

Hasbro Children's Hospital, Pediatric Emergency Department

Evidence-Based Guidelines for Management of Acute Asthma Symptoms

Goals and Metrics

- Steroids in <1 hour if ≥ 2 ALB/IPR neb
- Disposition plan within 3 hours of 1st neb (ED LOS)
- Documented Asthma plan in all discharges
- Inhaler and spacer education in all discharges
- Controller prescriptions
- 24-72 hour return rate
- 30-day re-admission rate

★ Potential pathway exclusion conditions:

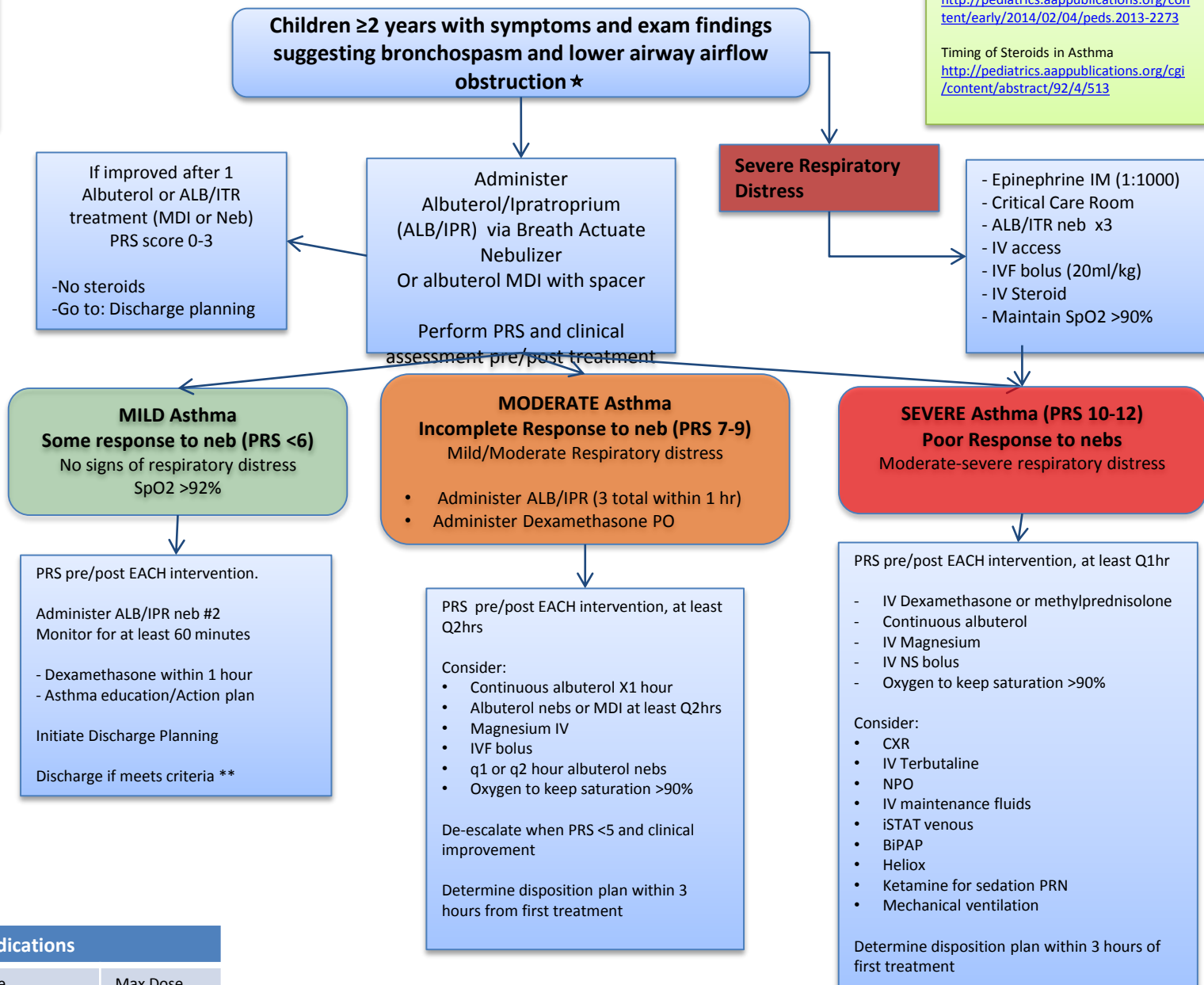
- Bronchiolitis
- Bacterial pneumonia
- Stridor
- Chronic lung disease
- Neurologic disorder
- Immunodeficiency
- Tracheostomy
- Congenital heart disease

References

<http://www.nhlbi.nih.gov/guidelines/asthma/asthsumm.pdf>

Meta Analysis of Dexamethasone:
<http://pediatrics.aappublications.org/content/early/2014/02/04/peds.2013-2273>

Timing of Steroids in Asthma
<http://pediatrics.aappublications.org/cgi/content/abstract/92/4/513>



Common Medications

Medication	Route	Dose	Max Dose
Dexamethasone	PO or IV	0.6mg/kg	16mg
Prednisone	PO	2mg/kg	60mg
Methylprednisolone	IV	2mg/kg	125 mg
Magnesium	IV	50mg/kg	2g
Continuous albuterol	Inh	<10kg: 5mg/hr 10-15kg: 10mg/hr 15-30kg: 15mg/hr ≥30kg: 20mg/hr	
Albuterol MDI	Inh	<10kg: 4 puffs 10-15kg: 6 puffs >15kg: 8 puffs	
Epinephrine	IM	0.01mg/kg (1mg/mL)	0.5mg
Terbutaline	IV	10mcg/kg bolus 0.1mcg/kg/min	750mcg 3mcg/kg/min
Ketamine	IV	2mg/kg IV bolus, drip 0.5-1 mg/kg/hr	

Admission Criteria

Clinical Decision Unit (CDU)	Inpatient Unit	Intensive Care Unit (ICU)
Anticipated admission < 24 hours	Likely to require hospitalization > 24hrs	Continues on Severe Asthma Pathway after intervention
Clinical assessment by LIP determines need for Q2hr albuterol treatment	Meets CDU exclusion criteria	Needs continuous albuterol >2hrs in ED
Does not meet any exclusion criteria (see CDU exclusion criteria)	PEWS (Pedi Early Warning Score) score <5 ; does not meet ICU level of care	Requires IV terbutaline, BiPAP, mechanical ventilation
		Treatment unlikely to be weaned to Q2 hr albuterol Tx within next 2 hours

Pediatric Respiratory score (PRS)

0-3 Normal
4-6 Mild
7-9 Moderate
10-12 Severe

Scored 0-3 based on age related:
Appearance
Retractions
Respiratory Rate
Breath Sounds

** Discharge Criteria

- Observe at LEAST 1 hour after ≥ 2 DuoNeb
- Observe at LEAST 2 hours after ≥ 3 DuoNeb
- No social barriers to appropriate home management

Discharge Planning :

- Albuterol 4-6 puffs q4 hours for at least 24 hours , titrate dose over 2-3 days
- Albuterol MDI for home with teaching
- Steroid course
- Start controller medication or increase dose
- Review Asthma Action Plan
- Discuss plan with PCP. Follow-up with PCP in 1-2 days