

Wessex Paediatric Viral Induced Wheeze and Acute Asthma Treatment Pathway



- This pathway is designed for use across Emergency Departments and acute paediatric units by medical and nursing teams.
- It should be used in all children and young people aged > 1 year with a diagnosis of viral induced wheezing or an acute attack of asthma.
- All children should be assessed within 15 minutes of arrival according to BTS criteria (see below) and treatment initiated according to severity.
- The pathway should be used in conjunction with Criteria Led Discharge where appropriate.

Consider the differential diagnosis of wheezing and abnormal breathlessness which include:

- Anxiety associated breathing pattern disorders such as hyperventilation and inducible laryngeal obstruction
- Infections such as atypical bacterial or viral pneumonia
- Inhaled Foreign body
- Compression or narrowing of the trachea due to tumour or a congenital abnormality
- Anaphylaxis
- Cardiac failure

Consider the following risk factors for near fatal/fatal asthma:

- Severe wheezing in the context of adverse psycho-social factors
- History of a previous life threatening episode
- Representation within 1 month of a previous acute episode
- Excessive use of bronchodilators prior to seeking medical attention

If at any point the treating clinician or nurse is concerned that their patient is deteriorating, obtain help from a senior team member.

Mild - Moderate	Severe	Life Threatening
<ul style="list-style-type: none"> • SaO₂ ≥92% in air • No clinical features of severe Viral Induced Wheeze/Asthma • May have some increased work of breathing 	<p>Any one of:</p> <ul style="list-style-type: none"> • SaO₂ <92% • Too breathless to talk or eat • Heart rate >140 (1-5y) or >125 (5+)* • Resp rate >40 (1-5y) or >30 (5+) • Use of accessory neck muscles • PEF 33-50% best or predicted <p>*consider impact of prior bronchodilator use on HR before using HR alone to define severe asthma</p>	<p>SaO₂ <92% plus any of:</p> <ul style="list-style-type: none"> • Silent chest • Poor respiratory effort • Agitation • Altered consciousness • Cyanosis

Mild - Moderate

Salbutamol MDI via spacer*

Reassess in 15 mins

Improving?

YES

Reassess in 1-2 hours#

Obs. normal, no respiratory distress?

YES

Discharge Home

- Written wheeze plan @ <http://www.what0-18.nhs.uk/>
- Check inhaler technique
- Consider GP review in 2 working days +/- asthma clinic in <1 month

NO

Continue Burst Therapy:
 1. Give two further doses of Salbutamol plus Ipratropium Bromide MDI via spacer* after 20 and 40 mins
 2. Consider oral steroids (known asthmatic/atopic history)*

Reassess in 15 mins

Improving?

YES

Reassess in 3-4 hours#

Admit to inpatient area
 • Salbutamol 100mcg MDI up to 10 puffs 1-4 hourly
 • Consider Prednisolone if not already given

#The nursing team should reassess vital signs and work of breathing **every hour** and alert the medical team if they are concerned.

Severe

Start Bronchodilators (Burst Therapy):
 1. Salbutamol plus Ipratropium Bromide MDI via spacer – or nebuliser via oxygen if SaO₂ <92%*
 2. Prescribe O₂ to maintain SaO₂ >94%

Reassess in 15 mins

Improving?

YES

NO

Switch to Nebulised Salbutamol plus Ipratropium Bromide*

Reassess in 15 mins

Improving?

YES

NO

NO

LIFE THREATENING

- Move to RESUS/HDU
 - Senior medical review
 - Prescribe O₂ to maintain SaO₂ > 94%
 - Back to back nebulisers - Salbutamol 2.5-5mg plus Ipratropium Bromide 250-500mcg
- If not improving or worsening airway obstruction:**
- IV access/blood gas
 - IV bronchodilators as per [SORT guideline](#)
 - IV Hydrocortisone
 - Outreach/PICU/ICU/Anaesthetic input

* Drug Doses

Salbutamol

- 1-4 yr 5 puffs or 2.5mg Neb,
- 5+ 10 puffs or 5mg Neb

Ipratropium Bromide

- 1-4 yr 4 puffs or 250mcg Neb
- 5+ 8 puffs or 500mcg Neb

Prednisolone

- 1-4 yr 10-20mg 3 days
- 5+ 30-40mg 3 days

(or) Dexamethasone

- 0.3mg/kg PO x 1 dose