Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

# Emergency Treatment of Anaphylaxis Policy and Guidelines

**This procedural document supersedes: PAT/EC 3 v.8 –Emergency Treatment of Anaphylaxis Policy and Guidelines**

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| | |
|---|---|
| Sponsored by: | Nick Mallaband –Medical Director |
| Author/reviewer: (this version) | Nicola Vickers – Clinical Education Manager |
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| Approved by: | Patient Safety Review Group |
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| Target audience: | Clinical Staff Trust-wide |

**Amendment Form**

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

| Version | Date Issued | Brief Summary of Changes | Author |
|---|---|---|---|
| Version 9 | April 2025 | Minor changes to reflect Role Specific Training requirements and compliance reporting. New link to anaesthetic guidelines added. Clarification of site for IM injection. Updated IV adrenaline section. Consideration of ReSPECT form update prior to discharge. | Nicola Vickers<br>Michelle Thomas |
| Version 8 | May 2022 | Changes to some job titles and updates following release of 2021 Resuscitation Council (UK) Guidelines: Emergency treatment of anaphylactic reactions (with links to NICE guidance). | Nicola Vickers<br>Michelle Thomas |
| Version 7 | 13 July 2018 | Changes to trust name and some job titles. Amendment to discharge and referral process for the emergency department. | Nicola Vickers |
| Version 6 | July 2016 | Minimal changes to Duties & Responsibilities, monitoring compliance through incident reporting and training. | Nicola Vickers |

**Contents**

# 1. INTRODUCTION

Increasing numbers of people were presenting to UK hospitals with anaphylaxis and despite previous guidelines, at least 50% of reactions were not treated with IM adrenaline (the first line treatment of anaphylaxis) and treatment, investigation, and follow-up of patients with anaphylaxis remains suboptimal.

There are no randomised controlled clinical trials in humans providing unequivocal evidence for the optimal treatment of anaphylaxis; such evidence is unlikely to be forthcoming. Nonetheless, the evidence-base for specific management strategies increased, and international guidelines were updated.

Experts from Resuscitation Council UK's Anaphylaxis Working Group updated the guidelines in 2021, compiling insight and knowledge to develop a series of Guidelines that provide the best chance of survival for a person experiencing anaphylaxis.

The updated guidelines provide:
- An updated consensus about the recognition and treatment of anaphylaxis in all healthcare settings
- A focus on the treatments that patients with anaphylaxis should receive, that are relevant to all healthcare providers
- Recommendations for treatment that are easy to implement, and that will be appropriate for most anaphylaxis reactions
- New guidance on the treatment of refractory anaphylaxis.

The guidance does not cover every possible anaphylaxis scenario and has been written to be as simple as possible to facilitate teaching, learning and implementation. Improved implementation should reduce harm and deaths from anaphylaxis.

This policy will apply to all staff working within Doncaster & Bassetlaw Teaching Hospitals NHS Foundation Trust and those community-based staff also employed by this Trust.

The policy is intended to provide treatment protocols for adults and children.

The policy is not intended to replace existing advice for defined groups in hospital or to influence the essential individual advice and management provided in specialist areas (Anaesthetics). The Association of Anaesthetists (anaesthetists.org) and the British Society for Allergy and Clinical Immunology (bsaci.org) have published specific guidance for the treatment of anaphylaxis associated with anaesthesia. Additional resources relating to the treatment and investigation of peri-operative anaphylaxis - can be found here: Guidance: Anaphylaxis | Resuscitation Council UK / Emergency treatment of peri-operative anaphylaxis: Resuscitation Council UK algorithm for anaesthetists

## 2. PURPOSE

- To produce a comprehensive set of guidelines regarding the treatment of anaphylaxis.
- To promote consistency in the emergency treatment of anaphylaxis.
- To provide a framework which facilitates early recognition and diagnosis of anaphylaxis.
- To outline an immediate course of action to be taken in the event of anaphylaxis.
- To determine the roles and responsibilities of clinical staff.
- To establish an ongoing review and audit process for the emergency treatment of anaphylaxis.

## 3. DUTIES AND RESPONSIBILITIES

It is the responsibility of the **Patient Safety Review Group** to approve the policy.

It is the responsibility of **Resuscitation Services** under the guidance of the **Clinical Education Manager** and the **Patient Safety Review Group** to review and update the policy and ensure implementation and compliance throughout the organisation.

It is the responsibility of the **Policy Co-ordinator** to ensure policy distribution across the organisation.

It is the responsibility of the **Managers** in the Clinical Divisions to ensure that staff are provided with the opportunity to complete the appropriate Role Specific Training (ReST).

It is the responsibility of **individual staff members** to complete the training appropriate to their roles and as outlined in their compliance matrix on the Electronic Staff Record.

## 4. RECOGNITION AND DIAGNOSIS

Anaphylaxis can be caused by a broad range of triggers, but the most common allergens identified include food, drugs, and venom. There are clear age distributions for both hospitalisation and fatalities that vary by trigger. Food is the most common cause of anaphylaxis in young people. Pre-school-aged children have the highest rate of hospitalisation due to food anaphylaxis, but a disproportionately low rate of fatal outcomes. The greatest risk from fatal food allergy appears to be in teenagers and adults up to age 30 years. In contrast, fatal anaphylaxis due to drugs is rare in children, and is highest in the elderly.

A reaction may occur following exposure to a variety of different agents such as foods, vaccinations, and contrast media. Latex allergy should also be considered due to increased prevalence - **Glove Use Policy (CORP/HSFS 13).**

Virtually any food or class of drug can be implicated as a cause of anaphylaxis, although the classes of foods and drugs responsible for many reactions are well-described. In around one third of cases, a specific food or drug trigger may not be evident. A significant number of cases of anaphylaxis are termed “idiopathic”, either because a trigger cannot be identified, or a non-immune mechanism is relevant. Nonetheless, the acute treatment of these patients is the same.

Recognition of anaphylaxis is based on:

- Sudden onset and rapid progression of symptoms
- Airway and/or Breathing and/or Circulation problems

- Skin and/or mucosal changes (flushing, urticaria, angioedema) – but these may be absent in up to 20% of cases.

Other symptoms include rhinitis, conjunctivitis, abdominal pain, vomiting diarrhoea, and a sense of impending doom.

Cardiovascular collapse is a common manifestation, especially in response to intravenous drugs or stings, and is caused by vasodilatation and loss of plasma from the blood compartment. In rare events manifestations may be delayed by a few hours (adding to diagnostic difficulty) or persist for more than 24 hours.

### 4.1 Cautions and Considerations for Treatment

There may be difficulty distinguishing between anaphylaxis and a panic attack. Patients with prior anaphylaxis may be prone to panic attacks if they think they have been re-exposed to the allergen that caused a previous reaction. The sense of impending doom and breathlessness leading to hyperventilation are symptoms that can resemble anaphylaxis.

Sometimes, there may be flushing, or blotchy skin associated with anxiety adding to the diagnostic difficulty.

Diagnostic difficulty may also occur with vasovagal attacks after immunisation or other procedures, but the absence of rash, breathing difficulties, and swelling are useful distinguishing features, as is the slow heart rate in a vasovagal attack (whereas anaphylaxis is usually associated with a tachycardia). Symptoms should resolve rapidly on lying flat.

**If rapid recovery does not happen, consider anaphylaxis as a cause.**

## 5. SUSPECTED ANAPHYLAXIS - IMMEDIATE ACTION

The guidelines for initial treatment are summarised in the algorithm shown in Appendix 1 (for adults and children).

- Summon help – call **2222 or 999** if required.
- Initiate patient assessment based on **ABCDE** approach.
- Remove suspected allergen where possible.
- All victims should recline in a position of comfort. Lying flat with or without leg elevation may be helpful for hypotension but unhelpful for breathing difficulties. Changes in posture from supine to standing or sitting upright have been associated with cardiovascular collapse and death during anaphylaxis. The change in posture further reduces venous return to the heart; this can lead to a further reduction in cardiac output and can compromise myocardial perfusion. **Pregnant patients should lie on their left side to prevent caval compression.**
- Initially, give the highest concentration of oxygen possible, using a mask with an oxygen reservoir. As soon as is feasible, adjust the inspired oxygen concentration to achieve an oxygen saturation of 94 – 98% (in patients at risk of hypercapnic respiratory failure, consider a target range of 88 – 92%). If the

patient's trachea has been intubated, ventilate the lungs with an appropriate inspired concentration of oxygen. Use blood gas measurements to guide further oxygen and ventilation therapy.

- Adrenaline should be administered intramuscularly to all patients with clinical signs of shock, airway swelling, or definite breathing difficulty, and will be rapidly absorbed. The best site for IM injection is the anterolateral aspect of the middle third of the thigh. The needle used for injection must be sufficiently long to ensure that the adrenaline is injected into muscle: use a green (21G) or blue (23G) needle. **This can be administered without a prior prescription for suspected life-threatening anaphylaxis.**

- Manifestations such as inspiratory stridor, wheeze, cyanosis, pronounced tachycardia, and decreased capillary filling alerts the responder to the likelihood of a severe reaction.

- Cardiopulmonary resuscitation must be performed in the event of cardiopulmonary arrest.

## 5.1 Administration of Intramuscular (I.M) Adrenaline (Epinephrine)

**Adults**

A dose of 500 micrograms adrenaline 1: 1000 solution (0.5 ml) should be administered intramuscularly. **Repeat the IM adrenaline dose after 5 minutes if there is no improvement in the patient's condition.** Some guidelines recommend further doses are given in the
contralateral thigh to aid absorption, although the evidence for this is uncertain.

**Children**

The dose of adrenaline 1:1000 solution administered in children is determined by age. (Table below)

| | | |
|---|---|---|
| > 12 years | up to 500 micrograms IM<br>300 micrograms if child is small or pre pubertal | 0.5 mL of 1 mg/ml<br>0.3 mL of 1 mg/ml |
| 6 - 12 years | 300 micrograms IM | 0.3 mL of 1 mg/ml |
| 6 months – 6 years | 150 micrograms IM | 0.15 mL of 1 mg/ml |
| < 6 months | 100 – 150 micrograms IM | 0.1 – 0.15ml of 1 mg/ml |

**As for adults, repeat the IM adrenaline dose after 5 minutes if there is no improvement in the patient's condition.**

There is large inter-individual variability in the response to adrenaline, with peak absorption occurring around 5–10 min after IM injection. If there is no improvement in Breathing or Circulation problems despite two doses of adrenaline, follow the algorithm for refractory Anaphylaxis. Pallor can occur following adrenaline, due to vasoconstriction. This might be misinterpreted as ongoing cardiovascular compromise or anaphylaxis and thereby can increase the risk of adrenaline overdose. This is a particular concern in small children, who may remain pale following 2–3 doses of adrenaline. A significantly raised BP is a key indicator of adrenaline overdose.

Measure vital signs (respiratory rate, oxygen saturations, heart rate, BP, level of consciousness) and auscultate for wheeze to monitor the effect of treatment and assess if further doses of adrenaline are required.

### 5.2 Intravenous Administration of Adrenaline

**IV adrenaline should only be given by experienced specialists in an appropriate setting.**

When using IV adrenaline, there is a much greater risk of causing harmful side effects due to dilution errors or incorrect dosing. Excessive doses of adrenaline, particularly by the IV route, can cause tachyarrhythmias, severe hypertension, myocardial infarction and stroke. Fatalities have occurred in the UK due to the inappropriate use of IV adrenaline to treat non-anaphylaxis allergic reactions. Adverse events are more common after IV adrenaline, particularly with IV bolus administration and dosing errors (e.g. using 1 mg/mL (1:1 000) solution (appropriate for IM injection) instead of more dilute solutions (e.g. 0.1 mg/mL (1:10 000) for IV injections).

Healthcare providers with experience in the use and titration of vasopressors in their normal clinical practice (e.g. anaesthetists, critical care practitioners) may choose to administer adrenaline by the IV route.

Both IM and IV routes are recommended for use in treating peri□operative anaphylaxis, although international guidelines recommend IM adrenaline for first-line treatment of anaphylaxis in all settings.

Many healthcare providers will have given IV adrenaline as part of resuscitating a patient in cardiac arrest. This alone is insufficient experience to justify them using IV adrenaline for the treatment of anaphylaxis. In patients with a spontaneous circulation, IV adrenaline can cause life-threatening hypertension, tachycardia, arrhythmias, and myocardial infarction.

### 5.3 Intravenous Fluid Administration by First Medical Responders

In the presence of hypotension/shock, or poor response to an initial dose of adrenaline:

- Secure IV access and give a rapid IV fluid bolus (500 – 1000 mL in an adult or 10 mL/kg in a child) and monitor the response. Use non-glucose-containing crystalloids that contain sodium in the range 130 – 154 mmol/L (0.9% sodium chloride, Hartmann's) for initial resuscitation.

- Give further fluids as necessary. A large volume (up to 3 – 5 litres in adults) may be needed for severe anaphylactic shock. Use a non-glucose-containing crystalloid (Hartmann's or Plasma-Lyte) rather than 0.9% sodium chloride to reduce the risk of causing hyperchloremia.

- Give fluids via the IO route if IV access is delayed.

- Colloid solutions are not recommended for treatment of anaphylaxis and are a recognised cause of anaphylaxis. Stop a colloid infusion in any patient presenting with suspected anaphylaxis.

## 6. REFRACTORY ANAPHYLAXIS

There are now 2 algorithms; Initial treatment of anaphylaxis, with emphasis on repeating the dose of adrenaline after 5 minutes and giving an IV fluid bolus if Airway/Breathing/Circulation problems persist and Treatment of refractory anaphylaxis, defined as anaphylaxis where there is no improvement in respiratory or cardiovascular symptoms despite two appropriate doses of IM adrenaline.

The algorithm for the treatment of refractory anaphylaxis (appendix 2) is designed to support clinicians, and not to replace the expertise of experienced critical care clinicians.

- Critical care support should be sought early – 2222 or 999
- Maintenance adrenaline therapy is critical, using a low-dose IV adrenaline infusion. If an IV infusion cannot be administered continue to give IM adrenaline after every 5 minutes while life-threatening cardiovascular and respiratory features persist.
- Adrenaline therapy should be supported with an initial rapid fluid bolus and maintenance fluid therapy.
- IV adrenaline infusions are important in the management of all aspects of refractory anaphylaxis – not just cardiovascular shock.
- Prolonged resuscitation and critical care support (hours to days) may be required.

# 7 SUBSEQUENT MANAGEMENT

## 7.1 Administration of Antihistamines and Corticosteroids

**Antihistamines**

***Antihistamines are not recommended as part of the initial emergency treatment for anaphylaxis.*** Antihistamines have no role in treating respiratory or cardiovascular symptoms of anaphylaxis but can be used to treat skin symptoms that often occur as part of allergic reactions including anaphylaxis. ***Their use must not delay treatment of respiratory or cardiovascular symptoms of anaphylaxis (using adrenaline and IV fluids).***

Antihistamines can be helpful in alleviating cutaneous symptoms (whether these are due to anaphylaxis or non-anaphylaxis allergic reactions) but must not be given in preference to adrenaline to treat anaphylaxis. In the presence of ongoing Airway/Breathing/ Circulation problems of anaphylaxis, give further IM adrenaline and seek expert advice.

Once a patient has been stabilised, use a non-sedating oral antihistamine (cetirizine) in preference to chlorphenamine which causes sedation. If the oral route is not possible, chlorphenamine can be given by intravenous or intramuscular injection, but note that such H1-receptor antihistamines can cause hypotension when given as a rapid IV bolus.

Recommended doses for oral cetirizine for an allergic reaction are shown in in the table below:

| Age | Dose of oral cetirizine |
|---|---|
| < 2 years | 250 micrograms/kg |
| 2–6 years | 2.5–5 mg |
| 6–11 years | 5–10 mg |
| 12+ years | 10–20 mg |
| Adults | 10–20 mg |

**Steroids**

***The routine usage of corticosteroids to treat anaphylaxis is not advised***. Consider giving steroids after initial resuscitation for refractory reactions or ongoing asthma/shock. Steroids must not be given preferentially to adrenaline. The primary action of corticosteroids is the regulation of the late-phase (rather than early-phase) inflammatory response. However, there is little evidence that corticosteroids help shorten protracted symptoms or prevent biphasic reactions.

In asthma, early corticosteroid treatment may be beneficial in adults and children. Corticosteroids may be indicated where an acute asthma exacerbation may have contributed to the severity of anaphylaxis. Steroids should be given by the oral route where possible.

## 7.2 Beta 2 Agonist Administration by First Medical Responders

**Bronchodilators**

The presenting signs and symptoms of severe anaphylaxis and life-threatening asthma can be the same. Individuals presenting with asthma in the context of possible exposure to a known allergen (so anaphylaxis is a differential diagnosis) should receive treatment with intramuscular adrenaline. Consider inhaled bronchodilator therapy with salbutamol and/or ipratropium. There are no data to support the choice of one bronchodilator above another in the treatment of anaphylaxis however, bronchodilators should not be used as an alternative to further parenteral treatment with adrenaline in the presence of persisting respiratory problems.

Further guidance on treatment of bronchospasm in severe asthma can be found in the asthma guidelines published by the British Thoracic Society and Scottish Intercollegiate Guideline Network (SIGN) (www.brit-thoracic.org.uk)

## 7.3 Investigations in Adults and Young People (16 Years or Older) & Children

The time of onset of anaphylaxis is the time when symptoms were first noticed. It is important this time is recorded accurately. After a suspected anaphylactic reaction in adults or young people aged 16 years or older, take timed blood samples for mast cell tryptase testing as follows:

a) Minimum: one sample, ideally within 2 h (when peak tryptase levels generally occur) and **no later than 4 h after onset of symptoms**.

b) Ideally: take three timed samples:

1) An initial sample as soon as feasible – but do not delay treatment to take sample.
2) A second sample 1 – 2 h (but no later than 4 h) after onset of symptoms.
3) A third sample at least 24 h after complete resolution, or in convalescence (for example, at a follow-up allergy clinic). This sample is important as it provides a baseline tryptase value – some individuals have an elevated baseline level and may be at greater risk of anaphylaxis in response to some triggers. Serial samples have better specificity and sensitivity than a single measurement in confirming a diagnosis of anaphylaxis.

**Sample requirements**

• Either serum ('liver function test' tube) or plasma samples are acceptable in most laboratories. • Sample volumes as little as 0.5 mL are usually sufficient, but >2 mL is preferred.
• Record the timing of each sample accurately on the request form, on the sample tube and in the clinical records. State on the request form (and in the clinical records) how many minutes/hours after the onset

of symptoms the sample was taken. This will enable tracking of changes in tryptase levels over time, which is essential for interpretation.
• Specimens are stable for up to two days at room temperature, up to seven days refrigerated at 2 – 8°C, and for longer if frozen at – 20°C. Note that samples stored for longer than these times may still provide useful information and should therefore be submitted for analysis.
• Consult your local laboratory if you have any queries.

### 7.4 Assessment after the Suspected Anaphylactic Reaction

Document the acute clinical features of the suspected anaphylactic reaction which may include rapidly developing life-threatening problems involving the airway [pharyngeal or laryngeal oedema], breathing [bronchospasm with tachypnea], circulation [hypotension and/or tachycardia], associated skin and mucosal changes.

Record the onset of the reaction and the circumstances immediately before the onset of symptoms to help to identify the possible trigger.
An Anaphylaxis Registry has been established in the UK. Healthcare professionals are encouraged to report all anaphylaxis events. All cases of fatal anaphylaxis must be reported to the coroner (or equivalent). Adverse drug reactions that involve anaphylaxis should be reported to the Medicines and Healthcare products Regulatory Agency (MHRA) using the yellow card scheme (https://www.gov.uk/report-problem-medicine-medical-device).

## 8. OBSERVATION & ADMISSION

### 8.1 Observation for Adults & Young People (16 Years or Older)

Patients who have had suspected anaphylaxis should be treated and then observed in a clinical area with facilities for treating life-threatening ABC problems. Some patients experience further symptoms following resolution of the initial reaction. This may be a true biphasic reaction but can also represent further allergen absorption (e.g. if there is residual food allergen present in the gut, eating may cause further intestinal absorption of the allergen, resulting in further symptoms). It may be advisable for patients to eat some food at least one hour prior to discharge to mitigate against the risk of subsequent symptoms after leaving hospital. In some patients, postural hypotension has been reported after both anaphylaxis and milder allergic reactions. Before discharge, patients should be asked to stand up and be assessed for dizziness. Measure blood pressure if appropriate. If the patient is unable to stand due to an existing disability – sit upright if possible and assess.

Adults and young people aged 16 years or older who have emergency treatment for suspected anaphylaxis should be observed for 6-12 hours from the onset of symptoms, depending on their response to emergency treatment. In people with reactions that are controlled promptly and easily, a shorter observation period may be considered if they receive appropriate post-reaction care prior to discharge.

### 8.2 Admission for Children (Younger than 16 Years)

Children younger than 16 years who have emergency treatment for suspected anaphylaxis should be admitted to hospital under the care of a paediatric medical team.

## 9. DISCHARGE REQUIREMENTS

### 9.1 Referral

After emergency treatment for suspected anaphylaxis, patients should be offered a referral to a specialist allergy service. Advice on referral and investigations can be obtained through the Duty Immunologist at Northern General Hospital (via switchboard).

If the patient is being discharged from the emergency department, the request for a referral to be completed should be included in the discharge letter to the GP.

Any person who has a ReSPECT form (Recommended Summary Plan for Emergency Care and Treatment) or similar emergency treatment plan should have recorded on it details of serious allergies and how to treat them.

### 9.2 Adrenaline Auto-Injector

Prescription of adrenaline auto-injectors is appropriate for all patients who have had anaphylaxis, except for those with a drug-induced reaction (unless it is difficult to avoid future exposure to the trigger drug).

Individuals provided with adrenaline auto-injectors on discharge from hospital must be given instructions and training, and have appropriate follow-up, including contact with the patient's general practitioner.

Following advice from MHRA, NICE guidelines currently recommend that patients prescribed adrenaline auto-injectors should always **have two devices** available. Patients (and those close to them, such as immediate family members, friends, carers) should receive training in their use, and practise regularly using a suitable training device so that they will know what to do in an emergency

### 9.3 Patient Information and Support before Discharge

Before discharge a healthcare professional with the appropriate skills and competencies should offer the patient (or, as appropriate, their parent and/or carer) the following:

- Information about anaphylaxis, including signs and symptoms of an anaphylactic reaction.
- Information about the risk of a biphasic reaction.
- Information on what to do if an anaphylactic reaction occurs (use the adrenaline auto-injector and call emergency services).
- Link to a demonstration of the correct use of the adrenaline auto-injector and when to use it.
- Advice about how to avoid the suspected trigger (if known).
- Information about the need for referral to a specialist allergy service and the referral process.
- Information about patient support groups.

Any person who has a ReSPECT form (Recommended Summary Plan for Emergency Care and Treatment) or similar emergency treatment plan should have details of serious allergies and how to treat them recorded on it.

Further advice can be obtained from the duty immunologist at the Northern General Hospital Sheffield via switchboard.

## 10. STORAGE AND HANDLING OF MEDICINES

All staff should be aware of the location and availability of drugs and equipment required for the emergency treatment of anaphylaxis.

## 11. TRAINING/ SUPPORT

Clinical staff who are expected to complete the training must do so every 2 years and this training is in the form of a national e-learning package. A formal learning requirement has been added to the positions requiring this training on the Electronic Staff Record (ESR) and once completed individuals will be awarded the competence.

## 12. MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

All instances of anaphylaxis must be reported on Datix and subsequently investigated by the Ward/Department Manager.

| What is being Monitored | Who will carry out the Monitoring | How often | How Reviewed/ Where Reported to |
|---|---|---|---|
| Overall compliance with the policy. | Clinical Education & Ward/department Managers | As instances are reported via datix | Any failure to comply with the policy will be reported and discussed at PSRG and divisional governance groups. |
| Training Compliance | Ward/department Managers as part of ReST compliance monitoring | Monthly via the learning compliance dashboard | Reported to divisional governance and Workforce Education Group |

Any other audit which is undertaken within the Trust will be shared collaboratively with Resuscitation Services.

## 13. DEFINITIONS

**Anaphylaxis**
The World Allergy Organisation Anaphylaxis Committee defines anaphylaxis as:
"A serious systemic hypersensitivity reaction that is usually rapid in onset and may cause death. Severe anaphylaxis is characterized by potentially life-threatening compromise in airway, breathing and/or the circulation, and may occur without typical skin features or circulatory shock being present.

**Refractory anaphylaxis**
Defined as anaphylaxis requiring ongoing treatment (due to persisting respiratory or Cardiovascular symptoms) despite two appropriate doses of IM adrenaline.

## 14. EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Equality, Diversity and Inclusion Policy (CORP/EMP 59).

The purpose of the EIA is to minimise and if possible, remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified. See Appendix 3.

## 15. ASSOCIATED TRUST PROCEDURAL DOCUMENTS

This procedural document should be used in conjunction with:

Resuscitation Policy **- PAT/EC 1**
Glove Use Policy **- CORP/HSFS 13**
Hand Hygiene Policy - **PAT/IC 5**
Mental Capacity Act 2005 Policy and Procedure, including Deprivation of Liberty Safeguards (DoLS) - **PAT/PA 19**
Privacy and Dignity Policy - **PAT/PA 28**
Equality Diversity and Inclusion Policy **CORP/EMP 59**
Equality Analysis Policy - **CORP/EMP 27**

## 16. DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the UK General Data Protection Regulation (GDPR) 2021.

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website: https://www.dbth.nhs.uk/about-us/our-publications/information-governance/

## 17. REFERENCES

1. The Emergency Treatment of Anaphylactic Reactions. Guidelines for Healthcare providers. Resuscitation Council (UK) Guidelines May 2021 https://www.resus.org.uk/library/additional-guidance/guidance-anaphylaxis/emergency-treatment

2. Anaphylaxis: assessment to confirm an anaphylactic episode and the decision to refer after emergency treatment for a suspected anaphylactic episode. NICE Clinical Guideline 134 December 2011.

# APPENDIX 1 –SUSPECTED ANAPHYLAXIS ALGORITHM

Resuscitation Council UK

GUIDELINES 2021

## Anaphylaxis

**Anaphylaxis?**

A = Airway  B = Breathing  C = Circulation  D = Disability  E = Exposure

**Diagnosis – look for:**

- Sudden onset of Airway and/or Breathing and/or Circulation problems[1]
- And usually skin changes (e.g. itchy rash)

**Call for HELP**
Call resuscitation team or ambulance

- Remove trigger if possible (e.g. stop any infusion)
- Lie patient flat (with or without legs elevated)
  - A sitting position may make breathing easier
  - If pregnant, lie on left side

**Give intramuscular (IM) adrenaline[2]**

Inject at **anterolateral aspect** – middle third of the thigh

- Establish airway
- Give high flow oxygen
- Apply monitoring: pulse oximetry, ECG, blood pressure

**If no response:**

- Repeat IM adrenaline after 5 minutes
- IV fluid bolus[3]

**If no improvement in Breathing or Circulation problems[1] despite TWO doses of IM adrenaline:**

- Confirm resuscitation team or ambulance has been called
- Follow REFRACTORY ANAPHYLAXIS ALGORITHM

**1. Life-threatening problems**

**Airway**
Hoarse voice, stridor

**Breathing**
↑work of breathing, wheeze, fatigue, cyanosis, $SpO_2$ <94%

**Circulation**
Low blood pressure, signs of shock, confusion, reduced consciousness

**2. Intramuscular (IM) adrenaline**
Use adrenaline at 1 mg/mL (1:1000) concentration

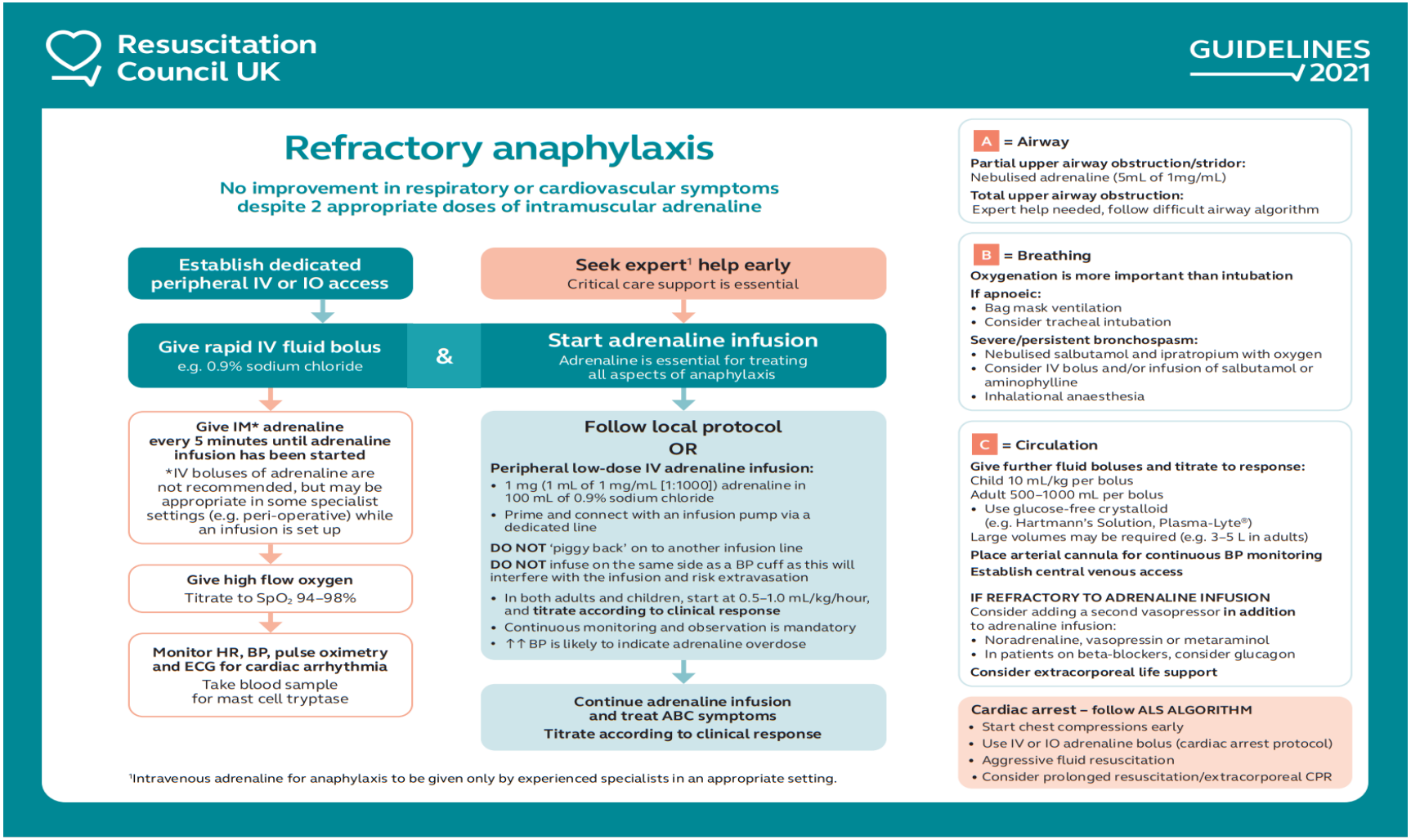
| | |
|---|---|
| **Adult and child >12 years:** | 500 micrograms IM (0.5 mL) |
| **Child 6–12 years:** | 300 micrograms IM (0.3 mL) |
| **Child 6 months to 6 years:** | 150 micrograms IM (0.15 mL) |
| **Child <6 months:** | 100–150 micrograms IM (0.1–0.15 mL) |

The above doses are for IM injection **only**.
Intravenous adrenaline for anaphylaxis to be given **only by experienced specialists** in an appropriate setting.

**3. IV fluid challenge**
Use crystalloid

**Adults:** 500–1000 mL
**Children:** 10 mL/kg

## APPENDIX 2 – REFRACTORY ANAPHYLAXIS ALGORITHM



# APPENDIX 3 – EQUALITY IMPACT ASSESSMENT - PART 1 INITIAL SCREENING

| Service/Function/Policy/Project/Strategy | Care Group/Executive Directorate and Department | Assessor (s) | New or Existing Service or Policy? | Date of Assessment |
|---|---|---|---|---|
| Anaphylaxis Policy PAT/EC 3 | Resuscitation Services | Michelle Thomas | Existing policy | April 2025 |

**1) Who is responsible for this policy?** Resuscitation Services, Training & Education, Education & Research

**2) Describe the purpose of the service / function / policy / project/ strategy?** To recognise and treat anaphylaxis

**3) Are there any associated objectives?** This policy reflects national guidance on the recognition and management of anaphylaxis

**4) What factors contribute or detract from achieving intended outcomes?** Staff Compliance & Availability of Equipment/drugs

**5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief?** No

- **If yes, please describe current or planned activities to address the impact** n/a

**6) Is there any scope for new measures which would promote equality?** Monitor Incidents/Complaints

**7) Are any of the following groups adversely affected by the policy?**

| Protected Characteristics | Affected? | Impact |
|---|---|---|
| a) Age | No | |
| b) Disability | No | |
| c) Gender | No | |
| d) Gender Reassignment | No | |
| e) Marriage/Civil Partnership | No | |
| f) Maternity/Pregnancy | No | |
| g) Race | No | |
| h) Religion/Belief | No | |
| i) Sexual Orientation | No | |

**8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box**

| Outcome 1 ✓ | Outcome 2 | Outcome 3 | Outcome 4 |
|---|---|---|---|

**If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form in Appendix 4**

**Date for next review: April 2028**

**Checked by: Nicola Vickers** **Date: April 2025**