Management of Acute Exacerbation of Asthma / Wheeze
Secondary Care Clinical Assessment Tool for Children Under 2 Years

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

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

**Examination**
- Feeding and speech
- Respiratory rate
- Chest wall expansion and movement
- Use of accessory muscles
- Auscultation of chest – reduced air entry, wheeze, prolonged expiration
- Oxygen Saturation (Sats)

**Assessment**

<table>
<thead>
<tr>
<th>History</th>
<th>Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>No – treat as below</td>
<td>It may not be asthma. Seek expert help</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

**Consider other diagnosis**

- Pneumonia
- Bronchiolitis in under 1 yr old
- Croup
- Foreign body

**Moderate Exacerbation**
- Able to feed or talk
- Moderate use of accessory muscles
- Audible wheeze
- Sats >92% in air
- < 1 yr:
  - RR ≤40/min HR 120-170/min
  - RR ≤35/min HR 80-110/min
- 1-2 yrs:
  - RR ≤40/min HR >170/min
  - RR ≤35/min HR >110/min

**Severe**
- Previous attack within last 2 weeks
- Too breathless to feed or talk
- Marked use of accessory muscles and wheeze
- Sats < 92 % in air
- <1 yr:
  - RR >40/min HR >170/min
  - RR >35/min HR >110/min

**Life Threatening**
- Sats <92% in air plus any of the following:
  - Silent chest
  - Poor respiratory effort
  - Exhausted and unresponsive
  - Coma/agitation
  - Cyanosis
  - Bradycardia
  - Apnoea
  - Respiratory arrest

**Treatment**

<table>
<thead>
<tr>
<th>Moderate Exacerbation</th>
<th>Severe</th>
<th>Life Threatening</th>
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</table>
| **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 10mg**
| **Give high flow Oxygen via fitted mask aim for sats 94-98%**
| **Give nebulised Salbutamol 2.5mg (using 6L-8L oxygen)**
| **Reassess and Repeat at 20-30 minute intervals or as necessary**
| **Give stat dose soluble Prednisolone 10mg**
| **Repeat dose if patient vomits, or consider IV Hydrocortisone 4mg/Kg**
| **If Poor response Ipratropium Bromide 250 micrograms via oxygen driven nebuliser repeated every 20-30minutes**
| **Poor response see life-threatening**
| **Discuss with senior clinician or Paediatrician or PICU team**

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

**Good response**
- Continue salbutamol 1-4 hourly
- Re-Assess regularly

**Admit/further observation on Children's Assessment unit for all cases if severe symptoms after initial treatment**

**POOR RESPONSE**
- Consider IV Salbutamol and Magnesium
- Consider Chest X-Ray
- Arrange PICU/ITU admission

**Poor Response**
- Reconsider diagnosis: Severe or Life Threatening episode
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 Prednisolone10 mg or 2mg/kg dose
- Give Acute Asthma Management Plan
- Check inhaler technique and regular medication
- Review overall asthma control and consider need to step up medication
- Arrange review at GP practise 48hrs
- Open access to Children’s Assessment Unit for 48hours
- Full respiratory review at GP practise in 7-14 days
- Arrange FU in clinic with Asthma Consultant/nurse

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

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.
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