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 wheeze or an acute asthma attack.
- All children should be assessed within 15 minutes of arrival according to BTS criteria (see below) and treatment initiated according to severity.
- Prehospital ambulance bronchodilator treatment should be considered when prescribing burst therapy
- 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 or prehospital IM Adrenaline with ambulance crew**

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
• SaO_2 ≥92% in air • **No** clinical features of severe Viral Induced Wheeze/Asthma • May have some increased work of breathing	**Any one of:** • SaO_2 <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 *consider impact of prior bronchodilator use on HR before using HR alone to define severe asthma	**SaO_2 <92% plus any of:** • **Silent chest** • **Poor respiratory effort** • **Agitation** • **Altered consciousness** • **Cyanosis**

Mild - Moderate

Salbutamol MDI via spacer*

Reassess in 15 mins

Improving?

NO

YES

Reassess in 1-2 hours#

NPEWS, respiratory distress?

NORMAL

Discharge Home
- Written wheeze plan (wheeze, asthma)
- Check inhaler technique
- Primary care review in 2 working days +/- asthma clinic in <1 month +/- local hospital at home

Severe

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 within hour (known asthmatic/atopic history)*

Reassess in 15 mins

Improving?

YES

Reassess in 3-4 hours#

ABNORMAL

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

Start Bronchodilators (Burst Therapy):
1. Salbutamol plus Ipratropium Bromide MDI via spacer – or nebuliser via oxygen if SaO_2 <92%*
2. Prescribe O_2 to maintain SaO_2 >94%

Reassess in 15 mins

Improving?

YES

NO

Nebulised Salbutamol plus Ipratropium Bromide if requiring oxygen*

Reassess in 15 mins

Improving?

YES

NO

LIFE THREATENING

- Move to RESUS/HDU
- Senior medical review
- Prescribe O_2 to maintain SaO_2 > 94%
- Back to back nebulisers - Salbutamol plus Ipratropium Bromide*
- Oral steroids within hour*

If not improving :
- IV access/blood gas
- IV bronchodilators as per SORT guideline
- IV Hydrocortisone
- Consider High Flow Humidified O2
- Consider Anaesthetic / ICU / Outreach / SORT input
- Consider other diagnoses

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

*** Drug Doses**

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

Ipratropium Bromide
1-11yr 4 puffs or 250mcg Neb
12+ 8 puffs or 500mcg Neb

Dexamethasone
0.3mg/kg PO x 1 dose

(or) Prednisolone
1-4 yr 10-20mg up to 3 days
5+ 30-40mg up to 3 days

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