

PART 3 (Flowcharts 1-3)

Clinical Management of Acute Exacerbations of Asthma and Wheeze

Integrated Care Pathway for Children aged 1-16 years

PLEASE USE in conjunction with Part 1 & 2
Clinical Management of Acute Exacerbations of Asthma and Wheeze
Integrated Care Pathway for Children aged 1-16 years

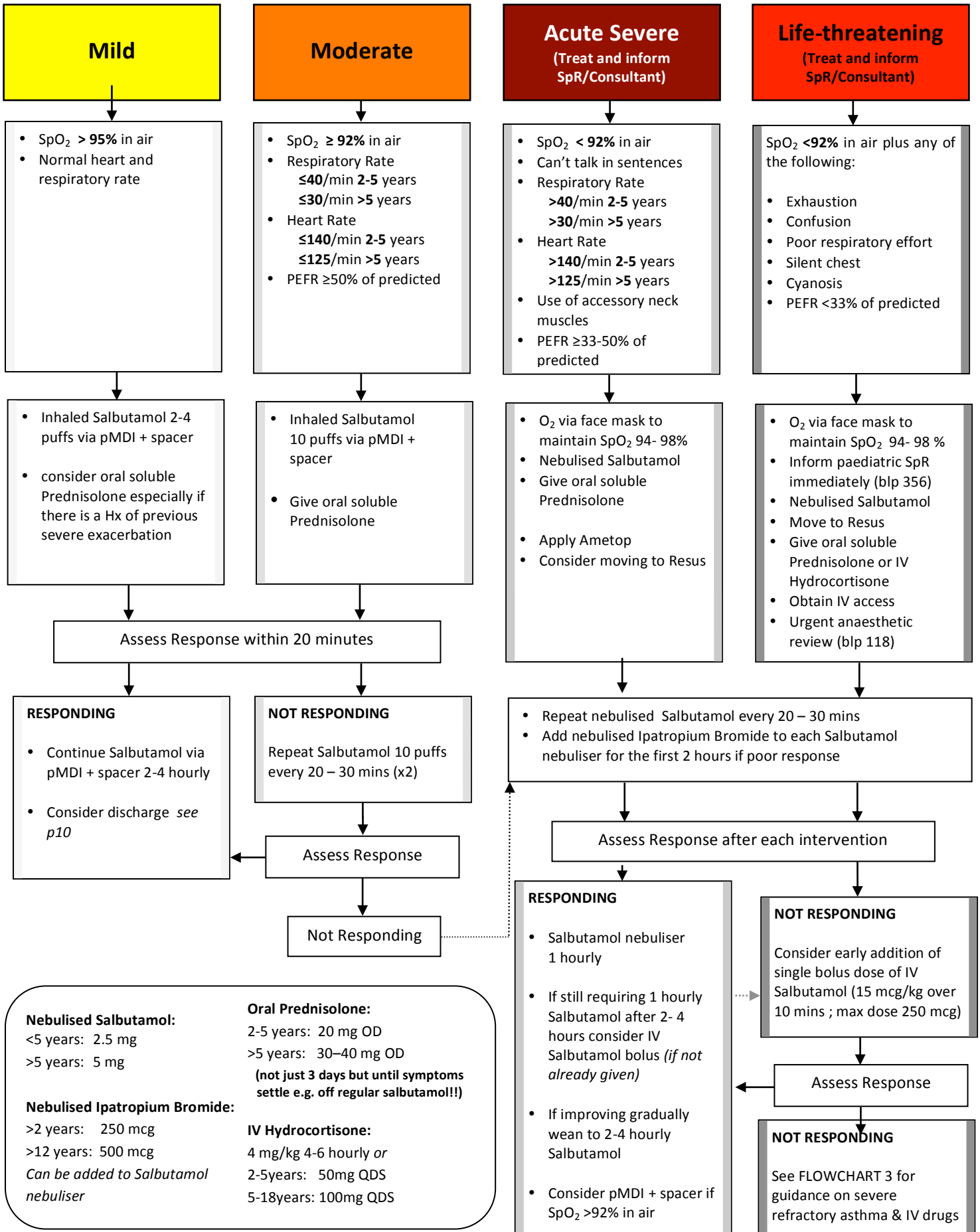
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Ratifying Committee:	LNWHT Drugs & Therapeutics Committee
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Target Audience:	All paediatric medical and A&E staff

References

1. Network BTS/SIGN 141. British guideline on the management of asthma.
<http://www.sign.ac.uk/guidelines/fulltext/141/>
2. Brand PL, et al. Classification and pharmacological treatment of preschool wheezing: changes since 2008. *Eur Respir J* 2014;43:1172-7
3. BNF for children 2015
4. J. Panickar et al., Oral Prednisolone for Preschool Children with Acute Viral-induced Wheezing, *N Engl J Med* 2009; Jan 22;360 (4):329-338
5. Bush A, Fleming L. Diagnosis and management of asthma in children. *BMJ* 2015;350:h996
6. Global Initiative on Asthma (GINA) – particularly Chapter 2:
http://www.ginasthma.org/local/uploads/files/GINA_Report_2015_Aug11.pdf

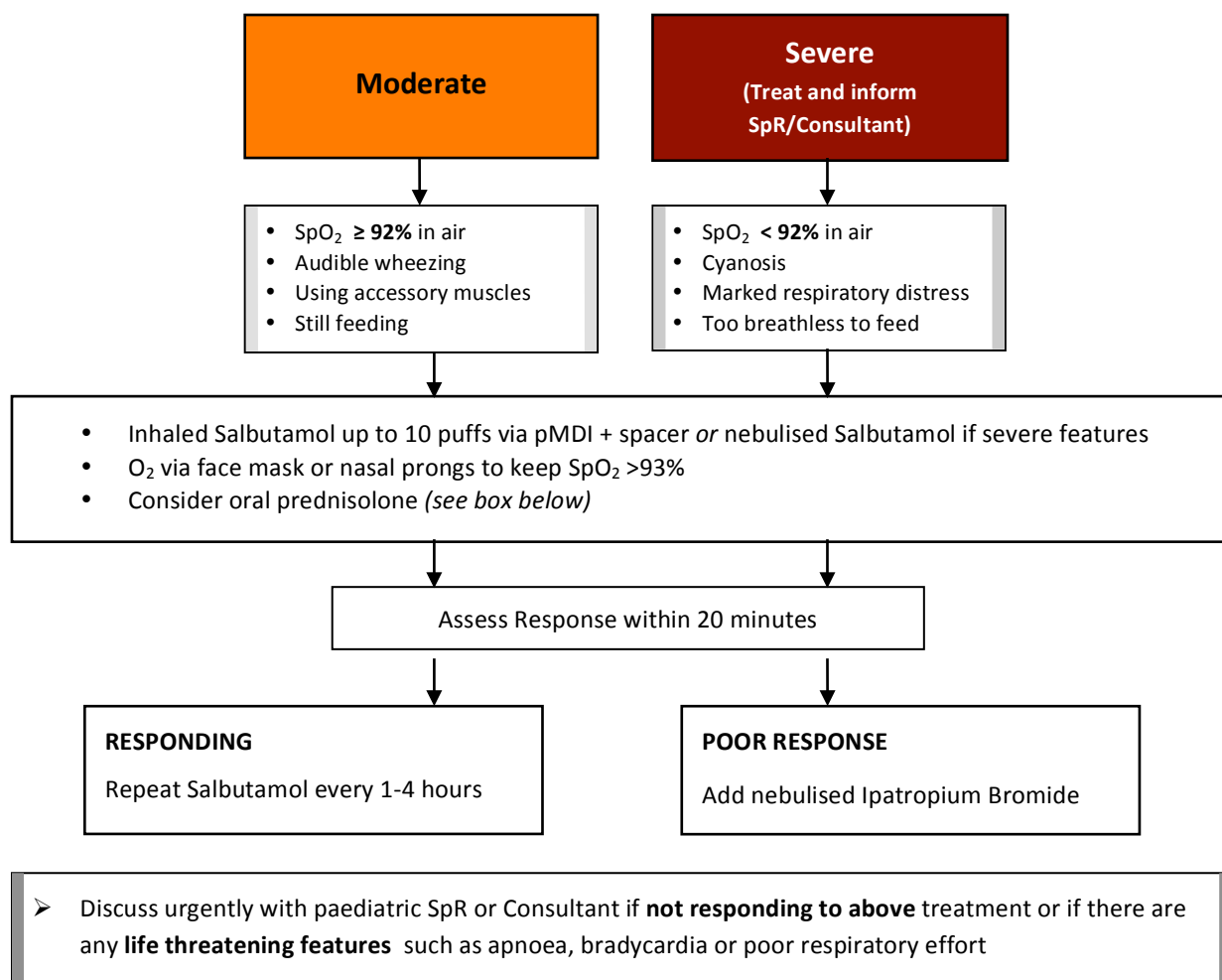
FLOWCHART 1: Assessment of severity and emergency treatment in children 2-16 years

Identify the severity - NB the box where the **most severe** feature is present



FLOWCHART 2: Assessment and management of acute asthma/wheeze in children <2 years

- Assessment of acute asthma in children less than 2 years can be difficult
- Intermittent wheezing episodes are usually due to **viral infections** and the response to asthma medication is inconsistent
- Consider the following differential diagnosis:
 - ✓ Pneumonia
 - ✓ Bronchiolitis
 - ✓ Aspiration pneumonitis
 - ✓ Tracheomalacia
 - ✓ Complications of underlying conditions such as congenital abnormalities
 - ✓ Foreign body inhalation



Guidelines on Drug Doses in Children <2 years:

Nebulised Salbutamol: 2.5 mg

Nebulised Ipratropium Bromide: 125 mcg

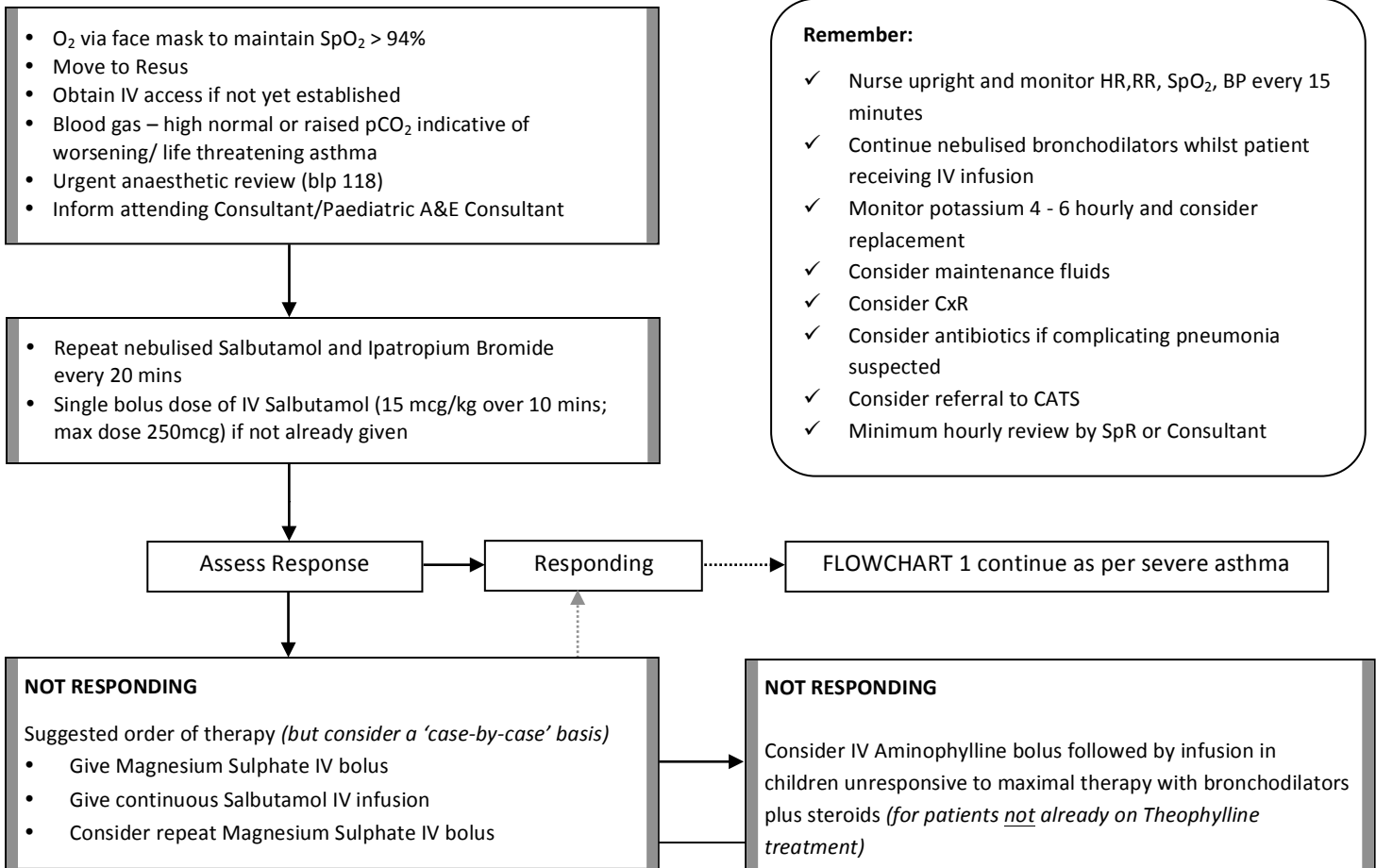
Oral Prednisolone: 10 mg OD (for 3 days)

IV Hydrocortisone: 4 mg/kg 4-6 hourly or 25 mg QDS

Oral Prednisolone ¹:

- ✓ Do **not** routinely give in children <2 years
- ✓ Consider if moderate to severe symptoms
- ✓ Consider if history of atopy or family history of asthma
- ✓ In children <2 years give up to 3 days
- ✓ In children >2years give until symptoms settle (e.g. off regular salbutamol)
- ✓ All children must be reviewed by GP/asthma nurse within 48-72 hours]

FLOWCHART 3: Second line treatment of severe refractory and life-threatening asthma



Remember:

- ✓ Nurse upright and monitor HR,RR, SpO₂, BP every 15 minutes
- ✓ Continue nebulised bronchodilators whilst patient receiving IV infusion
- ✓ Monitor potassium 4 - 6 hourly and consider replacement
- ✓ Consider maintenance fluids
- ✓ Consider CxR
- ✓ Consider antibiotics if complicating pneumonia suspected
- ✓ Consider referral to CATS
- ✓ Minimum hourly review by SpR or Consultant

Salbutamol	<p>By IV bolus injection over 10 minutes:</p> <p>1 month – 2 years</p> <ul style="list-style-type: none"> ▪ 5 mcg/kg <p>2 – 18 years</p> <ul style="list-style-type: none"> ▪ 15 mcg/kg (max. 250 mcg) <p>By continuous IV infusion if there is uncertainty about reliable inhalation or in severe refractory asthma:</p> <p>1 month – 18 years</p> <ul style="list-style-type: none"> ▪ 1-2 mcg/kg/min adjusted according to response and heart rate up to a maximum of 5 mcg/kg/min ▪ Doses above 2 mcg/kg/min should be given in an ITU/HDU setting 	<ul style="list-style-type: none"> • Continuous ECG monitoring • Monitor for side effects: <ul style="list-style-type: none"> ✓ Tachycardia ✓ Arrhythmias ✓ Hyperglycemia ✓ Hypokalemia : monitor potassium closely ✓ Lactic or metabolic acidosis: reduce/stop infusion if worsening metabolic acidosis on blood gas
Magnesium Sulphate	<p>By slow IV infusion over 20 minutes:</p> <p>Over 2 years:</p> <ul style="list-style-type: none"> ▪ 40 – 50 mg/kg (max 2 g) 	<p>Monitor Blood pressure (Hypotension): Consider fluid bolus prior to infusion</p>
Aminophylline	<p>By IV bolus infusion over 20 minutes (for patients <u>not</u> already on Theophylline treatment):</p> <p>1 month – 18 years</p> <ul style="list-style-type: none"> ▪ 5 mg/kg (max 500 mg) loading dose followed by continuous infusion <p>By continuous IV infusion :</p> <p>1 month – 12 years</p> <ul style="list-style-type: none"> ▪ 1 mg/kg/hour <p>12 – 18 years</p> <ul style="list-style-type: none"> ▪ 500 – 700 mcg/kg/hour 	<ul style="list-style-type: none"> • Continuous ECG monitoring • monitor plasma aminophylline level at 8 hours in patients likely to continue treatment > 12 hours or if side effects suspected