Whittington Health NHS

Anaphylaxis in children

(Up to the age of 16 years)

Subject:	Anaphylaxis in children
Policy Number	N/A
Ratified By:	Clinical Guidelines Committee
Date Ratified:	May 2015, reviewed February 2019
Version:	1.0
Policy Executive Owner:	Clinical Director, CYP ICSU
Designation of Author:	Dr N Patel (Consultant Paediatrician)
Name of Assurance Committee:	As above
Date Issued:	February 2019
Review Date:	3 years hence
Target Audience:	Paediatric department Emergency department Children's ambulatory unit
Key Words:	Anaphylaxis, children, epinephrine (adreneline)

Version Control Sheet

Version	Date	Author	Status	Comment
1.0	May 2015	Dr N Patel (Consultant)	Off line	New guideline approved at May 20th CGC
2.0	Feb 2019	Dr N Patel (Consultant)	Live	Content reviewed.

Abbreviations contained within this guideline

ABC	Airway, Breathing, Circulation
ECG	Electrocardiagram
BP	Blood pressure
I.M	Intramuscular
I.V	Intravenous
CAU	Children's Ambulatory Unit
+/-	With/ without

➢ Criteria for use

This guideline is to be used for any child up to the age of 16 years presenting with one or more of the below listed clinical symptoms and signs.

➢ Background

Anaphylaxis is defined as a **severe, life-threatening, generalized or systemic hypersensitivity reaction.**

Anaphylaxis is characterised by rapidly developing, life-threatening problems which may present with one or more of the following clinical symptoms and signs:

- **Upper aiway**: (pharyngeal or laryngeal oedema) – hoarse voice/change in voice; stridor, feeling of throat swelling/closing up
- **Lower airway**: (bronchospasm)-wheeze, tachpnoea, signs of respiratory distress
- **Circulation**: (hypotension) - tachycardia, cool peripheries, pallor, change in level of consciousness).
- In most but not all cases, there are **associated skin and mucosal changes**

➢ Initial management - Algorithm

Assess ABC, high flow oxygen, remove allergen (eg stinger from bee sting), monitor ECG and BP

Call paediatric registrar

Airway signs

Stridor
Hoarse voice
Throat/tongue swelling

Breathing signs

Wheeze
Tachypnoea
02sats<92% in air

Cardiovascular signs

Hypotension
Collapse
Pallor
Drowsy

I.M Adrenaline

+ 0.9%saline bolus 20ml/kg iv

+ chlorpheniramine i.m/i.v

+ Hydrocortisone i.m/i.v

If no response in 5 mins:

1. **Paediatric crash call**
2. **Repeat adrenaline i.m**. – can be repeated every 5 minutes if sustained poor response.
3. **(Consider ivi adrenaline in these cases)**
4. Repeat 0.9%saline bolus if clinically indicated
5. If predominantly ‘asthma’ symptoms give nebulized salbutamol/atrovent and follow severe/life-threatening asthma algorithm as clinically indicated.
6. If cause of anaphylaxis is likely venom- related, drug-related or idiopathic take serum for **mast cell tryptase** immediately and then repeat in 1-2 hours

	Adrenaline (i.m)	Chlorphenamine (i.m/slow i.v)	Hydrocortisone(i.m/slow i.v)
Age			
>12 years	**500mcg**	**10mg**	**200mg**
6-12 years	**300mcg**	**5mg**	**100mg**
6 months – 6 years	**150mcg**	**2.5mg**	**50mg**
Less than 6 months	**150mcg**	**250mcg/kg**	**25mg**

➢ Subsequent management

- **Admit all cases** who have had signs of upper airway obstruction and/or bronchospasm (stridor, wheeze, breathlessness with signs of respiratory distress) to CAU (if there is time to monitor for 12 hours) or to the ward, even if child seems much improved after initial management.
  This is due to risk of biphasic episode with relapse of anaphylaxis up to 12 hours later

- Admit all cases who have been hypotensive for the same reason as above.

➢ Management on discharge

Before these children are discharged from the ward/CAU they will need

- **Dietician review** (if anaphylaxis secondary to food allergy), to discuss avoidance of allergen +/- other potential allergens

- **An adrenaline auto-injector** with an explanation of how and when to use

- **An anaphylaxis management plan** with clear explanation to family/child

- **A review of asthma management**/ asthma plan and inhaler technique, if they have asthma. This is essential as children with poorly controlled asthma are at a greatly increased risk of life-threatening asthma episodes or death from anaphylaxis
- **A referral to the paediatric allergy clinic** (see food allergy guideline for details)

	**Please see Whittington Health Guideline:** Food allergy in childhood: Management and Diagnosis

➢ Contacts (inside and outside the Trust including out-of-hours contacts)

- Paediatric consultant on call via Cencom
- On call Paediatric Registrar bleep 3111

➢ References

1. Resuscitation Council UK: Anaphylaxis algorithm 2008 (accessed May 2015) https://www.resus.org.uk/pages/anapost1.pdf

2. NICE Anaphylaxis guideline [CG134] Published date: December 2011 (https://www.nice.org.uk/guidance/cg134)

3. RCPCH Anaphylaxis care pathway 2011 (accessed May 2015) http://www.rcpch.ac.uk/system/files/protected/page/2011_RCPCH-CarePathway-_Anaphylaxis_v1_(18.35).pdf

- **Compliance with this guideline (how and when the guideline will be monitored e.g. audit and which committee the results will be reported to) Please use the tool provided at the end of this template**

  - Yearly audits on the management of children presenting to ED with anaphylaxis against this guideline. Results will be reported to Clinical Governance Committee.

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

		Yes/No	Comments
1.	**Does the procedural 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	This is a paeditric guideline
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, 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 Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and	Yes	

	Title of document being reviewed:	Yes/No	Comments
	effectiveness of the document?		
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Assess/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Algorithm for acute management followed **All children with anaphylaxis admitted for 12 hours** **Discharge standards followed as per guideline**	**Dr Neeta Patel** **Dr Neeta Patel** **Ms Dee Brown**	**Notes review**	**Yearly**	**Paediatric Clinical Governance Committee**