Management of Acute Exacerbation of Asthma / Wheeze

Secondary Care Clinical Assessment Tool for Children Under 2 Years

NHS England

Assessment

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

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)

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**

Treat according to most severe feature

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

1-2yrs:
- RR ≤35/min HR 80-110/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 10mg

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

Poor Response
Reconsider diagnosis: Severe or Life Threatening episode

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
- **1- 2yrs:**
- RR >35/min HR >110/min

- 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 Ipatropium 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
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

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

- Commence resuscitation - ABC
- Give high flow Oxygen via mask

PAEDIATRIC CARDIAC ARREST CALL
- Give **back to back** nebulised Salbutamol 2.5mg (using 6L-8L oxygen)
- Give stat dose soluble Prednisolone 10mg
- Repeat dose if patient vomits, or consider IV Hydrocortisone 4mg/Kg
- Give nebulised Ipratropium Bromide 250mcg (using 6L-8L oxygen). Repeat every 20-30 minutes

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