prevent slipping.</p> <p>Unless cap removed device will not be activated.</p> <p>To ensure medication is delivered into a muscle. Click confirms activation of the device.</p> <p>10 seconds will enable the full adrenaline dose to be given.</p> <p>Important to seek medical help to monitor recovery and in case further treatment is required.</p>
<p>2. Important information to patient and/or carer:</p> <ol style="list-style-type: none"> <li>a. Ensure patient is aware of appropriate dose of adrenaline for their weight, advise to check expiry date and that liquid in the syringe is not discoloured i.e. brown.</li> <li>b. Advise patient to keep a copy of their Emergency Treatment Plan with Jext.</li> <li>c. Advise patient that it is advisable to inject directly onto exposed skin but Jext can be administered through clothing with care to avoid thick seams.</li> <li>d. Carry Jext on person at all times.</li> <li>e. Advise on safe disposal of sharps</li> <li>f. Reassure patient that there may be some residual liquid left in the syringe.</li> <li>g. Jext should not replace allergen avoidance as this is the treatment priority to prevent allergic reactions.</li> </ol>	<p>Earlier corrective action is associated with improved clinical outcomes. Always summon urgent medical help. Dosage correlates with patient's weight (Table p.1). To renew Jext as required.</p> <p>Written instructions support actions to take in event an allergic reaction. To give medication promptly. The adrenaline auto-injector is first line treatment in the event of anaphylaxis.</p> <p>Equipped to administer emergency treatment. To prevent accidental needlestick injury and cross-infection.</p>
<p>3. Allow time for patient/carers to practice with an auto-injector trainer pen device until correct technique is perfected. Instruct how to obtain a trainer pen.</p>	<p>To check understanding and ability to administer correctly Jext adrenaline auto-injector technique. Patients who practice with a trainer device retain their skills better than those who do not have a trainer pen.</p>
<p>4. Provide written Patient Information Sheet on 'How to use Jext'.</p>	<p>To provide written reinforcement.</p>
<p>5. Retraining on use of Jext device. Make patient demonstrate use of device at every given opportunity.</p>	<p>To check competence and provide further training if required.</p>

### References

1. Emerade instructions for use: iMed Systems Ltd.
2. EpiPen instructions for use: Meda Pharmaceuticals Ltd.
3. Jext instructions for use: ALK Abello Ltd.
4. British National Formulary **64**: September 2012. BMA Royal Pharmaceutical Society.