Pediatric Clinical Care Guide

Asthma Exacerbation: ED Management

Norton Children's

[PRAM score] [Adjunct Therapies] [Disclaimers]

Mild PRAM (0 – 3)
- Albuterol MDI with spacer 8puffs OR
- Albuterol single dose nebulizer 5 mg
- Strongly consider steroids: dexamethasone 0.6 mg/kg PO (maximum single dose = 16 mg

Moderate PRAM (4 – 7)
- Albuterol hour long nebulizer
  - < 20 kg: 7.5 mg
  - ≥ 20 kg: 15 mg
- Ipratropium hour long nebulizer
  - 1.5 mg
- Dexamethasone 0.6 mg/kgPO (maximum single dose 16 mg)

Severe PRAM (8 – 12)
- Albuterol hour long nebulizer
  - < 20 kg: 7.5 mg
  - ≥ 20 kg: 15 mg
- Ipratropium hour long nebulizer
  - 1.5 mg
- Steroids
  - Dexamethasone 0.6mg/kg PO (maximum dose16 mg) OR
  - Methylprednisolone 2mg/kg IV (maximum dose= 125 mg)
- Magnesium sulfate bolus 70mg/kg (maximum 2,000 mg)IV over 20 minutes
- NS or LR bolus 20 mL/kg(maximum dose 1,000 mL)over 20 – 60 min)
- Consider Epinephrine IM0.01 mg/kg (maximum dose0.5 mg) IM q20 min x 3 doses

Reassess 1 hr (or sooner) after initial evaluation and recalculate PRAM score

Mild PRAM (0 – 3)
- Consider observation period for recurrence of symptoms and if improved, discharge home.

Moderate PRAM (4 – 7)
- Continuous albuterol nebulizer
  - ≤ 20 kg: 10 mg/hr
  - 20-60 kg: 15 mg/hr
  - > 60 kg: 20 mg/hr

Severe PRAM (8 – 12)
- ***Magnesium sulfate infusion 25 mg/kg hr (maximum single dose 2,000mg/hr)
- Consider adjunct therapies
- Contact PICU for admission

*** Consider second Magnesium Sulfate bolus instead of Magnesium Sulfate drip if difficulties with preparation of drip due to capabilities of pharmacy services at your institution. Magnesium Sulfate Drip can be started at NCH.

Note: This algorithm is intended to guide initial management of children presenting with signs/symptoms concerning for RAD/asthma exacerbation but does not take into consideration treatments provided by pre-hospital providers or caregivers. Additional therapies may be clinically indicated and are left to the provider's discretion (see next page).

To make a referral
Norton Children's providers: Go to Epic Ambulatory
Community providers: Scan the **QR code** or call **(833) 559-7337 (PEDS)**

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Pediatric Respiratory Assessment Measure (PRAM)				
	Score			
Signs	0	1	2	3
Suprasternal muscle contractions	Absent		Present	
Scalene muscle contr actions	Absent		Present	
Air entry*	Normal	Decreased at base	Decreased at base an d apex	Absent/minimal
Wheezing*	Absent	Expiratory only	Inspiratory and expir atory	Audible without stethoscope / silent chest with minimal air entry
O_2 saturation	≥ 95 %	92–94 %	< 92 %	

*if asymmetric findings between the right and the left lungs, the most severe side is rated

Mild PRAM (0 – 3)	**Moderate PRAM (4– 7)**	**Severe PRAM (8– 12)**

ADJUNCT THERAPIES TO CONSIDER FOR SEVERE PATIENTS UNRESPONSIVE TO INITIAL THERAPIES:

- Epinephrine (**1 mg/mL** concentration)
  - 0.01 mg/kg (0.01 mL/kg, max 0.5 mg) IM q20min x 3 doses
- Terbutaline
  - Bolus 10 mcg/kg (max 500 mcg) IV over 1–2 minutes
  - Maintenance 1–2 mcg/kg/min IV (max dosing weight 50kg)
    - Increase by 1 mcg/kg/min IV q 30 min (max 4 mcg/kg/min)
- Non-invasive positive pressure ventilation: BIPAP
- Heliox therapy
  - Note: should not be used for patients with hypoxemia requiring > 40% FiO2 supplemental oxygen to maintain adequate saturations

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