Cheshire and Wirral Partnership
NHS Foundation Trust

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Anaphylaxis treatment policy

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Type of document	Policy
Target audience	All clinical staff
Document purpose	To provide guidance to practitioners in relation to the administration of adrenaline in an emergency situation.

Approving meeting	Clinical Practice and Standards Sub Committee	Date 18/04/2019
Implementation date	18/04/2019	

CWP documents to be read in conjunction with	
HR6	Mandatory Employee Learning (MEL) policy
CP24	Cardiopulmonary Resuscitation (CPR) policy
IC1	Trustwide Infection, Prevention and Control (IPC) operational policy
MP1	Medicines policy
GR1	Incident reporting and management policy
HR3.3	Disciplinary policy and procedure

Document change history	
What is different?	Schedule 19 – regulation 238 of the human medicines regulations (2012) added Anaphylaxis shock pack provision and storage guidance added for both inpatient areas and community teams Training requirements / provision for adrenaline administration added. Treatment for Anaphylactic reactions updated. Flowchart 1 - Anaphylactic Reactions – Initial Treatment flowchart updated. Flowchart 2 – Anaphylactic Reactions Initial Treatment for Medical Staff for Medical staff added Flowchart 3 – Shock Pack Adrenaline doses / shock pack contents added Flowchart 4 – Auto Injector (Epipen /Jext / Emerade) instructions of use added.
Appendices / electronic forms	All appendices updated.
What is the impact of change?	Shock packs need to be available to all staff administering I.M injections, also how adrenaline is stored in extremes of temperatures for community services.

Training requirements	Yes - Training requirements for this policy are in accordance with the CWP Training Needs Analysis (TNA) with Education CWP.

Document consultation	
Clinical Services	Consultation via online discussion forum
Corporate services	Consultation via online discussion forum

External agencies	N/A

Financial resource implications	None

External references
1. Resuscitation Council (UK) 2015, A, B, C,D, E Approach Guidelines for healthcare providers
2. The Human Medicines Regulations, 2012
3. Resuscitation Council (UK) 2008. Emergency treatment of anaphylactic reactions. Guidelines for healthcare providers
4. National Institute for Health and Clinical Excellence 2012. CG134 - Anaphylaxis: Assessment to confirm an anaphylactic episode and decision to refer after emergency treatment for a suspected anaphylactic episode
5. British National Formulary, 63. March 2012

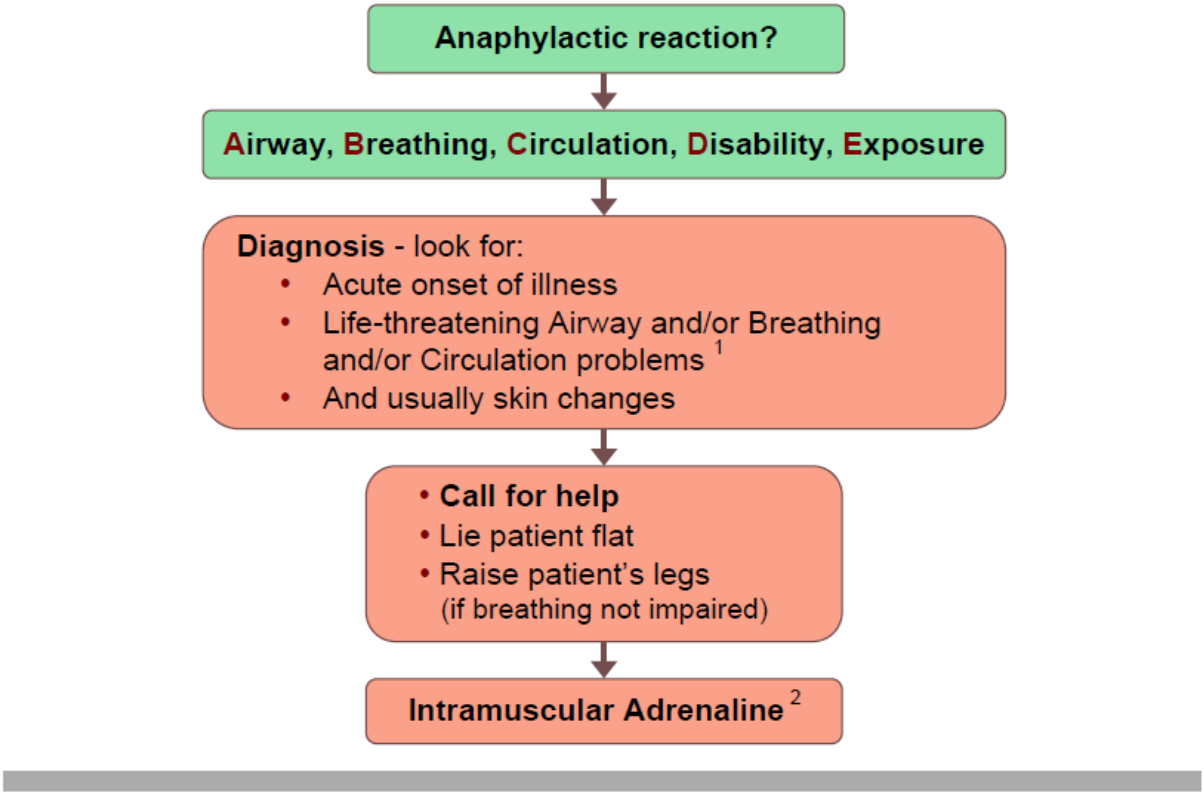
Equality Impact Assessment (EIA) - Initial assessment	**Yes/No**	**Comments**
Does this document affect one group less or more favourably than another on the basis of:		
- Race	No	
- Ethnic origins (including gypsies and travellers)	No	
- Nationality	No	
- Gender	No	
- Culture	No	
- Religion or belief	No	
- Sexual orientation including lesbian, gay and bisexual people	No	
- Age	No	
- Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
Is there any evidence that some groups are affected differently?	No	
If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?		
N/A		
Is the impact of the document likely to be negative? - If so can the impact be avoided? - What alternatives are there to achieving the document without the impact? - Can we reduce the impact by taking different action?	No N/A N/A N/A	
Where an adverse or negative impact on equality group(s) has been identified during the initial screening process a full EIA assessment should be conducted. If you have identified a potential discriminatory impact of this procedural document, please refer it to the human resource department together with any suggestions as to the action required to avoid / reduce this impact. For advice in respect of answering the above questions, please contact the human resource department.		
Was a full impact assessment required?	No	
What is the level of impact?	Low	

Contents

Flowchart 1 – Anaphylactic Reactions – Initial Treatment

Resuscitation Council (UK)

Anaphylactic reactions – Initial treatment



[1] Life-threatening problems:

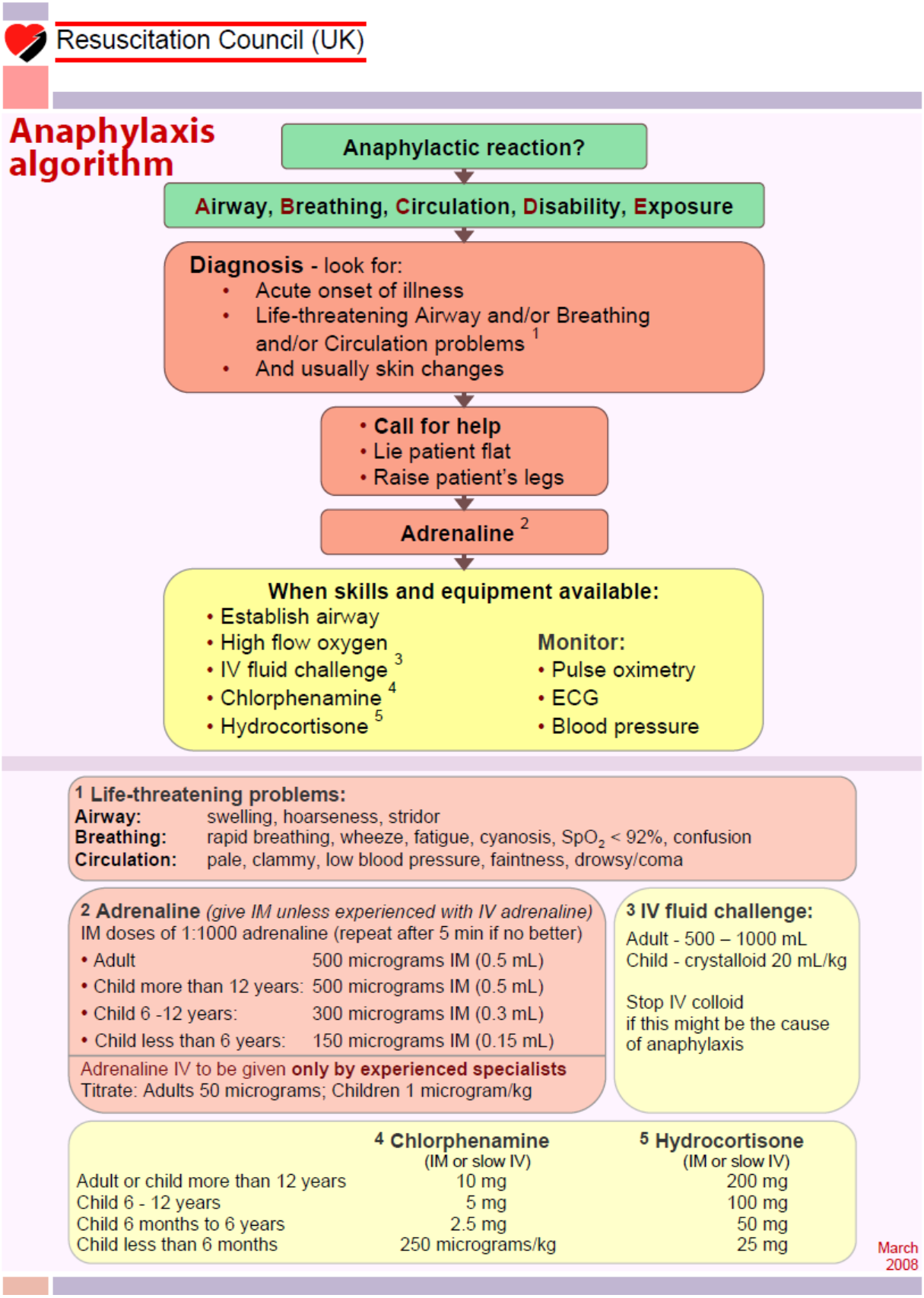
Airway:	swelling, hoarseness, stridor
Breathing:	rapid breathing, wheeze, fatigue, cyanosis, SpO_2 < 92%, confusion
Circulation:	pale, clammy, low blood pressure, faintness, drowsy/coma

[2] Intramuscular Adrenaline

IM doses of 1:1000 adrenaline (repeat after 5 min if no better)

• Adult	500 micrograms IM (0.5 mL)
• Child more than 12 years:	500 micrograms IM (0.5 mL)
• Child 6 -12 years:	300 micrograms IM (0.3 mL)
• Child less than 6 years:	150 micrograms IM (0.15 mL)

Flowchart 2 – Anaphylactic Reactions Initial Treatment for Medical Staff for Medical staff



Flowchart 3 – Shock Pack Adrenaline doses *(not applicable to auto injectors due to differing doses)*

Adrenaline IM dose – adults

0.5 mg IM (= 500 micrograms = 0.5 mL of 1:1000) adrenaline

Adrenaline IM dose – children

The scientific basis for the recommended doses is weak. The recommended doses are based on what is considered to be safe and practical to draw up and inject in an emergency.[47]

(The equivalent volume of 1:1000 adrenaline is shown in brackets)

> 12 years:	500 micrograms IM (0.5 mL) i.e. same as adult dose
	300 micrograms (0.3 mL) if child is small or prepubertal
> 6 – 12 years:	300 micrograms IM (0.3 mL)
> 6 months – 6 years:	150 micrograms IM (0.15 mL)
< 6 months:	150 micrograms IM (0.15 mL)

Shock Pack Contents:

- 1 box containing x3 vials of 1mg in 1ml of 1:1,000 units Adrenaline
- x3 21g – green needles
- x3 23g – blue needles
- X3 25g – Orange (All safer sharps)
- x3 1ml syringes
- Anaphylactic shock pack action / advice leaflet with dosages as above.

Flowchart 4 – Auto Injector (EpiPen /Jext / Emerade)

1. Grasp Auto Injector in dominant hand with thumb nearest grey or yellow cap and form fist around unit (black tip down).See diagram 1.

▼

2. With other hand pull off grey, blue or yellow safety cap.

▼

3. Hold the Auto Injector at a distance of approximately 10cm (4") away from the outer thigh; The black tip should point towards the outer thigh.

▼

4. Jab the Auto Injector firmly into outer thigh (see diagram 2) at a right angle (90^0 angle); (listen for click).

▼

5. Hold firmly in thigh for 10 seconds. Auto Injector should be removed safely and discarded.

▼

6. Massage the injection area for 10 seconds.

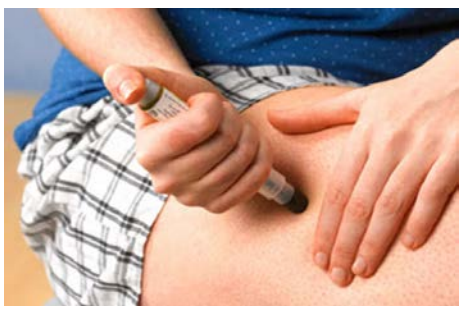
NB. A small air bubble may be present in the auto injector. It does not affect the way the product works.

Even though most of the liquid (about 90%) remains in the auto injector after use, it cannot be reused. After use place the auto injectors safely in the tube provided and return it to GP surgery, hospital or pharmacy.

As the **auto injector** is designed as emergency treatment only, you should always seek medical help immediately after using the auto injector by reporting to a doctor, hospital or by calling an ambulance.

Diagram 1 – Examples of Auto Injectors (i.e. Epi-Pen <u>300mcg</u> / Jext <u>300mcg</u> Emerade <u>500mcg</u>)

Diagram 2 – Injection site for Auto Injector use



1. Introduction

The aim of this policy is to provide guidance for the primary management of anaphylaxis in all healthcare settings where practitioners currently support patients. This policy covers a medical emergency that has a wide range of trigger factors which has the potential to occur in any healthcare setting. It refers to the recognition and treatment of patients who may have experienced a possible life threatening reaction, such as anaphylaxis, due to extreme sensitivity to a substance such as a protein or a prescribed drug. Anaphylaxis is a rare reaction, the severity of the reaction, should it occur, makes it essential that a practitioner is aware of the necessary steps required to recognise and treat it if necessary.

Resuscitation Council (UK) states in their anaphylaxis guidelines "*there is considerable variation and overlap between the skills and knowledge of different healthcare providers who are expected to treat an anaphylactic reaction. We have therefore deliberately not developed guidelines for specific groups of healthcare provider*".

2. Definitions

Practitioner - A general term used to describe a registered medical practitioner, nurse, Allied Health Professionals or other healthcare professional that may perform authorised roles involving administration of medicines.

Anaphylaxis - Anaphylaxis is a severe, life-threatening, generalised or systemic hypersensitivity reaction. It is characterised by rapidly developing, life-threatening problems involving: the airway (pharyngeal or laryngeal oedema) and / or breathing (bronchospasm with Tachypnoea) and / or circulation (hypotension and / or tachycardia). In most cases, there are associated skin and mucosal changes.

Schedule 19 – regulation 238 of the human medicines regulations (2012) - The Human Medicines regulations 2012 lists some parenteral medicines known as schedule 19 medicines that may be administered by anyone for the purpose of saving a life in an emergency. This list includes Adrenaline 1in 1000 up to 1mg for intramuscular use. Staff will be required to be suitably trained to be able to administer Adrenaline into a deep muscle.

BLS – Basic Life Support

3. Scope of administration

In the event of any person suffering a suspected anaphylactic reaction, this policy must be followed. Medicines legislation restricts the administration of injectable medicines; unless self-administered, only be administered by or in accordance with the instructions of a doctor or a patient group direction (e.g., by a nurse). However, in the case of adrenaline use when anaphylaxis is suspected, there is an exemption to this restriction which means in an emergency situation, a suitably trained lay person is permitted to administer adrenaline by intra muscular injection for the purpose of saving life (Please see Schedule 19 Medicines above).

Anaphylaxis packs are not available in all inpatient areas, but are available on all inpatient areas supplied with a resuscitation equipment trolley including CWP GP services; packs are contained within the Emergency resuscitation drugs bag which is located on top of the resuscitation trolley. Where anaphylaxis packs are available their exact location must be known to all relevant members of staff. Anaphylaxis packs are available for Physical Health West practitioners through CWP preferred pharmacy supplier and should be ordered via the relevant medicines ordering procedure.

For community nursing teams who are carrying out invasive procedures and are administering injectable medications such as initial dose anti Psychotics, Vitamin B12 etc. adrenaline must be available in both the clinic setting and for **all Intramuscular injection administration** in the patient's own homes. Shock packs can be ordered through pharmacy and must be readily available.

Shock packs must be stored at room temperature as the efficacy of the adrenaline cannot be guaranteed if kept at extreme temperatures, i.e. adrenaline must not be kept in cars in extreme heat or cold.

Training on the drawing up of ampoules and subsequent administration is covered during Basic Life Support / Anaphylaxis Training for both inpatient and community staff, additional training for both anaphylaxis and Injection techniques can be arranged by contacting the Clinical training manager for Physical Health and Resuscitation.

3.1 Prevention of anaphylactic shock

Practitioners have a responsibility to ensure that there is sufficient time available to undertake a thorough assessment of the patient, including a comprehensive history of drug reactions and other contraindications.

- The patient must be asked whether they have had any previous reactions (drug or otherwise) and the medical notes or GP records for any other relevant info checked for any relevant information;
- The practitioner should identify the following risk factors prior to administering the drug:
  - Any adverse reactions including convulsions, following previous drug administration;
  - Any previous allergic condition such as hay fever, asthma, urticaria, eczema.

- Recipients of any vaccine should be observed for immediate adverse drug reaction;
- Document all relevant information in the patient's notes during assessment;
- With any treatment involving the administration of medicine / vaccines there is the potential of adverse side effects. All patients should be informed of these side effects and how to get advice if needed;
- Following any anaphylaxis reaction the Trust incident reporting and management policy (please refer to GR1) must be followed

4. Guidelines for the management of anaphylaxis

If a patient becomes temporarily unable to consent due to, for example, being unconscious, they may receive treatment necessary to preserve life. In such cases the law allows treatment to be provided without a patient's or client's consent as long as it is in their best interests under the Mental Capacity Act. Any treatment given must be:

- Necessary to save life, or prevent a deterioration of, or ensure an improvement in, the patient's physical or mental health;
- Be in accordance with the practice accepted at the time by a reasonable body of medical opinion skilled in the particular form of treatment in question.

4.1 Recognition and assessment

All practitioners involved in healthcare interventions should be able to distinguish an anaphylactic reaction from fainting (syncope) and panic attacks. Allergic reactions may be local or systemic or both. Local reactions, such as those following an insect bite, are usually swelling, redness and itching. As a local reaction becomes systemic, the patient may initially complain of any of the following:

- A red rash and itching;
- Feeling hot;
- Anxiety;
- Weakness and giddiness;
- Breathing difficulties.

These signs and symptoms are not entirely specific for an anaphylactic reaction; however, certain combinations of signs and symptoms make the diagnosis of an anaphylactic reaction more likely.

Anaphylaxis is likely when all of the following 3 criteria are met:

- Sudden onset and rapid progression of symptoms;
- Life-threatening airway and / or breathing and / or circulation problems;
- Skin and / or mucosal changes (flushing, urticaria, angioedema).

The following supports the diagnosis:

- Exposure to a known allergen for the patient. Remember skin or mucosal changes alone are not a sign of an anaphylactic reaction;
- Skin and mucosal changes can be subtle or absent in up to 20% of reactions (some patients can have only a decrease in blood pressure, i.e. circulation problem);
- There can also be gastrointestinal symptoms (e.g. vomiting, abdominal pain, incontinence).

4.2 Treatment of anaphylactic reactions

As the diagnosis of anaphylaxis is not always obvious, all those who treat anaphylaxis must have a systematic approach to the patient. In general treatment of anaphylactic reaction should be based on general life support principles; the clinical signs of critical illness are similar whatever the underlying process because they reflect failing respiratory, cardiovascular and neurological systems.

Staff must use an 'ABCDE' approach (https://www.resus.org.uk/resuscitation-guidelines/abcde-approach/) to recognise and treat an anaphylactic reaction:

- Call for immediate assistance – phone (9)999 or 2222 (where indicated) for an ambulance stating that an anaphylactic reaction is occurring, location, request a paramedic crew and send a staff member to wait for the arrival of the ambulance;
- Initial assessment and treatment based on the ABCDE approach where there is more than one rescuer NEVER leave the patient alone. Where there is a single responder ensure that help is coming. If there are several rescuers, several actions can be undertaken simultaneously. The principles of treatment are the same for all age groups:
- Oxygen if available
- Adrenalin therapy if available;
- Investigation and follow up by an allergy specialist.

Resuscitation equipment and drugs to help with the rapid resuscitation of a patient must be immediately available in all CWP clinical premises. Where drugs are available to treat anaphylaxis incidents practitioners **must be** familiar with their usage.

4.3 Removal of trigger

If removing the trigger is not feasible do not delay treatment which may help the patient. Immediately on arrival to the patient:

- Stop any drug suspected of causing an anaphylactic reaction;
- Remove the stinger after a bee sting. Early removal is more important than the method of removal;
- After food induced anaphylaxis, attempts to make the patient vomit are **not recommended**;
- Removing the trigger for an anaphylactic reaction is not always possible.

4.4 Patient positioning

All patients should be placed in a comfortable position. The following factors should be considered:

- Patients with airway and breathing problems may prefer to sit up as this will make breathing easier;
- Lying flat with or without leg elevation is helpful for patients with a low blood pressure (circulation problems). If the patient feels faint do not sit or stand them up as this can cause cardiac arrest;
- Patients who are breathing and unconscious should be placed on their side (recovery position);
- Pregnant patients should lie on their left side to prevent caval compression.

5. Drugs used to treat anaphylactic victims

Adrenaline Route
Adrenaline is the most important drug for the treatment of an anaphylactic reaction. The intramuscular (IM) route is the best for most individuals who have to give adrenaline to treat an anaphylactic reaction. The best site for IM injection is the anterolateral aspect of the middle third of the thigh and avoids using any site that is inflamed or swollen (see appendix 3 for dosages)

Adrenaline Auto-Injectors (I.e. Epipen / Jext / Emerade)
Auto-injectors are often given by GP / secondary care specialists to patients at risk of anaphylaxis for their own use. There are only two doses of adrenaline auto-injector commonly available, 300 microgram and 500 microgram. The most appropriate dose for an auto-injector will have been prescribed for individual patients by allergy specialists. If adrenaline auto-injector is the only available adrenaline preparation when treating anaphylaxis practitioners should use it (see appendix 4 for instructions).

6. Training

All CWP Practitioners must familiarise themselves with this policy, all associated clinical guidelines and relevant patient group directives. All staff must adhere to CWP Learning and Development Mandatory Essential Learning (MEL), this will include:

- Basic life Support Training (Basic and / or Immediate);
- Anaphylaxis (awareness training only) – During BLS training.