Title: **ANAPHYLAXIS / ANAPHYLACTIC SHOCK**
Linked to 0350 and 0004

Ref: 0337 Version 9
Classification: Protocol

Directorate: Nursing

Due for Review: 21/09/20

Responsible for review: Resuscitation/ECSEL Lead

Document Control

Ratified by: Medicines Governance Group
Chief Nurse
Resuscitation Committee
Medical Director
Care and Clinical Policies Sub Group

Applicability: All staff

Contents

1 Purpose

This protocol/ policy aims to:

- Provide guidance in the recognition and initial management of patients who present with life-threatening anaphylaxis/anaphylactic shock or where life-threatening anaphylaxis / anaphylactic shock is suspected. It follows the 2015 Resuscitation Council UK guidelines.
- Define the responsibilities and training of healthcare staff in managing anaphylaxis.

Definition

Anaphylaxis is a severe, life-threatening, generalised or systemic hypersensitivity reaction. This is characterised by rapidly developing life-threatening airway and/or breathing and/or circulation problems usually associated with skin and mucosal changes.

Triggers

Anaphylaxis can be triggered by a broad range of triggers, but those most commonly identified include food, drugs and venom. The relative importance of these varies considerably with age, with specific food substances being common triggers in children and medicinal products being common triggers in older people. Almost all food or types of drugs can be implicated, although food types and drugs responsible for the majority of reactions are well described. The most useful tool for the identification of allergic trigger is the clinical history. Of food types, nuts are the most common

cause; muscle relaxants, antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs including aspirin) are the most commonly implicated drugs. In many cases it is important to note that no cause may be identified. A significant number of cases of anaphylaxis are idiopathic.

Introduction

This protocol is for the use of clinical staff working for Torbay and South Devon NHS Foundation Trust (TSDFT).

All clinical staff should access training on anaphylaxis annually if they may be required to administer intramuscular (IM) adrenaline in the event of a patient presenting with life-threatening anaphylaxis or where life-threatening anaphylaxis is suspected.

Training is also appropriate for other clinical staff to recognise anaphylaxis and to assist with its management. Staff who teach anaphylaxis recognition and initial management (e.g. school nurses, health visitors) should also update annually.

This protocol covers the initial management of life-threatening anaphylaxis or where life-threatening anaphylaxis is suspected. Its aim is to give guidance to the 'first responders' within TSDFT. Anaphylactic reactions occurring in hospital under specific circumstances which are the administration of anaesthetic agents or contrast media by radiology should be managed according to the recommendations issued by specialist groups.

2 Roles and Responsibilities

2.1 Role of Resuscitation Steering Group

The role of the Resuscitation Steering Group is to ensure that policy follow current best practice for the recognition of and treatment of anaphylaxis and/or anaphylactic shock.

2.2 Role of Resuscitation Training Team

The resuscitation training team are responsible for:

- Ensuring that sufficient training courses are available to meet demand
- Ensuring that course content reflects standards set by Resuscitation Council UK (RCUK)
- Ensuring ease of access to training

2.3 Role of Line Managers/Departmental Leads

All line managers/departmental leads should ensure:

- Relevant staff are aware of this policy and how to treat anaphylaxis
- Staff are given time to complete anaphylaxis training annually
- Where there is a potential risk of iatrogenic anaphylaxis, staff have access to anaphylactic shock packs
- Staff administering potential allergens are trained in administering emergency anaphylaxis treatment. In some instances this may require a departmental standard operating practice guideline for the administration of IM adrenaline
- Consideration of appropriate level of training for staff working in high-risk areas not covered by the Resuscitation team e.g. MIUs, off-site clinics where attendance at Immediate Life Support courses may be appropriate
- If a patient under the Trust's care has an anaphylactic reaction staff will be required to record using the Trusts incident reporting procedures.
- Risk assessment of team members.

2.4 Role of staff administering medication and/or injectable treatments

Staff who administer medication and/or deliver treatment via injectable routes:

- Must access training annually to update skills and knowledge should they be required to treat a patient who develops an anaphylactic reaction.
- Wherever possible check with the patient for any allergies before administering medication to minimise risk
- Document any known allergies in the patient's records
- Ensure anaphylactic packs are available and ready for use
- Know the dose of adrenaline in auto-injectors where used.

Staff who should be trained to administer intramuscularly (IM) adrenaline and should have access to it may include:

- All registered nurses administering medication
- Assistant practitioners if administering medication or blood products
- School nurses and Health Visitors if administering vaccinations or other drugs
- Community nurses if administering medications
- Therapists and other professionals allied to healthcare using injection therapy, e.g. physiotherapists, radiographers.

2.5 Role of all clinical staff

All clinical staff should be able to:

- Raise the alarm through 2222 if in Torbay Hospital or by (9)999 if off-site or in peripheral hospitals or community settings if they suspect anaphylaxis
- Commence basic life support if needed
- Ensure anaphylaxis packs are in date when checking resuscitation equipment.

3 Recognition of anaphylaxis

Anaphylaxis is likely if a patient has been exposed to a trigger and develops a sudden deterioration in condition with rapidly progressing skin changes and life threatening airway and/or breathing and/or circulation problems. The reaction is usually unexpected (RCUK 2016). When recognising and treating anaphylaxis, the ABCDE approach should be used and life threatening problems treated as assessed. In the event of an anaphylactic reaction the following may occur:

- **Airway –** hoarseness or stridor due to angioedema of the upper airways
- **Breathing –** dyspnoea, audible expiratory wheeze from bronchospasm
- **Circulation –** profound hypotension with tachycardia. Cardio-respiratory collapse is a common feature with anaphylactic shock following intravenous (IV) medications or insect stings
- **Disability –** a sense of impending doom, confusion or reduced level of consciousness secondary to hypoxia or hypotension
- **Exposure –** urticarial rashes and/or erythema, flushed appearance, vomiting, abdominal pain, rhinitis, conjunctivitis

Anaphylaxis is likely when all three of the following 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, urticarial, angioedema) (RCUK 2016)**

4 Management of anaphylaxis

In the event of an anaphylactic reaction, staff should:

- Summons emergency help immediately. If in the acute hospital, this should be accessed via 2222 and ask for the cardiac arrest team. In community settings and off-site an emergency ambulance should be called via (9)999.

- Use the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach to recognise and treat problems.
- Treat the greatest threat to life first
- Place the patient in a comfortable position. If experiencing airway or breathing problems, a patient may prefer to sit up to facilitate breathing. For a hypotensive patient, lie flat with legs elevated. If a patient feels faint, do not sit or stand them as this can cause cardiac arrest. If possible position the patient in the recovery position.
- Remove the trigger if possible. Stop any drug which may be causing the reaction including infusions. Do not delay definitive treatment if removing the trigger is not possible.
- Administer high flow oxygen via a non-rebreathe mask if available
- Administer intra-muscular adrenaline as below
- Further doses of adrenaline can be given at 5 minute intervals
- Monitor the patient's vital signs including pulse, respiratory rate and blood pressure and oxygen saturations where equipment is available
- Administer a rapid IV fluid challenge of 500-1000mls in an adult and monitor the response. In children the bolus is calculated at 20ml/kg if available
- In the event of cardio-respiratory arrest, commence basic life support
- Following an anaphylactic reaction, a patient should be observed for at least 6 hours in an appropriate clinical environment in case of biphasic reaction.

Adrenaline doses
Adrenaline should be given IM Intravenous adrenaline should only be used by clinicians experienced in the use and titration of vasopressors in normal clinical practice.
The dose of IM adrenaline 1:1000 is calculated by patient age:

- **Adult -** 500 micrograms IM (0.5ml)
- **Child more than 12 years –** 500 micrograms IM (0.5ml)
- **Child 6 – 12 years –** 300 micrograms IM (0.3ml)
- **Child less than 6 years –** 150 micrograms IM (0.15ml)

Anaphylactic pack
The emergency anaphylactic pack is kept on the Avalo crash trolleys in the Circulation drawer in the clinical areas. Staff should ensure that they have their own pack available if they do not have access to an Avalo trolley or locked medicines cupboard.

The pack contains needles, 1ml syringes and three vials of adrenaline 1:1000. The doses are on the box. Packs are available from Pharmacy on request.

Second line treatment
Anti-histamines are second line treatment. Chlorphenamine can be given IM or slow IV. Corticosteroids may shorten the reaction and are second line treatment in anaphylaxis. Hydrocortisone can be given IM or slow IV. The doses are:

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

Asthma-like features can be treated with nebulised or intravenous salbutamol or other IV bronchodilators including aminophylline and magnesium.

Investigations
Following a suspected anaphylactic reaction, blood should be taken to measure mast cell tryptase levels. The timing of this test should be performed as soon as possible after resuscitation has commenced, then 1-2 hours after start of symptoms, then either at 24 hours or in convalescence. Record the time of each sample accurately. A gold topped blood tube should be used for the samples.

Follow up
Patients who have experienced an anaphylactic reaction should be followed up for at least 6 hours after recovery because of the risk of biphasic reactions. This should be in a clinical area with appropriately trained staff and facilities for life-threatening deterioration.

More prolonged monitoring should be considered in cases where there has been a severe reaction but with slow onset, where individuals have severe asthma or suffered with severe asthma in the episode, where there is a possibility of continuing absorption of the allergen, if there is a history of biphasic reaction, or when patients would find it difficult to access emergency care in the case of further deterioration.

Consideration should be given for continued anti-histamine and steroid use for up to three days. Patients should be advised to return to hospital if symptoms return.

All anaphylaxis should be investigated and patients should be referred to a specialist allergy service. Follow-up should also include contact with the patient's GP.

Adrenaline injectors should be offered to any patient who has had an anapyhylactic event and it is the responsibility of the prescriber to ensure that the patient is trained in how to use it.

5. Training and Supervision

Clinicians should ensure that they access anaphylaxis training updates annually either through attendance at a taught session or through e-learning.

6. References

Resuscitation Council UK (RCUK) Guidelines 2016

NICE Anaphylaxis Pathway 2015

Appendix 1 – Resuscitation Council Flow Chart

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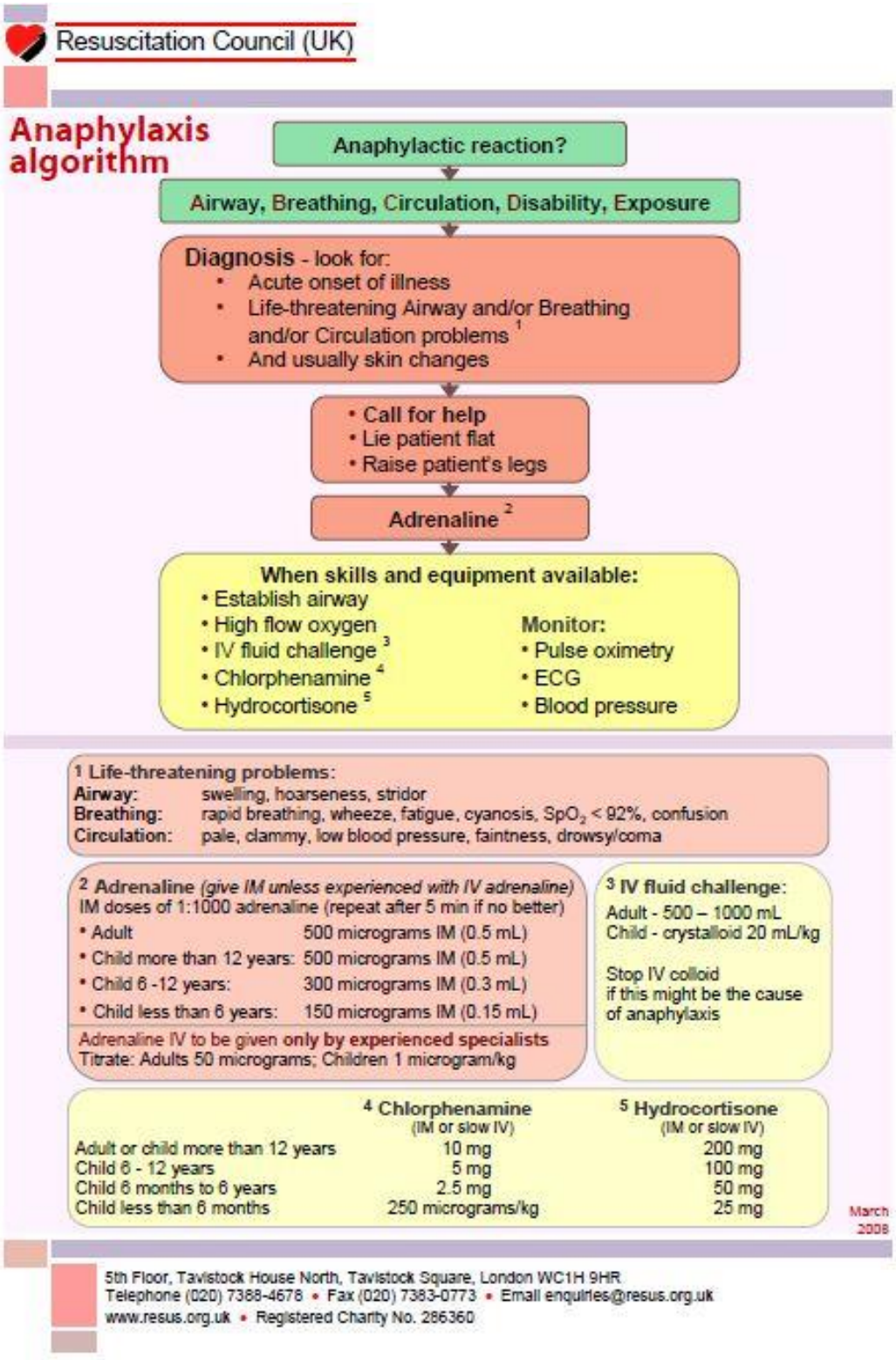

7. Equality and Diversity

7.1 This document complies with Torbay and South Devon NHS Foundation Trust Equality and Diversity statements.

Document Control Information
This is a controlled document and should not be altered in any way without the express permission of the author or their representative.

Please note this document is only valid from the date approved below, and checks should be made that it is the most up to date version available.

If printed, this document is only valid for the day of printing.

Ref No:	G0337		
Document title:	Anaphylaxis		
Purpose of document:	Provide guidance in the recognition and initial management of patients who present with life-threatening anaphylaxis/anaphylactic shock or where life-threatening anaphylaxis / anaphylactic shock is suspected. It follows the 2015 Resuscitation Council UK guidelines. Define the responsibilities and training of healthcare staff in managing anaphylaxis		
Date of issue:	21 September 2017	**Next review date:**	21 September 2020
Version:	9	**Last review date:**	July 2017
Author:	ESCEL/Resuscitation Training Lead		
Directorate:	Education and Development		
Equality Impact:	The guidance contained in this document is intended to be inclusive for all patients within the clinical group specified, regardless of age, disability, gender, gender identity, sexual orientation, race and ethnicity & religion or belief		
Committee(s) approving the document:	Resuscitation Committee Chief Nurse Medical Director Clinical Director of Pharmacy Care and Clinical Policies Group		
Date approved:	18 September 2017		
Links or overlaps with other policies:	All TSDFT Trust Strategies, policies and procedure documents		

	Please select	
	Yes	*No*
Does this document have training implications? *If yes please state:*	☒	☐
Does this document have financial implications? *If yes please state:*	☐	☒
Is this document a direct replacement for another? *If yes please state which documents are being replaced:*	☐	☒

Document Amendment History

Date	Version no.	Amendment summary	Ratified by:
1 March 1998	1	New	Director of Nursing & Quality. Medical Director
1 December 2000	2	Revised	Resuscitation Officer Director of Nursing & Quality, Medical Director
1 June 2001	3	Amended	Director of Nursing and Quality,

			Medical Director
29 January 2006	4	Revised	Director of Nursing and Quality Medical Director
29 June 2006	4	Date change	Director of Nursing and Quality Medical Director
23 November 2006	5	Revised	Director of Nursing and Quality, Medical Director Consultant Cardiologist Chief Pharmacist
8 January 2009	6	Revised	Director of Nursing and Quality Medical Director Consultant Cardiologist Chief Pharmacist
3 February 2011	6	Document Control added	
30 June 2011	6	Date change	Director of Pharmacy, Deputy Director of Nursing Medical Director Chair Resuscitation Committee
13 March 2013	6	Date change	ECSEL & Resuscitation Lead – Acute and Community
October 2015	7	Revised	
2 June 2015	8	Revised	Chair of the Resuscitation Committee Clinical Director of Pharmacy
21 September 2017	9	Revised	Resuscitation Committee Clinical Director of Pharmacy Care and Clinical Policies Group Medical Director Chief Nurse
12 February 2018	9	Review Date Extended – 2 Years to 3 Years	

The Mental Capacity Act 2005

The Mental Capacity Act provides a statutory framework for people who lack capacity to make decisions for themselves, or who have capacity and want to make preparations for a time when they lack capacity in the future. It sets out who can take decisions, in which situations, and how they should go about this. It covers a wide range of decision making from health and welfare decisions to finance and property decisions

Enshrined in the Mental Capacity Act is the principle that people must be assumed to have capacity unless it is established that they do not. This is an important aspect of law that all health and social care practitioners must implement when proposing to undertake any act in connection with care and treatment that requires consent. In circumstances where there is an element of doubt about a person's ability to make a decision due to 'an impairment of or disturbance in the functioning of the mind or brain' the practitioner must implement the Mental Capacity Act.

The legal framework provided by the Mental Capacity Act 2005 is supported by a Code of Practice, which provides guidance and information about how the Act works in practice. The Code of Practice has statutory force which means that health and social care practitioners have a legal duty to have regard to it when working with or caring for adults who may lack capacity to make decisions for themselves.

"The Act is intended to assist and support people who may lack capacity and to discourage anyone who is involved in caring for someone who lacks capacity from being overly restrictive or controlling. It aims to balance an individual's right to make decisions for themselves with their right to be protected from harm if they lack the capacity to make decisions to protect themselves". (3)

All Trust workers can access the Code of Practice, Mental Capacity Act 2005 Policy, Mental Capacity Act 2005 Practice Guidance, information booklets and all assessment, checklists and Independent Mental Capacity Advocate referral forms on iCare

http://icare/Operations/mental_capacity_act/Pages/default.aspx

Infection Control

All staff will have access to Infection Control Policies and comply with the standards within them in the work place. All staff will attend Infection Control Training annually as part of their mandatory training programme.

Rapid (E)quality Impact Assessment (EqIA) *(for use when writing policies)*

Policy Title (and number)		***G0337 Anaphylactic/Anaphlyactic Shock***		**Version and Date**	***1 September 2017***
Policy Author		Resuscitation/ESCEL Lead			
An (e)quality impact assessment is a process designed to ensure that policies do not discriminate or disadvantage people whilst advancing equality. Consider the nature and extent of the impact, not the number of people affected.					
Who may be affected by this document?					
Patients/ Service Users X	Staff X	Other, please state…GP's, NHS Organisations			
Could the policy treat people from protected groups less favorably than the general population? ***PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below***					
Age	Yes ☐ No☐	Gender Reassignment	Yes ☐ No☐	Sexual Orientation	Yes ☐ No☐
Race	Yes ☐ No☐	Disability	Yes ☐ No☐	Religion/Belief (non)	Yes ☐ No☐
Gender	Yes ☐ No☐	Pregnancy/Maternity	Yes ☐ No☐	Marriage/ Civil Partnership	Yes ☐ No☐
Is it likely that the policy could affect particular 'Inclusion Health' groups less favorably than the general population? (substance misuse; teenage mums; carers[1]; travellers[2]; homeless[3]; convictions; social isolation[4]; refugees)					Yes ☐ No☐
Please provide details for each protected group where you have indicated 'Yes'.					
VISION AND VALUES: Policies must aim to remove unintentional barriers and promote inclusion					
Is inclusive language[5] used throughout?					Yes ☐ No☐ NA ☐
Are the services outlined in the policy fully accessible[6]?					Yes ☐ No☐ NA ☐
Does the policy encourage individualised and person-centred care?					Yes ☐ No☐ NA ☐
Could there be an adverse impact on an individual's independence or autonomy[7]?					Yes ☐ No☐ NA ☐
EXTERNAL FACTORS					
Is the policy a result of national legislation which cannot be modified in any way?					Yes ☐ No☐
What is the reason for writing this policy? (Is it a result in a change of legislation/ national research?)					
Who was consulted when drafting this policy?					
Patients/ Service Users ☐	Trade Unions ☐	Protected Groups (including Trust Equality Groups) ☐			
Staff X	General Public ☐	Other, please state… ☐			
What were the recommendations/suggestions?					
Does this document require a service redesign or substantial amendments to an existing process? ***PLEASE NOTE: 'Yes' may trigger a full EIA, please refer to the equality leads below***					Yes ☐ No☐
ACTION PLAN: Please list all actions identified to address any impacts					
Action				**Person responsible**	**Completion date**
AUTHORISATION: By signing below, I confirm that the named person responsible above is aware of the actions assigned to them					
Name of person completing the form		Resuscitation ESCEL Lead		**Signature**	
Validated by (line manager)				**Signature**	