Management of Acute Asthma in Children aged >2 years old

ASSESS SEVERITY

Moderate
SpO_2 >92%
Able to talk in sentences
2-5 years HR <140, RR <40
>5 years HR <125 bpm, RR <30

Severe
SpO_2 <92%
Too breathless to talk/eat
2-5years HR >140 bpm, RR >40
>5 years HR >125bpm, RR >30

Life threatening
SpO_2 <92%
Silent chest
Poor respiratory effort/ exhaustion
Agitation/ Reduced GCS
Cyanosis

Immediate treatment (Moderate)
Oxygen if SpO_2 <94%
Salbutamol
6-10 puffs via MDI + spacer
Immediate steroid
PO Prednisolone 20-40mg

Immediate treatment (Severe / Life threatening)
Oxygen to maintain normal SpO_2
Inhaled therapy: All treatments together in 3 back to back nebulisers
- Nebulised Salbutamol (2.5mg if <5years old, 5mg if >5 years old)
- Nebulised Ipratropium bromide (0.25mg)

Consider also: nebulised Magnesium sulphate (154mg /2.5ml)
Immediate steroid: PO Prednisolone 20-40mg or IV Hydrocortisone 4mg/kg.

ASSESS RESPONSE TO IMMEDIATE TREATMENT

Responding to treatment
Salbutamol
Via nebuliser or MDI and spacer
1-4 hourly as needed

Consider escalation to IV treatments if still requiring one hourly nebulisers at 4 hours.

4 HOUR ASSESSMENT

Escalation to IV bolus therapy
First line:
IV Salbutamol bolus
5mcg/kg (<2 years old) or 15mcg/kg (>2 years old) bolus over 10 min

Consider also:
IV Magnesium sulphate bolus
25-40mg/kg bolus over 10 min

Consider escalation to IV infusion if still requiring one hourly nebulisers at 4 hours.

Discharge
when stable on 4 hourly treatment.

At Discharge
- Prednisolone for 3-5 days
- Review inhaler technique
- Check correct spacer is prescribed
- Check maintenance treatment
- Assess need for step up in treatment
- Provide **Asthma Pack**
- **Update Asthma Care Plan**
- Advise GP follow up in next 48 hours

Escalation to IV infusion therapy
IVI Aminophylline infusion
5-10mg/kg loading dose (max 500mg) over 20 min then continuous infusion
1mg/kg/hour (omit loading dose if on maintenance theophylline)

IVI Salbutamol infusion
1-5mcg/kg/min as continuous infusion
Beware salbutamol toxicity (tachycardia, tachypnoea, metabolic acidosis)

Discuss patient with senior Paediatrician and PICU
Identify where patient should be cared for - Ward/HDU/PICU
Reduce frequency of inhaled bronchodilators to reduce systemic side effects
Consider CXR and ABG.

Each patient should be considered individually. If they have previously responded well to a particular IV bronchodilator you should consider using this as 1st line IVI therapy.

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Respiratory Health Implementation Group Child Health
South Wales Paediatric Respiratory Network 2018