

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**

Treat according to most severe feature

Moderate Exacerbation

- Able to talk
 - Moderate respiratory distress/wheeze
 - Sats $\geq 92\%$
 - PEF $>50\%$ predicted or best (>5yrs)
- 2-5 yrs:
- RR $\leq 40/\text{min}$ HR $\leq 140/\text{min}$
- 5-12yrs:
- RR $\leq 30/\text{min}$ HR $\leq 125/\text{min}$
- 12-18yrs:
- RR $<25/\text{min}$ HR $\leq 110/\text{min}$

- 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 **$\geq 5\text{yrs}$** or 2mg/Kg dose (maximum 40mg)

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 $>40/\text{min}$ HR $> 140/\text{min}$
- 5-12yrs
- RR $>30/\text{min}$ HR $> 125/\text{min}$
- 12-18yrs
- RR $\geq 25/\text{min}$ HR $> 110/\text{min}$

- 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
- 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

Good response

- Reassess within 1 hour
- Subtle or no use of accessory muscles
 - Minimum wheeze
 - Sats $>92\%$ in air
 - Rising PEF in **$>5\text{yrs}$**

Poor Response

- Reconsider diagnosis or **severe & life threatening** episode

Ensure a health professional stays with child
Contact duty paediatric registrar or consultant to arrange admission

Ambulance transfer pathway

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

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

Respiratory Rate at Rest:

<2-5yrs 25-30 breaths/min
5-12yrs 20-25 breaths/min
>12yrs 15-20 breaths/min

Heart Rate

<2-5yrs 95-140 bpm
5-12yrs 80-120 bpm
>12yrs 60-100 bpm

Table 2: Predicted Peak flow: for use with EU/EN13826 scale PEF metres only

Height (m)	Height (ft)	Predicted EU PEFR (L/min)
0.85	2'9"	87
0.90	2'11"	95
0.95	3'1"	104
1.00	3'3"	115
1.05	3'5"	127
1.10	3'7"	141
1.15	3'9"	157
1.20	3'11"	174
1.25	4'1"	192
1.30	4'3"	212
1.35	4'5"	233
1.40	4'7"	254
1.45	4'9"	276
1.50	4'11"	299
1.55	5'1"	323
1.60	5'3"	346
1.65	5'5"	370
1.70	5'7"	393