Management of Acute Exacerbation of Asthma / Wheeze
Primary Care Clinical Assessment Tool for Children Over 2 Years

**Assessment**

**History**
- Breathless/wheeze/cough/chest tightness
- Viral or allergic trigger
- Previous episodes or interval symptoms
- Family or personal history asthma, eczema or atopy
- Current/Previous treatment and responses

**Examination**
- Speech
- Respiratory rate
- Chest wall expansion and movement
- Use of accessory muscles
- Auscultation of chest – reduced air entry, wheeze, prolonged expiration
- Oxygen Saturation (Sats)
- Peak flow measurement (>5yrs but often unreliable in younger age)

**Consider other diagnosis**
- Pneumonia
- Bronchiolitis in under 1yr old
- Croup
- Foreign body

- **No – treat as below**
- **Yes**
- **It may not be asthma. Seek expert help**

**Moderate Exacerbation**
- Able to talk
- Moderate respiratory distress/wheeze
- Sats ≥92%
- PEF >50% predicted or best (>5yrs)
- 2-5 yrs:
  - RR ≤40/min HR ≤ 140/min
  - RR ≤30/min HR ≤ 125/min
  - RR <25/min HR ≤ 110/min
- 5-12yrs:
  - RR ≤40/min HR > 140/min
  - RR ≥30/min HR > 125/min
  - RR ≥25/min HR > 110/min
- 12-18yrs:
  - RR ≤30/min HR ≤ 125/min
  - RR ≤25/min HR ≤ 110/min

- Give Salbutamol 2-10 puffs via spacer+facemask (one puff at a time.)
- Increase by 2 puffs every 2 minutes up to 10 puffs according to response
- Assess response and repeat if necessary
- Give stat dose soluble Prednisolone 20mg

- **2-5yrs** and **30-40 mg > 5yrs or 2mg/Kg dose (maximum 40mg)**
- **Call 999**
- **Give high flow oxygen via fitted face mask aim for Sats 94-98%**
- **Give nebulised Salbutamol (using 6L-8L oxygen):<5yrs 2.5mg and > 5yrs 5mg**
- **Reassess and Repeat at 20-30min intervals or as necessary**

**Severe**
- Previous attack within last 2 weeks
- Too breathless to talk or complete sentence
- Marked respiratory distress/wheeze
- Sats <92%
- PEF 33- 50% predicted or best
- 2-5yrs:
  - RR >40/min HR > 140/min
- 5-12yrs:
  - RR >30/min HR > 125/min
- 12-18yrs:
  - RR ≥25/min HR > 110/min

- **Call 999**
- **Give high flow oxygen via fitted face mask**
- **Give back to back nebulised Salbutamol (using 6L- 8L oxygen):<5yrs 2.5mg; >5yrs 5mg**
- **Give stat dose soluble Prednisolone 20mg 2-5yrs and 30-40 mg > 5yrs or 2mg/Kg dose (maximum 40mg)**
- **Consider nebulised Ipratropium Bromide (using 6L oxygen):<12yrs 250mcg:12-18yrs 500mcg repeated every 20-30 minutes**

**Life Threatening**
- Sats <92% plus any of the following:
  - Silent chest
  - Poor respiratory effort
  - Exhausted and unresponsive
  - Confusion/coma/agitation
  - Cyanosis
  - Bradycardia
  - Respiratory arrest
  - PEF not recordable or <33% predicted or best

- **Commence resuscitation - ABC**
- **Call 999**
- **Give high flow oxygen via fitted facemask**
- **Give back to back nebulised Salbutamol (using 6L- 8L oxygen):<5yrs 2.5mg; >5yrs 5mg**
- **Give stat dose soluble Prednisolone 20mg 2-5yrs and 30-40 mg > 5yrs or 2mg/Kg dose (maximum 40mg)**
- **Give nebulised Ipratropium Bromide (using 6L oxygen):<12yrs 250mcg; 12-18yrs 500mcg repeated every 20-30 mins**

**Poor Response**
Reconsider diagnosis or severe & life threatening episode

**Good response**
Reassess within 1 hour
- Subtle or no use of accessory muscles
- Minimum wheeze
- Sats >92% in air
- Rising PEF in >5 yrs

**Ambulance transfer pathway**
Continue to administer oxygen driven nebulised salbutamol if symptoms are severe whilst transferring the child to the emergency department

Ensure a health professional stays with child
Contact duty paediatric registrar or consultant to arrange admission
Discharge from hospital and GP

Patient must be stable have minimal recession with Sats >92% and manage 3-4 hourly between doses of inhaler
- Discharge on salbutamol 2-10 puffs up to 4 hourly via spacer + facemask
- Complete a 3 day course of Prednisolone; child < 5 yrs 20mg; 5-12 yrs 30-40mg for 3 days; 12-18 yrs 40mg for 3-5 days (or 2mg/kg dose up to 40mg)
- Give Acute Asthma Management Plan
- Check inhaler technique and regular medication
- Review overall asthma control and consider need to step up medication
- Arrange a review at GP practice within 48 hours and give advice on re-accessing medical care if condition worsens e.g. OOH service (or open access to Children’s Assessment Unit if an option.)

Full Respiratory assessment in 7-14 days in primary care

THINK TTT – consider compliance with existing Therapy, Inhaler Technique and Triggers before stepping up treatment

Table 1: Normal Paediatric Values

<table>
<thead>
<tr>
<th>Height (m)</th>
<th>Height (ft)</th>
<th>Predicted EU PEFR (L/min)</th>
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<td>0.85</td>
<td>2'9&quot;</td>
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Table 2: Predicted Peak flow: for use with EU/EN13826 scale PEF metres only

Ref: The British Thoracic Society (BTS) and SIGN Guideline on the Management of Asthma (Revised Jan 2012) and thanks to The Suffolk Respiratory Pathway Group