Livewell Southwest

Management of Severe Anaphylaxis

Version No 3.3
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Notice to staff using a paper copy of this guidance

The policies and procedures page of LSW intranet holds the most recent version of this document and staff must ensure that they are using the most recent guidance.

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Reader Information

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Document review history

Version no.	Type of change	Date	Originator of change	Description of change
For previous review history please contact the PRG secretary.				
2.6	Corporate	08/10/2008	Stephen Williams	Reviewed and rewrote to corporate standard.
2.7	Updated	18/01/2011	Resuscitation Training Officer	Minor grammatical changes
2.8	Corporate	19/04/2011	Resuscitation Training Officer	Reviewed
3	Corporate	27/03/2013	Resuscitation Training Officer	Anaphylaxis treatment change
3.1	Extended	01/05/2015	Resuscitation Training Officer	Extended no changes.
3.2	Reviewed	February 2016	Resuscitation Training Officer	Reviewed, new chart - Anaphylactic reactions – Initial treatment. Updated to LSW.
3.3	Reviewed	January 2017	Resuscitation Officer	Epipens added as part of treatment protocol

Management of Severe Anaphylaxis

1. Introduction

1.1 This policy has been updated and is based on the Resuscitation Council (UK) 2008 guidelines on the emergency treatment of anaphylactic reactions for healthcare providers. The definition of anaphylaxis referred to in this paper is “a severe, life threatening, generalised or systemic hypersensitivity reaction”.

1.2 This policy will cover both adults and children. This is in line with the approach used by the UK Resuscitation Council guidelines.

1.3 The incidence of anaphylaxis is on the increase; the Resuscitation Council (UK) reports a dramatic increase in the rate of hospital admissions for anaphylaxis.

1.4 Anaphylaxis has a very broad range of triggers, but those most commonly identified include food, drugs and insect stings.

1.5 The recognition and treatment of anaphylaxis should be done by using the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach.

1.6 The most important treatment for a life threatening anaphylactic reactions remains the early use of Intra Muscular (IM) adrenaline.

2. Purpose

2.1 This policy will apply to all professionally registered staff groups involved in clinical care with adults /children and employed by Livewell Southwest (LSW). This policy will cover qualified staff within Clinical/Primary Care site areas of the LSW and patients in their own homes, nursing/residential homes, schools/colleges.

3. Duties

The **Chief Executive** is ultimately responsible for the content of all policies, implementation and review.

3.1 All appropriate registered health care professionals will undertake anaphylaxis training every 12 months on a mandatory basis. Support staff who are not professionally registered are encouraged to attend anaphylaxis training to enable them to support qualified staff. All staff must undertake Basic Life support training every 12 months.

3.2 LSW staff should undertake anaphylaxis training and basic life support training every 12 months, this includes general practitioners and practice nurses. Practices that are owned by Livewell Southwest will be provided with this training,

3.3 Public Health Nurses may be required to teach patients, carers, teachers about anaphylaxis and the use of the auto injectors.

3.4 Staff who prescribe auto-injectors should ensure that the patient and carers know when to use the auto-injector and how to use the device and this needs to be documented in patient's medical records.

4. Definitions

- **ABCDE:** Airway, Breathing, Circulation, Disability, Exposure
- **ALS :** Advanced Life Support
- **Anaphylaxis:** The Life threatening signs and symptoms caused by anaphylactic reaction
- **Anaphylactic shock:** Poor perfusion of the body's vital organs caused by an anaphylactic reaction.
- **BLS:** Basic Life Support i.e. CPR without the use of equipment except for airway protective devices.
- **CPR:** Cardiopulmonary resuscitation, which refers to chest compressions and ventilations.
- **IM:**Intra muscular

5. Recognition of Anaphylaxis

Airway Problems: Swelling of the throat and tongue, difficulty in breathing and swallowing, sensation that throat is closing up, hoarse voice, and stridor.

Breathing: Shortness of breath, increased respiratory rate, wheeze, patient becoming tried, confusion caused by hypoxia, cyanosis (appears blue) – a late sign, Respiratory arrest.

Circulation: Signs of shock-pale, clammy, increased pulse rate, low blood pressure, decreased conscious level, myocardial ischemia / angina, cardiac arrest.

Disability: Sense of impending doom, anxiety, panic, decreased conscious level caused by airway, breathing or circulation problems

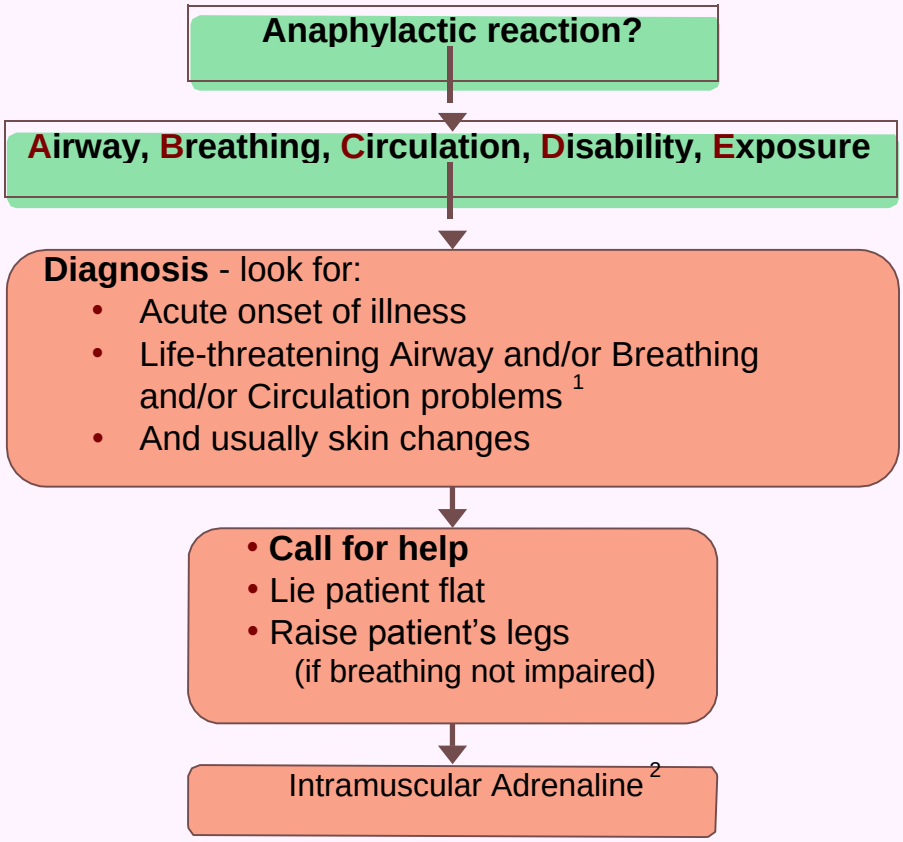
Exposure: Erythema- a patchy or generalized red rash, Urticaria also called hives, nettle rash weals or welts anywhere on the body, swelling of deeper tissues like eyelids, lips sometimes in the mouth and throat.

Patients may not always present all of the above and sometimes diagnosis is not always obvious.

Treatment of Anaphylaxis

Please note that in some areas you will not have advanced equipment like monitoring equipment, Oxygen, so the ambulance service will be your skilled help and equipment on the below flow chart.

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)

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5.1 The Recognition and treatment of anaphylaxis is done by using the ABCDE approach.

5.2 Anaphylaxis is likely when the following three criteria are met: Sudden onset and rapid progression of symptoms, Life threatening Airway and /or Breathing and /or Circulation problems, and usually skin changes (present in over 80% of cases)

5.3 As soon as anaphylaxis is recognised emergency help must be summoned by making a (9) 999/112 (or a (9)999/112 and 2222 call on some hospital sites which use this system).

5.4 The airway must be maintained at all times and if oxygen is available give high flow (15L / minute).

5.5 Lying flat with or without leg elevation is helpful for patients with a low blood pressure (Circulation problem). If the patient feels faint, do not sit or stand them up - this can cause cardiac arrest. Patients with airway or breathing problems may need to sit up

5.6 Remove the trigger if possible e.g. stop intravenous (IV) infusion of antibiotic. Do not delay administration of adrenaline if removing trigger is not feasible.

5.7 **Drug dosage (1st Line)**

Adrenaline IM dose – adults
0.5 mg IM (= 500 micrograms = 0.5 mL of 1:1000) adrenaline

Adrenalin via epipen- adults (community nursing teams only)
0.3mg (300 mcg =0.3ml, 1:1,000)

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.

(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 Pre-pubertal.
> 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)

The dose may be repeated every **5 minutes** as required, until improvement
Repeat until ambulance arrives or improvement occurs.

a) Further treatment may be given by the appropriated skilled clinician while awaiting (9)999/112 Ambulance for example IV fluid challenge, administration of Chlorphenamine and administration of Hydrocortisone.

b) Remember the urgency of transfer to Accident and Emergency, because of the danger further collapse and the need for further treatment.

c) If cardio-respiratory arrest occurs after anaphylactic reaction start CPR immediately according to the Resuscitation Council (UK) guidelines, ensure that (9) 999/112 has been made.

5.8 Epipens

An Epipen 0.3mg (0.3ml, 1:1,000) may be administered as part of the treatment protocol if carried by a patient or a member of the Community Nursing teams (See adrenaline protocol).

5.9 Cautions of Adrenaline

It **must** only be given by IM route in the emergency treatment of anaphylactic reactions in the community settings.

Caution: Prolonged use of Adrenaline can result in severe metabolic acidosis because of elevated blood concentrations of lactic acid.

The use of adrenaline by IV route is potentially very hazardous and should only be given by specialist medical staff in a monitored environment.

Drug dosage (2nd Line Drugs)

	Chlorphenamine (1M or slow IV)	**Hydrocortisone** (1M or slow IV)
Adult or child more than 12 years	10 mg	200 mg
Child 6 – 12 years	5 mg	100 mg
Child 6 months to 6 years	2.5 mg	50 mg
Child less than 6 months	250 micrograms/kg	25 mg

5.10 Differential Diagnoses

Life threatening conditions:

a) Sometimes an anaphylactic reaction can present with symptoms and signs that are very similar to life threatening asthma- this is commonest in children.

b) A low blood pressure (or normal in children) with a petechial or purpuric rash can be a sign of septic shock.

Seek medical help (9)999/112 and call early if there are any doubts about the diagnosis and treatment. Following the ABCDE approach will help with treating the differential diagnoses.

5.11 Non Life threatening conditions:

a) Faint (vasovagal episode)
b) Panic attack
c) Breath holding episode in child
d) Idiopathic (non allergic) Urticaria or angioedema

All of these usually respond to simple measures. If in doubt seek medical advice early.

Always ensure that have documented any emergency treatment that you have provided as soon as possible in line with LSW policy.

More information

www.resus.org.uk

www.anaphylaxis.org.uk

6. Monitoring Compliance and Effectiveness

a) All staff have a responsibility to report anaphylactic reaction through the LSW's Incident forms. This will allow the LSW to feed this information to the Resuscitation Committee. Monitoring will be ongoing yearly.

b) Records of staff attending anaphylaxis training can be accessed through ESR monitoring will be ongoing yearly.

c) Pharmacy lead will monitor and report to the Resuscitation Committee the adrenaline replacements kits and the turn around required, this will be ongoing.

All policies are required to be electronically signed by the Lead Director. Proof of the electronic signature is stored in the policies database.

The Lead Director approves this document and any attached appendices. For operational policies this will be the Locality Manager.

The Executive signature is subject to the understanding that the policy owner has followed the organisation process for policy Ratification.

Signed: Director of Professional Practice Safety and Quality

Date: 31st March 2016