Shropshire Community Health NHS Trust

Policies, Procedures, Guidelines and Protocols

Document Details	
Title	**Anaphylaxis Recognition & Treatment Policy**
Local Ref (optional)	2158-88686
Main points the document covers	Recognition and treatment of anaphylactic reactions
Who is the document aimed at?	All Clinical Staff
Authors	Andy MacAuley - Resuscitation Officer Emily Peer - Resuscitation Lead Susan Watkins – Chief Pharmacist
Approval process	
Who has been consulted in the development of this policy ?	Resuscitation Committee members and Clinical Leads
Approved by (Committee/Director)	Clinical Policy Subgroup
Approval Date	11/03/24
Initial Equality Impact Screening	Y
Full Equality Impact Assessment	N
Lead Director	Director of Nursing, Clinical Delivery and Workforce
Category	Policy
Review date	11/03/27
Distribution	
Who the policy will be distributed to	All SCHT Clinical Staff
Method	DATIX, Heads of Department Meetings, Team Meetings
Keywords	Anaphylaxis, Allergy, Allergic reaction, collapse
Document Links	
Required by CQC	
Other	

Amendments History		
No	Date	Amendment
1	Dec 2020	New Policy
2	May 2021	Updated to reflect changes in RCUK Anaphylaxis guideline
3	March 2024	Removed refractory anaphylaxis algorithm as not within scope of SCHT. Clarified staffing groups for administration of emergency drugs. Added community equipment list.
4		

Contents

1 Introduction

Anaphylaxis appears to be increasingly common and has been strongly associated with the increasing prevalence of allergic disease over the last two or three decades.

The treatment of anaphylaxis needs a consistent approach which draws together relevant and appropriate expertise as provided by the Resuscitation Council (UK) and NICE clinical Guideline 134 recommendations.

This policy applies to all staff who have face to face contact with patients who may be at risk of an anaphylactic reaction. It is particularly important for those who carry out high risk clinical procedures such as vaccination, steroid injections, acupuncture, local anaesthesia and administration of parenteral (intra-venous) therapies and blood transfusion. Such procedures must be carried out in accordance with appropriate specific guidance, including relevant PGDs, SOPs and clinical protocols where available.

2 Purpose

The purpose of this document is to provide comprehensive guidelines on the recognition and management of anaphylaxis and ensure high quality consistent immediate emergency treatment of anaphylaxis in line with RCUK and NICE guidance.

3 Definitions

Acronym	Term / Definition
ABCDE Approach	Airway Breathing Circulation Disability Exposure Approach
ACVPU	Alert, Confusion, Pain, Verbal, Unresponsive
Anaphylaxis	A severe, life-threatening, generalised or systemic hypersensitivity reaction characterised by rapidly developing life-threatening airway and/or breathing and/or circulation problems usually associated with skin and mucosal changes
DAART	Diagnostics, Assessment, Access to Treatment and Rehabilitation
ECG	Electrocardiogram
NEWS	National Early Warning Score
GCS	Glasgow Coma Score
IV	Intra-venous
IM	Intra-muscular
MIU	Minor Injuries Unit
NEWS	National Early Warning Score
NICE	National Institute for Clinical Excellence
NPSA	National Patient Safety Agency
RCUK	Resuscitation Council UK
SP0²	Oxygen Saturation
PEWS	Paediatric Early Warning Score
PGD	Patient Group Direction
SBAR	Situation, Background, Assessment, Recommendation
SCHT	Shropshire Community Health Trust
SOP	Specific Operating Procedure

4 Duties

4.1 The Chief Executive Officer

The CEO has overall responsible for maintaining staff and patient safety and is responsible for the governance and patient safety programmes within the organisation.

4.2 Directors of Services

The Directors are responsible for ensuring the safe and effective delivery of services they manage; this includes securing and directing resources to support the implementation of this policy. They are also responsible for ensuring a process is in place to effectively manage patient safety and that the organisation is compliant with the Care Quality Commission (CQC) and National Health Service Litigation Authority (NHSLA).

4.3 Locality Clinical Managers/ Line Managers

Locality Clinical Managers and Line Mangers will ensure that all staff who require training in Anaphylaxis recognition and treatment are identified, able to undertake appropriate training, and have access to required equipment.

4.4 All staff

All staff members identified as requiring Anaphylaxis recognition and treatment training undertake appropriate training and familiarise themselves with this policy and guidance.

5 Anaphylaxis Recognition & Treatment Policy

Treatment of an anaphylactic reaction should b.e based on general life support principles:

- Use the Airway, Breathing, Circulation, Disability, Exposure (ABCDE*) approach to recognise and treat problems.
- Call for help early.
- Treat the greatest threat to life first.
- Initial treatments should not be delayed by the lack of a complete history or definite diagnosis.

Patients having an anaphylactic reaction in any setting should expect the following as a minimum:

- Recognition that they are seriously unwell.
- An early call for help
- Initial assessment and treatments based on an ABCDE* approach.
- Adrenaline therapy if indicated.
- Investigation and follow-up by an allergy specialist

5.1 Anaphylaxis Recognition

Anaphylaxis can be triggered by any of a very broad range of triggers, but those most commonly identified include food, drugs and venom.

The relative importance of these varies very considerably with age, with food being particularly important in children and medicinal products being much more common triggers in older people.

Virtually any food or class of drug can be implicated, although the classes of foods and drugs responsible for most reactions are described below.

It is important to note that, in many cases, no cause can be identified.

5.1.1 Common allergens

A reaction may occur following exposure to a variety of agents. This list is not exhaustive.

Drugs including:

- Vaccines and Immunisations
- Antibiotics
- Aspirin and Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)
- Heparin
- Blood and blood products
- Anaesthetic drugs and Local anaesthetics –e.g., Mepivacaine, Lignocaine, Benzocaine, Procaine and Tetracaine.
- Contrast media

Foods including:

- Nuts - including peanuts and tree nuts
- Seeds - sesame
- Fruits - stone fruit, bananas
- Dairy - milk and eggs
- Soya

Other common agents:

- Insect stings
- Latex products
- Cosmetic dyes

5.1.2 Recognising Anaphylaxis

Recognise Anaphylaxis based on:

- **Sudden onset and rapid progression** of symptoms
- **A**irway and/or **B**reathing and/or **C**irculation problems
- **Skin and/or mucosal changes** (flushing, urticaria, angioedema) (Note that these may be absent in 20% of cases)

The following supports the diagnosis (e.g. if the patient tells you):

- 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., a Circulation problem)
- There can also be gastrointestinal symptoms (e.g. vomiting, abdominal pain, incontinence)

5.1.3 ABCDE Approach

Anaphylactic reactions vary in severity and speed of onset, but severe reactions usually occur rapidly within minutes of exposure to the allergen.

Intravenous administration can cause more rapid onset of symptoms than a sting, which is again more rapid than orally ingested allergens.

Rarely symptoms may be delayed by a few hours (adding to diagnostic difficulty), or persist for more than 24 hours.

The patient may look unwell and may have a ‘feeling of impending doom’.

Sudden onset and rapid progression of these symptoms, problems with airway, breathing or circulations and skin and mucosal changes are the triggers for treatment actions.

Patients can have either an A or B or C problem or any combination - use the ABCDE approach to recognise these:

Airway problems may include:

- Airway swelling, e.g., throat and tongue swelling (pharyngeal/laryngeal oedema)- The patient has difficulty in breathing and swallowing and feels that the throat is closing up
- Hoarse voice
- Stridor – this is a high-pitched inspiratory noise caused by upper airway obstruction

Breathing problems may include:

- Shortness of breath – increased respiratory rate
- Wheeze
- Patient becoming tired
- Confusion caused by hypoxia
- Cyanosis (appears blue) – this is usually a late sign
- Respiratory arrest

Circulation problems may include:

- Signs of shock – pale, clammy
- Increased pulse rate (tachycardia)
- Low blood pressure (hypotension) – feeling faint (dizziness), collapse
- Decreased conscious level or loss of consciousness
- Anaphylaxis can cause myocardial ischaemia and electrocardiograph (ECG) changes
- Cardiac arrest

Disability (neurological changes) may include:

- The above Airway, Breathing and Circulation problems can all alter the patient's neurological status (Disability problems) because of decreased brain perfusion.
- There may be confusion, agitation, loss of consciousness, or unusual quietness in children
- Patients can also have gastro-intestinal symptoms- abdominal pain, incontinence or vomiting

Exposure:

- Angio-oedema (facial swelling)
- Urticarial rash
- Skin or mucosal changes including rhinitis and conjunctivitis
- These alone are not a sign of anaphylaxis and may *not* be present in 20% of cases

5.2 Anaphylaxis Treatment

Initial treatments should not be delayed by the lack of a complete history or definite diagnosis.

If you suspect anaphylaxis, commence treatment as the benefits outweigh the risks of an incorrect diagnosis.

Treating a patient with anaphylaxis in the community will not be the same as in an acute hospital. In all settings an ambulance must be called early, and the patient transported to an emergency department.

The initial treatment is similar in all community settings and the RCUK Anaphylaxis algorithm (Appendix1) should be provided in all anaphylaxis pouches.

Initial Treatment of Anaphylaxis - See Appendix 1 for full RCUK algorithm.

-

1. ABCDE

Undertake examination.

Are there sudden onset Airway, Breathing or Circulation problems?

And usually skin changes (e.g. itchy rash)

Removing clothes considering dignity.

2. Call for help

Out of hospital, an ambulance must be called early and the patient transported to an emergency department.
Call 999 and **state anaphylaxis** - inform the dispatcher if urgent need for adrenaline.

3. Allergen removal

If possible, limit or remove exposure to potential allergen, stop any drug suspected and remove bee sting (Early attempts at removal are more important than method!)

DO NOT encourage vomiting if ingested allergen suspected.

4. Patient position

DO NOT STAND THE PATIENT UP! This may trigger cardiovascular collapse.

Patients should adopt a position of comfort - lying flat with, or without, leg elevation may be helpful for hypotension - but those with breathing difficulties may wish to sit upright.

Patients who are pregnant are best lying on their **left** side (to reduce compression of the vena cava by the uterus).

5. Adrenaline Intramuscular administration

Adrenaline is generally regarded as the most important drug for any severe anaphylactic reaction.

It should be administered intramuscularly (IM) for the immediate treatment of anaphylactic reaction and can be given in an emergency **without** the necessity of a Patient Group Direction (PGD) or prescription.

Adrenaline intramuscular injection may be given by any registered or non-registered clinical staff member who has completed Anaphylaxis training and is competent at intramuscular injection.

Adrenaline should be administered intramuscularly (preferably in the midpoint of the thigh, anterolateral aspect) to all patients with clinical signs of anaphylaxis.

If a patient's own adrenaline auto-injector is the only available adrenaline preparation when treating anaphylaxis, healthcare providers should use it.

Adrenaline IM (Intra-muscular) dose - Adults

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

Adrenaline IM dose - Children

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 IM (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:	100-150 micrograms IM (0.1- 0.15 mL)

Repeat the IM adrenaline dose if there is no improvement in the patient's condition after 5 minutes.

Further doses can be given at about 5-minute intervals according to the patient's response.

6. Administer Oxygen (as soon as available)

Initially, give the highest concentration of oxygen possible using a mask with an oxygen reservoir.

Ensure high flow oxygen (15 litres per minute) to prevent collapse of the reservoir during inspiration.

Emergency oxygen therapy may be commenced by any registered clinical staff member who is competent at safe connection and delivery of oxygen via a mask. See the Protocol for the use and administration of Oxygen, 1488-78098 (https://staffzone.shropcom.nhs.uk/smii/doclib/10833_12.pdf)

7. Administer parenteral fluids (as soon as available)

If there is intravenous access, infuse intravenous fluids after the second dose of intramuscular adrenaline.

Give a rapid IV fluid challenge (10 mL/kg in a child or 500-1000 mL 0.9% Normal Saline in an adult) and monitor the response; give further doses as necessary. *(Note: This is an exception to the Trust Protocol for Sodium Chloride, which states 250ml bolus delivery for unwell hypotensive patients).*

Do NOT administer adrenaline intravenously.

Peripheral venous access may only be attempted by registered clinicians who are competent at the skill.

Fluids may only be administered by registered clinicians who are competent at the skill. No PGD or prescription is required in an emergency.

5.3 Further treatment actions

Patients not responding to initial treatment will require further treatment in an acute hospital setting, hence the importance of calling early for help.

SCHT staff MUST NOT commence Intravenous Adrenaline Infusion as part of the Refractory Anaphylaxis Algorithm – this is for critical care settings only.

5.3.1 Admission to an acute hospital setting

Patients who have had a suspected anaphylactic reaction (i.e., an airway, breathing or circulation (ABC) problem) should be treated and then observed in a clinical area with facilities for treating life-threatening ABC problems.

They should be reviewed by a senior clinician and a decision made about the duration of observation and need for further treatment.

5.4 Recording and reviewing Anaphylaxis Events

Anaphylaxis events will be recorded in the patient's clinical record / RiO and as an alert.

Recording clear details of the following can help confirm the diagnosis of anaphylaxis and identify the most likely trigger:

- A description of the reaction with circumstances and timings to help identify potential triggers
- A list of administered treatments

Significant events of this sort will be additionally recorded on DATIX copying the Resuscitation Officer with completion of a Post Resuscitation Event learning tool (see Resuscitation Policy) within 48 hours for rapid learning and to assist with any immediate issues and allow follow up and support of staff.

Root Cause Analysis (RCA) or significant event analysis will be conducted if appropriate through normal channels.

Learning from these will be brought escalated through the normal Q&S structures and to the Resuscitation Committee.

An Anaphylaxis Registry has been established in the UK. Healthcare professionals are encouraged to report all anaphylaxis events anaphylaxie.net (to register, healthcare professionals should email anaphylaxis.registry@ic.ac.uk).

6 Consultation

- Dr M Ganesh, Medical Director
- Dr Emily Peer, Associate Medical Director
- Susan Watkins, Chief Pharmacist
- Tom Seager, Clinical Director, Dental Services
- Dr Pat Staite, Associate Medical Director, Prisons
- Vickie Clayton – Clinical Lead for Quality
- Michelle Murray, Team Lead MIU
- Shelley Ramtuhul - Governance and Risk
- Narinder Kular, Consultant Nurse for Children with Complex Needs.
- Andy MacAuley, Resuscitation Officer
- Shirley Pickstock – Advanced Clinical Practitioner
- Claire Horsfield - Director of Operations & Chief AHP

7 Dissemination and Implementation

7.1 Dissemination

This policy will be circulated by DATIX and available to staff through the Trust website and discussed at local staff forums.

7.2 Implementation

All Staff will receive training as determined by the trust Mandatory Training Policy at agreed intervals.

All clinical staff in high and medium risk areas will receive training annually.

Requirements for other individual staff groups will be specified, reviewed and monitored as defined by the trust Mandatory Training Policy.

Training will be by eLearning (currently accessed through ESR) or Face to Face where available.

Components and audit checklists for Anaphylaxis boxes in Resuscitation Trollies are defined by the Resuscitation policy (https://staffzone.shropcom.nhs.uk/smii/doclib/10316.pdf)

8 Monitoring Compliance

Compliance with this policy will be monitored through:

- ESR mandatory training compliance annually
- Significant events analyses
- Mortality Group case reviews

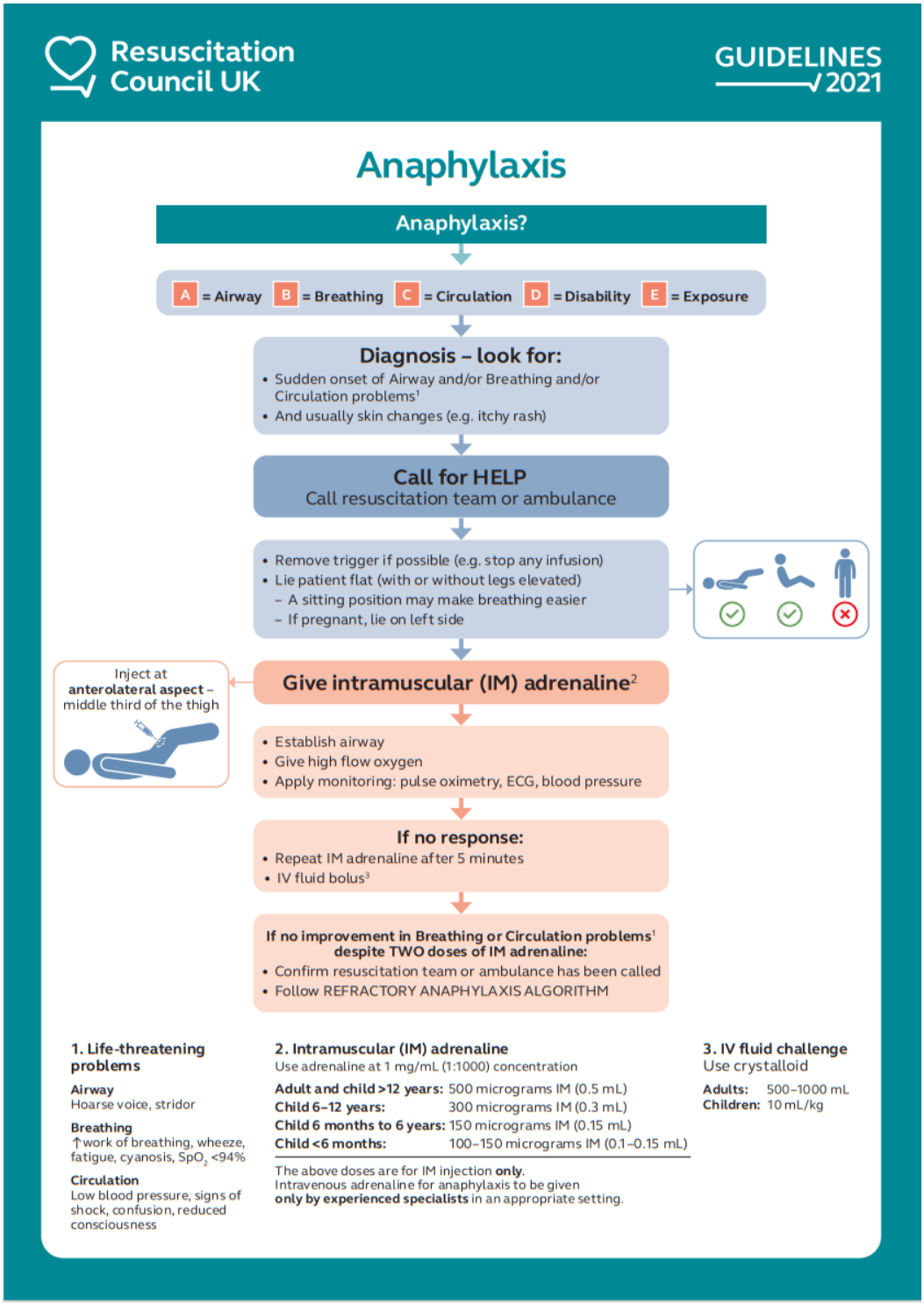
9 References

- Resuscitation Council UK (2021) Emergency treatment of anaphylactic reactions: Guidelines for healthcare providers | Resuscitation Council UK Last accessed 25.05.2021
- NICE (2011) Clinical Guideline 134 Anaphylaxis: assessment to confirm an anaphylactic episode and the decision to refer after emergency treatment for a suspected anaphylactic episode https://www.nice.org.uk/guidance/cg134/evidence/anaphylaxis-full-guideline- pdf-184946941 Last accessed 22.11.2020
- RCN and PHE Immunisation Knowledge and Skills Competence Assessment Tool Second edition (2018)

10 Associated Documents

- Clinical Observations and recognition of the Deteriorating Patient Policy- including NEWS 2, SBAR and Sepsis recognition
- Consent to Examination and Treatment Policy
- Information Governance Policy
- Clinical Record Keeping Policy
- Resuscitation Policy: CPR- DNACPR Policy

11 Appendix 1 - RCUK Anaphylaxis Algorithm



Download this algorithm: https://www.resus.org.uk/sites/default/files/2021-04/Anaphylaxis%20algorithm%202021.pd

Appendix 2: Anaphylaxis equipment for community teams administering medications

Community teams administering medications should carry anaphylaxis treatment equipment comprising:

- Adrenaline 1:1000 1mg in 1ml ampoules, box of 10
- Graduated 1ml syringes x4 (2ml syringes are permissible if 1ml not available)
- Blue IM needles (23g) x4
- RCUK Anaphylaxis Algorithm printed-out (Appendix 1)

It is strongly advised to have this equipment together, and readily available when administering any medications which could trigger a reaction.

An envelope, plastic folder, pouch or small zipped bag may be appropriate to suit clinicians' own equipment carrying solutions – the term "pouch" is used here to encompass all.

It is strongly advised for clinicians to keep a note of expiry dates visible on the outside of the anaphylaxis pouch. Expiry dates must be checked monthly to ensure the contents are within range.

The Trust Medicines Management Policy: General Principles advises: *"10.2. Emergency medicines will be stored and checked in accordance with local SOP's so that medicines can be quickly accessible in an emergency yet stored securely to prevent misuse."* Where a local SOP does not exist, this policy is regarded as standard.

Clinicians must be aware that internal car temperatures are liable to large fluctuations, and that prolonged exposure the high temperatures may degrade the adrenalin.

Medicines must never be stored in a car overnight.

Do not remove ampoules from their original box except for use; packaging must remain for ease of identification of the medication, dosage and expiry.

Chlorphenamine and hydrocortisone are not first-line treatments and do not need to be included in the pouch.