Royal Cornwall Hospitals
NHS Trust

Acute Asthma and Wheeze in Children Aged 1 to 16 Years

V4.0

December 2025

1. Aim/Purpose of this Guideline

1.1. To provide guidance on the local management of acute asthma in children (aged 12 months to 16 years).

1.2. This guidance applies to all staff managing children who present with acute asthma in the Emergency Department, Paediatric Observation Unit/wards, Paediatric HDU (high dependency unit) and Adult ICU (intensive care unit).

1.3. The management pathways may also be used to manage children over 12 months of age presenting with acute viral induced wheeze.

1.4. This version supersedes any previous versions of this document.

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2. The Guidance

2.1. Background

This guideline is for children aged 12 months to 16 years with acute wheeze. This includes children with an established diagnosis of asthma, first presentations of asthma and wheezing during viral infections in preschool-aged children. In all cases, an acute wheeze attack signals a risk for future attacks and this risk should be assessed and managed as well as the acute episode. Wheezing in infants (<12 months) is usually associated with bronchiolitis and therefore please refer to bronchiolitis guidelines.

The number of deaths from asthma each year has not decreased for many years, and the National Review of Asthma Deaths (NRAD) continues to show preventable factors in at least 90% of cases.

Acute exacerbations of asthma remain the most common reason for a child to be admitted to hospital in the UK, and account for 10-20% of all acute medical admissions in children.

IMPORTANT- commence urgent treatment before taking full history.

Life threatening asthma should be recognised and treated promptly. The key differential diagnosis to identify acutely is anaphylaxis. Other causes of wheeze include:

- Infection e.g., atypical pneumonia.
- Inhaled foreign body.
- Gastro-oesophageal reflux with aspiration.
- Cardiac failure.
- Congenital or structural abnormalities e.g., bronchomalacia.

2.2. History- use the following guidance.

It is important to make a note of the following when taking a history:

- Duration and nature of symptoms.
- Treatments used (relievers and preventers)- please state dose, inhaler type, number of inhalations and whether spacer used. Ask how many prophylactic doses they miss per week.
- How many courses of steroids in last 6 months- do they have poorly controlled asthma? Any failure to respond to treatment/deterioration whilst on steroids?
- Pattern and course of previous acute admissions (HDU/PICU (Paediatric Intensive Care Unit) admissions).
- Trigger factors and history of interval symptoms (including URTI's (upper respiratory tract infections), allergy/atopy, passive smoking- detail the exposure).
- Parental understanding of the treatment of acute episodes.
- Poor compliance and appointment non-attendance.
- Perception of severity of attacks.

2.3. Assessment and pathways

- Depending on your assessment using the table below; please go to appropriate management page.
- Please tick the signs observed and examined. If there are any signs of severe or life-threatening asthma, then the child should be managed with these pathways, even if most signs are in the mild-moderate box.
- Please use PEFR (peak expiratory flow rate) in all children over 5 years of age who are experienced in using a peak flow monitor. See appendix for reference values based on height.
- Please note- wheeze is a poor predictor of severity.

- Remember to re-assess frequently and change to the severe or life-threatening management pathway if the child deteriorates.

- We should regard each emergency presentation with acute wheeze/asthma as being "severe" until shown to be otherwise.

- **Please see table below.**

Severity.		**Signs.**
Moderate.		Normal mental state.
		Some accessory muscle use/recession.
		Able to talk in sentences.
		SpO2 >92% in air.
		Respiratory rate ≤40/min (1-5 years). ≤30/min (>5 years).
		Heart rate <140 (1-5 years) <125 (5 years+).
		Peak flow ≥50% best or predicted.
Severe		Agitated/distressed.
		Marked accessory muscle use.
		Unable to complete sentences in one breath or too breathless to feed.
		SpO2 <92% in air.
		PEFR 33-50% predicted.
		Tachypnoea (RR >40 (1-5years) or >30 for 5years+.
		Tachycardia (HR >140 for 1-5 years or >125 for 5years+).
Life threatening		Confusion→ coma.
		Maximal accessory muscle use/recession.
		Exhaustion.
		Poor respiratory effort.
		Unable to talk.
		PEFR <33% best or predicted.
		Silent chest.
		Cyanosis.
		SpO2 <92% in air PLUS one other life-threatening factor.
		Hypotension.
		Marked tachycardia.
		Marked bradycardia.

Assessment Outcome:

Moderate	
Severe	
Life threatening	

2.4. Moderate Asthma Pathway

Moderate asthma.

Give 10 puffs salbutamol via spacer.

100mcg metered dose inhaler via age-appropriate spacer device

<3 years please use spacer with close-fitting facemask.

Note: A metered dose inhaler (MDI) used with a spacer is as effective as a nebuliser in moderate exacerbation and may have other advantages such as less tachycardia.

If good response:

- Discharge home with salbutamol or on SMART regime if already established on this.
- Consider a stat dose of oral dexamethasone (0.3mg/kg, maximum dose 10mg) OR a course of oral prednisolone (usually 3 days) - 10mg (<2 years), 20mg (2-5 years), 30-40mg (>5years).
- Give a written wheeze discharge plan and complete the discharge bundle sticker.
- Review inhaler technique prior to discharge.
- Give advice that patient should return if symptoms recur within 3- 4 hours.

If poor response:

- Re-assess- move to the severe or life-threatening pathway if deterioration or sats < 92%.
- Give a further 2 sets of salbutamol 10 puffs via spacer (every 20 minutes).
- **Within four hours of presentation,** give a stat dose of oral dexamethasone (0.3mg/kg, max 10mg) OR oral prednisolone for 3 days, doses: 10mg (<2 years), 20mg (2-5 years), 30-40mg (>5 years).

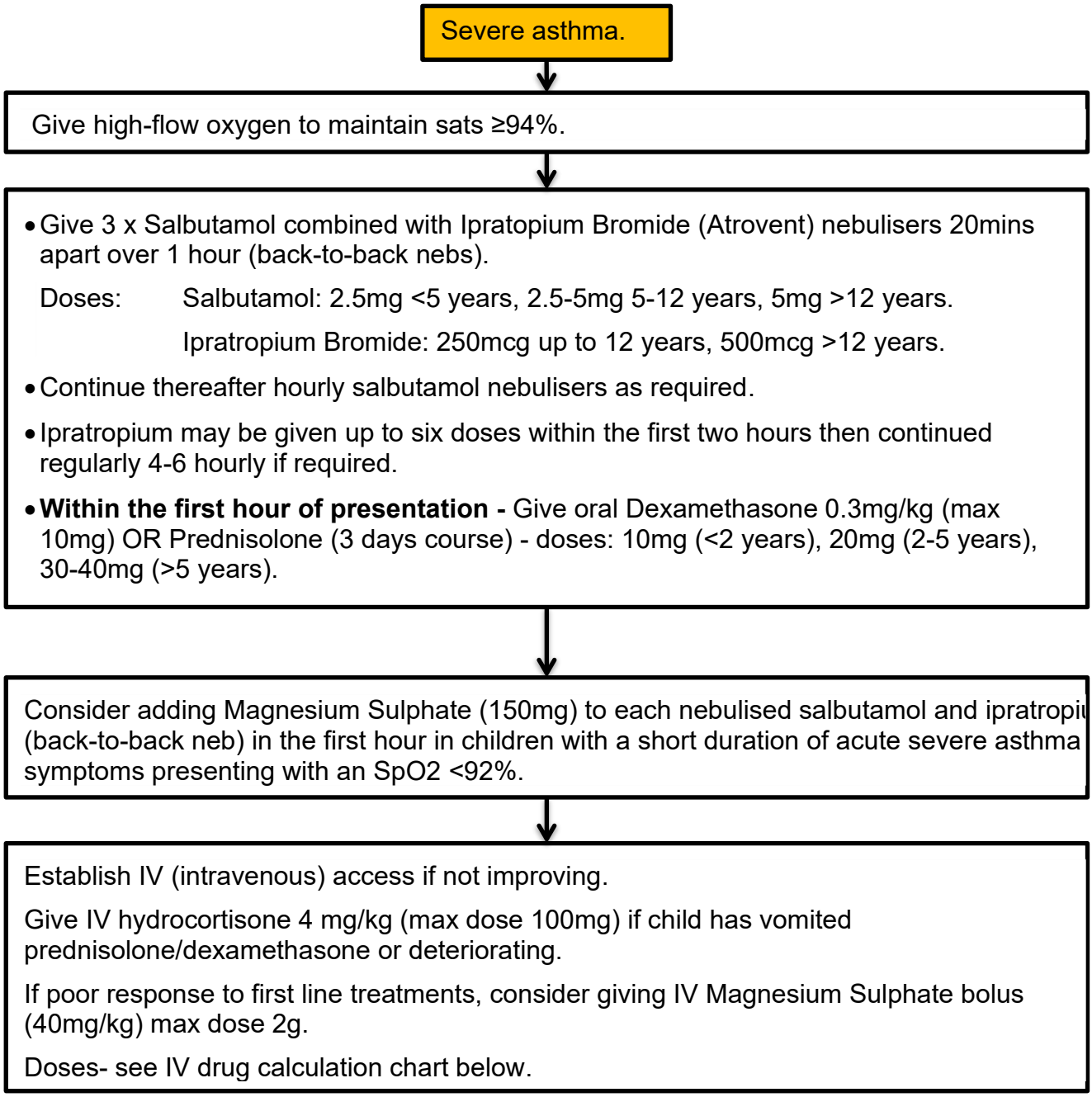
If improvement following further salbutamol:

- Slowly stretch out salbutamol doses; child likely to need period of observation.
- Continue to use MDI and spacer UNLESS sats <92%.
- Discharge when child is reliably spacing 3- 4 hours between inhalers. If criteria met and no red flags, discharge can be through the criteria led discharge (see section 2.12 and appendix 4).
- Review inhaler/ spacer technique of child/ parents.
- Review prophylactic medication (if any) and consider starting or increasing preventer medication.
- Will need written wheeze plans – **see section 2.9 for details.**

Prescribe drugs onto EPMA (Use the "Paed Acute Asthma" bundle).

Continue on severe asthma pathway and drug chart if not improving.

2.5. Severe Asthma Pathway



If deteriorating further- please use life threatening asthma pathway and IV drug chart. Ensure senior help available and paediatrics informed (bleep SHO 3516, Reg 3514, Consultant via Switch or use PAEDIATRIC CRASH CALL via Switch 2222.

Consider alternative diagnoses!

- Anaphylaxis.
- Collapsed lobe.
- Pneumothorax.
- Foreign body inhalation.
- Dehydration.
- Inadequate drug delivery.

2.6. Life-threatening Asthma Pathway

Life-threatening asthma.

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Give high-flow oxygen to maintain sats ≥94%.

Consider vapotherm 1-2 L/kg/minute.

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Continue regular nebulisers as per severe asthma pathway. Remove/turn off HFNC when administering nebulised therapy as per Southwest Critical Care ODN guideline unless an in-line nebuliser is available on the HFNC device. SW-PCC-ODN-Acute-Wheeze-Management-Regional-Guideline-V1.4-30.04.2025.pdf

Ensure IV Access obtained and continue giving IV hydrocortisone:

- 4mg/kg 6 hourly (max individual dose100mg).
- Oxygen, saturations and ECG monitor, strict fluid input/ output.
- Inform senior paediatric team + ICU, admit HDU.

↓

If not already given on the severe pathway give IV **magnesium sulphate** bolus (40mg/kg) max dose 2g.

Doses- see IV drug calculation chart below.

Magnesium sulphate can be prepared and administered quickly whilst either IV salbutamol or aminophylline are being drawn up.

↓

If fast onset of symptoms and/ or minimal inhaled salbutamol therapy prior to deterioration.

Give IV **salbutamol** loading dose.

Doses- see IV drug calculation chart below. Monitor U and E's (urine and electrolytes).

↓

If deteriorated despite frequent inhaled salbutamol or signs of salbutamol toxicity (severe tachycardia, tachypnoea, metabolic acidosis with high lactate, hypokalaemia – check U and E's) and if not taken oral theophylline in last 24 hours.

Give **aminophylline** loading dose followed by infusion if no improvement.

Doses- see IV drug calculation chart below.

↓

If poor response- add in the other IV drug which was not initially commenced (IV salbutamol/ aminophylline).

ICU to review patient. Inform PICU/ WATCH (Wales and West Acute Transport for Children Service) by calling 0300 0300 789.

IV salbutamol is not compatible with IV aminophylline. IV salbutamol is Y-site compatible with potassium infusions, only if mixed with sodium chloride 0.9%.

Refer to WATCH severe asthma guideline for further information and guidance: please access via MyStaff APP for most up to date guidelines https://watch.nhs.uk/wp-content/uploads/2024/05/Guideline-Asthma-Feb-2024.pdf.

2.7. Drug information:

2.7.1. Nebulised magnesium sulphate (6mmol).

150mg of magnesium sulphate can be added to salbutamol and ipratropium nebulising solution. This is equivalent to 0.3mL of 50% magnesium sulphate injection.

Please prescribe the following onto a Paediatric Fluid chart, using the calculations below.

2.7.2. IV magnesium sulphate.

MUST BE DILUTED BEFORE ADMINISTRATION TO 100mg/mL (10%)

Please only add the prescribed mg/kg dose to the syringe driver, for example, a dose of 500mg would only require 5mls of the solution. Do not add more than this to the syringe driver.

To make up a 100 mg/ml solution:

Dilute 2 grams of magnesium sulphate (4mL of the 5g in 10mL (50%) injection) with 16mL of 0.9% sodium chloride.

- Infuse 40 mg/kg (0.4 mls/kg) via a syringe driver over 20 minutes (but can be given over 10 minutes in life-threatening asthma).
- Maximum dose is 2 grams or 20 mls of the 100 mg/ml solution.
- Ensure that ECG (electrocardiogram) and saturation monitoring are in place.
- Monitoring of blood pressure and heart rate during administration is advised due to the risk of hypotension.

A second dose of IV magnesium sulphate bolus can be given after 1-2 hours but this is not routine practice and should only be done at consultant discretion. Magnesium levels should be checked after any second dose to avoid toxicity.

Note: magnesium can be further diluted to 5% (50mg/mL) where small volumes make administration difficult.

2.7.3. Peripheral intravenous salbutamol.

- All children requiring IV salbutamol should be reviewed by an experienced doctor.
- Patients should receive continuous ECG monitoring to ensure any arrhythmias are detected and should also have saturation monitoring in place.
- IV salbutamol may cause hypokalaemia therefore measure electrolytes at least twice daily.

- IV salbutamol is not compatible with IV aminophylline.
- IV salbutamol is Y-site compatible with potassium infusions, only if mixed with sodium chloride 0.9%.
- Once made, infusion bags are stable for 24 hours.
- Ongoing management should be in HDU.
- Inform the Critical Care Outreach Team.

2.7.4. **Salbutamol loading dose and infusion** (for use in severe and life-threatening asthma).

This guideline does not advocate the use of a salbutamol bolus as suggested in the Children's BNF (British National Formulary) (5 microgram/kg or 15 microgram/kg) as local audit data has shown that this rarely stops and often delays a child going on to receive a loading dose or infusion. However, experienced consultants may still recommend a salbutamol bolus in individual cases (e.g., cases of moderate asthma slow to respond to inhaled bronchodilator therapy).

For both loading doses and infusions:

- Children under 40 kg (under 11 years based upon APLS (advanced paediatric life support) weight calculation): Dilute 10 mg of intravenous salbutamol (2 vials of the 5 mg in 5 ml strength) with 40 mls of 0.9% sodium chloride to give a solution of 10 mg in 50 mls (200 microgram/ml).
- Children over 40 kg (11 years or older based upon APLS weight calculation): Dilute 100 mg of intravenous salbutamol (20 vials of the 5 mg in 5 ml strength) with 400 mls of 0.9% sodium chloride to give a solution of 100 mg in 500 mls (200 microgram/ml).

2.7.4.1. **Loading dose:** Run the 200 microgram/ml strength solution at 5 micrograms/kg/min (1.5 ml/kg/hour) for 1 hour**.**

Ensure ECG monitoring and consider reducing loading dose rate if extreme tachycardia.

Infusion: After the loading dose reduce the infusion rate to 1 micrograms/kg/minute (0.3 ml/kg/hour). In exceptional circumstances higher infusion rates may be used but risk salbutamol toxicity. Therefore, these cases must be discussed with WATCH/Critical Care.

Beware salbutamol toxicity: tachycardia, tachypnoea, metabolic acidosis (lactate commonly high) and hypokalaemia can occur with both IV and inhaled therapy.

2.7.4.2. **Aminophylline infusion (not if on theophylline)**

Dilute 500mg of IV aminophylline (2 vials of the 250 mg in 10 ml strength) with 480 mls 0.9% sodium chloride to give a solution of 1 mg/ml.

2.7.4.3. **Loading dose:**

- 5 mg/kg (5 ml/kg) over 20 minutes (If weight over 66 kg, then loading dose should be given over 30 minutes).
- Maximum dose is 500 mg (500ml).
- Ensure that ECG and saturation monitoring are in place.

It is important to ensure that a volume limit is set on the infusion pump so that no more than the 5 mg/kg bolus is given before changing to the continuous infusion.

2.7.4.4. **Infusion:**

- Children under 40 kg: 1 mg/kg/hour (1 ml/kg/hour).
- Children over 40 kg: 0.5-1 mg/kg/hour (0.5-1ml/kg/hour).

For obese patients (BMI >98th centile) it is recommended using ideal body weight (IBW) for maintenance doses.

If the patient is already taking a maintenance theophylline and has had a dose within the past 24 hours, the loading dose should be omitted.

Measure serum theophylline levels in patients already receiving oral treatment and in those receiving prolonged treatment.

2.8. Investigations

Consider alternative diagnoses!

- Anaphylaxis.
- Collapsed lobe.
- Pneumothorax.
- Foreign body inhalation.
- Dehydration.
- Inadequate drug delivery.

2.8.1. Chest X Ray (CXR) is NOT generally required.

- Significant abnormalities are present in only 1-5% patients.
- CXR should be done in all children who suddenly deteriorate to exclude pneumothorax, or with atypical presentation to exclude other disease entities- e.g., foreign body /pneumonia.
- N.B., Radiographic evidence of atelectasis is common in acute asthma but does not imply infection.

2.8.2. Blood gases are RARELY required in the assessment of acute asthma.

- Useful in severe/life-threatening cases.
- Further blood tests are required in severe/life-threatening cases to monitor for evidence of salbutamol toxicity (e.g., hypokalaemia, high lactate)- check regular U and E's.

2.8.3. Hydration and Nutrition

- Smaller dietary intake is advised in severe/life threatening asthma, as larger volumes may affect respiratory effort by putting pressure on the diaphragm affecting lung expansion.
- Document strict fluid input/output.
- Consider IV fluids for severe or worsening respiratory distress. Give 80% maintenance fluids, check U and E's 24 hourly.

2.9. Discharge and follow up

2.9.1. If prednisolone prescribed, then complete at least a 3-day Prednisolone course.

2.9.2. If dexamethasone is given, a stat dose only is required.

2.9.3. Every child should be discharged with the PIER network "wheeze discharge advice" leaflet (will be available on the ward, and also from: www.piernetwork.org/asthma-pathways.html detailing advice for inhaler use over the subsequent 48-72 hours following discharge from hospital. This replaces the previous colour coded salbutamol weaning plan.

2.9.4. Patients using Symbicort (Budesonide /Formoterol) as a MART (Maintenance and Reliever Therapy) or AIR (Anti-Inflammatory and Reliever Therapy) prior to admission should be advised to restart their MART or AIR as per their Personal Asthma Action Plan on discharge.

2.9.5. All patients must go home with a written plan for maintenance and reliever therapy : Please use asthma action plans which can be completed online and printed from www.beatasthma.co.uk.

2.9.6. Children are 4 times more likely to need emergency treatment if they do not have an asthma action plan.

2.9.7. Observe inhaler/spacer technique before discharge.

2.9.8. Give advice on avoiding relevant triggers and refer for smoking cessation support. Please complete the discharge bundle sticker and insert into the patient notes.

2.9.9. Give advice that all children should be followed up by their GP within 48 hours - 7 days of discharge.

2.9.10. All children admitted with severe or life-threatening asthma should be reviewed by the paediatric respiratory team in clinic urgently (via maxims outpatient referral). **Please also refer all children over 5 years with wheeze admission to the Asthma CNS. (Via maxims)**

2.10. Pre-School Children (<5 years) without a diagnosis of asthma:

2.10.1. Around 1/3 of children <5 years may respond to montelukast (4mg in the evening). Warn of potential side effects: sleep disturbance, mood change, GI (gastrointestinal) symptoms, headache, and myalgia.)

2.10.2. Children <5 years who have multiple trigger wheeze have higher risk of long-term asthma, and a preventer inhaler should be started if having frequent episodes (beclomethasone dipropionate (clenil modulite®) 50 microgram 2 puffs BD via spacer).

2.10.3. Children <5 years with repeated episodes of viral induced wheeze (especially those with strong family/personal history of atopy) may also be considered for inhaled steroid preventer.

2.11. Children >5 years

Children >5 years with a history of recurrent attacks or evidence of ongoing symptoms in whom you suspect a diagnosis of asthma and had improvement with salbutamol: initiate a trial of inhaled steroids (clenil modulite® 50micrograms 2 puffs BD via spacer for children up to 12 years of age, 100micrograms 2 puffs BD via spacer for children older than 12 years of age). Patients require a review of this treatment after 6 weeks. Please also refer these children via maxims to the Asthma CNS.

2.12. Criteria Led Discharge

The purpose of the criteria led discharge is to facilitate timely and safe discharge from hospital. The patient must be deemed fit for discharge by meeting the pre-requisite criteria in advance of the planned date of discharge.

Patients with moderate asthma at first assessment with **NO RED FLAGS** can be suitable for discharge by nursing staff as long as they meet the criteria for discharge:

- Salbutamol inhalers weaned to 3 hourly.
- No significant respiratory effort.
- No oxygen requirement as saturations >94%.

- There is no deterioration in the patient's clinical condition.
- There are no red flags (previous PICU or IV therapy, oxygen beyond 1 hour).

Discharge is undertaken by a band 6 **or** senior band 5 nurse with another qualified nurse.

The Criteria Led Discharge form (Appendix 4) must be filled out prior to initiating.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Compliance with pathways. Achieving all elements of the management and follow up/discharge plan.
Lead	Audit Lead. Paediatric Consultants.
Tool	Asthma Audit, recorded on Word or Excel template.
Frequency	As required. N.B., National audit is annual.
Reporting arrangements	Child Health Audit and Guidelines meeting.
Acting on recommendations and Lead(s)	Child Health Audit and Guidelines meeting.
Change in practice and lessons to be shared	Required changes to practice to be identified and actioned within 3 to 6 months. Lead member of the team will be identified to take each change forward where appropriate.

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the Equality Diversity And Inclusion Policy or the Equality and Diversity website.

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Acute Asthma and Wheeze in Children aged 1 to 16 Years V4.0
This document replaces (exact title of previous version):	Acute Asthma and Viral Wheeze in Children Aged 12 Months to 16 Years- Treatment Pathways Clinical Guideline V3.1
Date Issued/Approved:	December 2025
Date Valid From:	December 2025
Date Valid To:	December 2028
Directorate /Department responsible (author/owner):	Paediatric Respiratory team: Joe Cloran CNS Asthma, Dr Kathryn Thomas, Dr Stuart Nath,
Contact details:	01872 252463
Brief summary of contents:	Clinical guideline for management of acute asthma and wheeze in children. Includes clear treatment pathways.
Suggested Keywords:	Asthma, Paediatric, Wheeze, Child.
Target Audience:	**RCHT:** Yes **CFT:** No **CIOS ICB:** No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Child Health Audit and Guidelines Group
General Manager confirming approval processes:	Caroline Chappell
Name of Governance Lead confirming approval by specialty and care group management meetings:	Michael Cross
Links to key external standards:	None required
Related Documents:	1. Bristol PICU guidance for Acute Severe Asthma. SW-PCC-ODN-Acute-Wheeze-Management-Regional-Guideline-V1.4-30.04.2025.pdf. 2. Bristol Acute Asthma guideline- found on

Information Category	Detailed Information
	intranet link to Bristol guidelines. 3. National Review of Asthma Deaths NRAD - https://www.rcplondon.ac.uk/projects/national-review-asthma-deaths and "Why Asthma still kills" August 2015 - https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills. 4. British Thoracic Society- https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/. 5. BNF for Children: https://bnfc.nice.org.uk/treatment-summary/asthma-acute.html. 6. Asthma UK- www.asthma.org.uk. 7. Cronin et al, (2016) A randomized trial of a single-dose oral dexamethasone versus multidose prednisolone for acute exacerbations of asthma in children who attend the emergency department. Pediatrics. 67(5) pp 593 – 601. 8. Beat Asthma www.beatasthma.co.uk. 9. PIER NETWORK www.piernetwork.org/asthma-pathways.html.
Training Need Identified?	No
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical/Paediatrics/Respiratory

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
March 2016	V1.0	Initial issue from guidelines meeting.	Dr Kathryn Thomas, Paediatric Registrar.
September 2019	V2.0	Full review – formatting changes only.	Dr Stuart Nath, Consultant Paediatrician

Date	Version Number	Summary of Changes	Changes Made by
May 2022	V3.0	Full review. Changes – use of dexamethasone, consideration of nebulised magnesium sulphate, introduction of criteria led discharge, incorporation of PEFR reference ranges.	Dr Stuart Nath Consultant Paediatrican, Dr Felicity Pounder, Dr Consultant Paediatrican, Kathryn Thomas, Consultant Paediatrican. Dr Alicia Regan, Paediatric Registrar and Lucy Williams, APNP
January 2023	V3.1	In response to learning from a Patient Safety incident, text added to 2.7.2 – "Please only add the prescribed mg/kg dose to the syringe driver, for example, a dose of 500mg would only require 5mls of the solution. Do not add more than this to the syringe driver."	Dr Stuart Nath Consultant Paediatrican. Dr Kathryn Thomas, Consultant Paediatrican.
November 2025	V4.0	Full review with below changes: Appendix 5 added- inhaled salbutamol weaning. Reference to Big 6 guideline removed. Change to title (more concise) S2.1 – Life Threatening Critera updated to clarify that SpO2 <92% in air also requires the presence of at least one other life threatening (red) criteria. Marked Bradycardia added to life-threatening (red) criteria. S2.4 Added 'via age-appropriate spacer device' to pMDI directions. Amended section reference to wheeze plans to 2.9 only. S2.4 and 2.4 - addition of maximum dose for dexamethasone (10mg). S2.6 Added guidance on turning off HFNC flow during nebulisation as per SW PCC ODN guideline. S2.7 Added (6mmol) to guidance on prescribing nebulised MgSO4 to bring in line with EPMA.	Joe Cloran, Paediatric Clinical Nurse Specialist Asthma. Dr Kathryn Thomas, Consultant Paediatrician. Dr Stuart Nath, Consultant Paediatrician.

Date	Version Number	Summary of Changes	Changes Made by
		S2.9 Added information regarding discharge of patients on MART /AIR (now s2.9.4). All subsequent sub paragraphs in 2.9 re-numbered accordingly. 2.9 update to section on discharge and references to action plans/discharge plans available. 2.9.10 update re referring all children >5years of age with wheeze admission, to Asthma CNS. Appendix 5 s3 guidance added to Salbutamol Weaning Flow diagram that Nebulisers only indicated in severe/life Threatening pathways.	

All or part of this document can be released under the Freedom of Information Act 2000.

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust The Policy on Policies (Development and Management of Knowledge Procedural and Web Documents Policy). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity and Inclusion Team rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy /policy /proposal /service function to be assessed:	Acute Asthma and Wheeze in Children Aged 1 to 16 Years V4.0
Directorate and service area:	Child Health
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Child Health Audit and Guidelines Group
Contact details:	01872 252463

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	To provide a consistent approach to the management of asthma in children with clear treatment pathways.
2. Policy Objectives	As above.
3. Policy Intended Outcomes	Consistent approach to the management of asthma in children.
4. How will you measure each outcome?	As per section 3- monitoring compliance and effectiveness.
5. Who is intended to benefit from the policy?	Patients, parents/carers and staff.
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Yes • Patients/visitors: No • Local groups/system partners: No • External organisations: No • Other: No

Information Category	Detailed Information
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/groups:** Child Health Audit and Guidelines Group
6c. What was the outcome of the consultation?	Approved.
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff or patient surveys:** No.

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	Any information provided should be in an accessible format for the parent/carer/patient's needs- i.e., available in different languages if required/access to an interpreter if required.
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	Those parent/carer/patients with any identified additional needs will be referred for additional support as appropriate- i.e. to the Liaison team or for specialised equipment. Written information will be provided in a format to meet the family's needs e.g. easy read, audio etc.
Religion or belief	No	All staff should be aware of any beliefs that may impact on the decision to treat and should respond accordingly.

Protected Characteristic	(Yes or No)	Rationale
Marriage and civil partnership	No	All staff should be aware of any marital arrangements that may have an impact on care (for example: separated parents, domestic abuse).
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Child Health Audit and Guidelines Group.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis.

Appendix 3. PEFR Reference Ranges

Peak Expiratory Flow Rate.					
For use with EU/EN13826 scale PEF meters only.					
Height (m).	**Height (ft).**	**Predicted EU PERFR (L/minute).**	**Height (m).**	**Height (ft).**	**Predicted EU PERFR (L/minute).**
0.85	2'9"	87	**1.30**	4'3"	212
0.90	2'11"	95	**1.35**	4'5"	233
0.95	3'1"	104	**1.40**	4'7"	254
1.00	3'3"	115	**1.45**	4'9"	276
1.05	3'5"	127	**1.50**	4'11"	299
1.10	3'7"	141	**1.55**	5'1"	323
1.15	3'9"	157	**1.60**	5'3"	346
1.20	3'11"	174	**1.65**	5'5"	370
1.25	4'1"	192	**1.70**	5'7"	393

Appendix 4. CHA 4357- Criteria Led Discharge- Viral Led Wheeze

CHA4357: Criteria Led Discharge - Viral Induced Wheeze (cornwall.nhs.uk).

Appendix 5. Inhaled Salbutamol Weaning

Based on the Bristol Acute Wheeze/Asthma Management Clinical Guideline.

1. Introduction.

   - Prior to the administration of each dose of inhaled Salbutamol, the child must have a Respiratory Assessment. Inhaled Salbutamol cannot be stretched by nursing staff until the frequency of inhaled Salbutamol is at least at hourly intervals.
   - If the Respiratory Assessment indicates improvement, then the frequency of Salbutamol may be stretched as deemed appropriate by nursing or medical staff. It may not be stretched by more than 1 hourly intervals at a time i.e. stretch from 1-2 hours, 2-3 or 3-4 hours.
   - If the respiratory assessment demonstrates little or no progress, then Salbutamol administration should be continued at the same time interval.
   - If deterioration is noted, the child's medical team should be contacted.

2. Respiratory assessment and indications for stretching inhaled salbutamol.

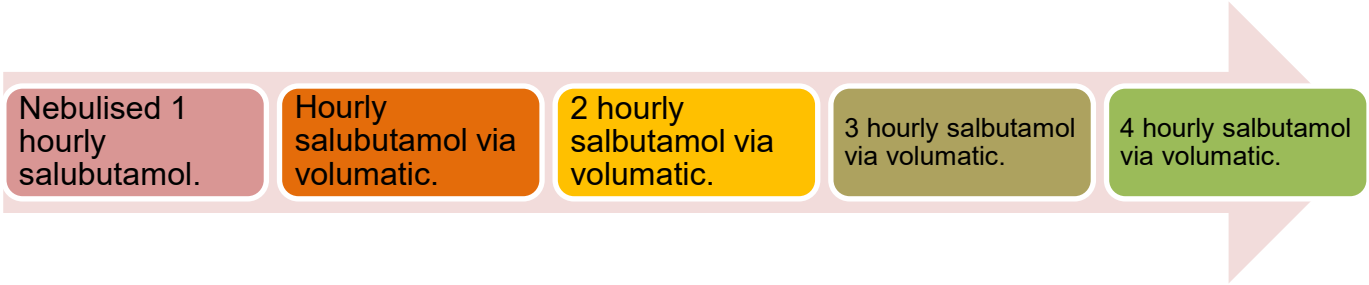
   - The Respiratory Assessment must take place before each Salbutamol administration even if the child is asleep and should be documented in the child's medical notes.
   - If the assessment indicates continued improvement, then inhalers may be stretched to the next step (see flow diagram below).
   - Be aware that a child may shift between asthma severity levels.

Assessment.	**Indications for stretching inhaled salbutamol.**
Work of breathing. Activity level/level of distress.	• Decrease in effort of breathing. • Increase in activity level.
Respiratory rate.	• Decrease in respiratory distress, improved air entry and vital signs.
Heart rate.	• Decrease in heart rate. • N.B., salbutamol does increase heart rate.
Subcostal/intercostal recession, tracheal tug, nasal flaring.	• Reduction in in accessory muscle use, tracheal tug, and nasal flaring.
Auscultation- air entry, wheeze.	• Increase in air entry- equal, improvement, reduction. • Note the intensity of the wheeze- variable, moderate, loud, absent. • Note the reduction in wheeze. • N.B., wheeze intensity may indicate that it is unsafe to stretch; absent wheeze and

Assessment.	Indications for stretching inhaled salbutamol.
	reduced air entry indicate deterioration.
Cough.	• Reduction or change in character or cough.
Oxygen saturation.	• Decrease in oxygen requirement. • Oxygen saturation maintained >92%.

3. Salbutamol weaning flow diagram.

- If the respiratory assessment indicates continued improvement, then inhalers may be stretched to the next step.
- Nebulisers are only indicated in severe/life-Threatening pathways. For Mild /Moderate wheeze, please prescribe/use pMDI and age-appropriate spacer. Turn off O2 (if used) whilst administering pMDI. Turn off HFNC if administering nebulisers* or pMDI.
- *N/A if HFNC has in-line nebuliser capability.



4. Documentation in medical notes:

- The outcome of the respiratory assessment and clinical decision made must be recorded in the child's medical notes. This should include:
- Any changes in respiratory assessment.
- Frequency of inhaled Salbutamol.
- Oxygen requirements.
- Delivery method.
- Any action taken in the event of improvement or deterioration.