PRAM Initial Management Pathway

MILD PRAM Score 0-3

- Salbutamol every 20 minutes, 1-2 doses in the first hour delivered via metered dose inhaler (MDI) and spacer rather than nebulization²
- RN/RT to reassess PRAM Score 20 minutes after each dose of salbutamol
- Note: There is no clear evidence of the benefit of giving corticosteroids in those with mild respiratory distress

PRAM Score 0-3 PRAM Score 4-7 PRAM Score 8-12

- Observe for a minimum of 1 hour after last inhaled salbutamol
- If the PRAM score remains in the 0-3 range during this time proceed to discharge instructions

REASSESS RAM Score 0-3 PRAM Score 4-7 PRAM Score 8-12

Discharge Medications and Follow up

- Provide asthma teaching/device information using a discharge checklist
- Provide written discharge instructions/action plan (short-term management plan)
- Inhaled salbutamol PRN and inhaled steroids
- Recommend follow-up with community physician/ health care practitioner within 2 weeks
- · Refer to asthma education (if available)

MODERATE PRAM Score 4-7

- Salbutamol every 20 minutes, X 3 doses delivered via MDI and spacer rather than nebulization²
- Ipratropium every 20 minutes, X 3 doses delivered in the first hour only, 3 delivered via MDI and spacer
 - This has been shown to yield greater improvement and lower hospital rates⁴
- Give oral corticosteroid before or immediately after the first dose of salbutamol
 - This has been shown to decrease time to improvement, emergency department length of stay, and hospitalization rates⁵⁻⁶
 - Either oral dexamethasone or prednisone/ prednisolone is likely to have comparable efficacy, with lower rates of vomiting with dexamethasone⁷
- RN/RT to reassess PRAM Score 20 minutes after each dose



- · Notify MRP of the score
- Salbutamol every 30-60 minutes for PRAM greater than or equal to 4
- Reassess PRAM 20 minutes after each dose of Salbutamol



 If the PRAM Score remains in this range for 4 hours after oral corticosteroid consult a pediatrician and consider admission or transfer to a higher level of care

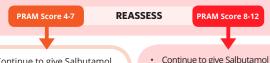
Updated: March 26, 2019

SEVERE PRAM Score 8-12

- 1. Call MRP Immediately
- 2. Salbutamol continuous nebulization with oxygen
 - Bronchodilators delivered continuously for 60-180 minutes via aerosol result in more rapid improvement compared to intermittent delivery
- 3. Ipratropium nebulized every 20 minutes for 3 doses if not already given
- 4. Establish IV access, run maintenance fluids
- Methylprednisolone IV 1 mg/kg/dose every 6 hours even if a previous steroid has been given
- 6. Continuous cardio/respiratory/SaO2 monitoring
- 7. Consider chest x-ray



- · Magnesium Sulfate IV8
 - In addition to continuous bronchodilator therapy
 - Consider 0.9% sodium chloride bolus IV of 20mL/kg over 20 minutes to vent hypotension
- Consult Pediatrician
 - Consider calling BC Patient Transfer Network (PTN) to arrange consultation or transfer: 1-866-233-2337
 - Consider Tele PICU consult (if available)
- · If the patient is deteriorating consider:
- RT consult if not already involved
- · Blood gases (venous, capillary or arterial)
- · High-flow oxygen therapy or BIPAP
- · Anesthesia consult if considering airway management
- · Assisted ventilations or intubation
- · At the direction of intensivist, aminophylline or ketamine IV



- Continue to give Salbutamol every 30-60 minutes
- Consider admission to hospital
- continuous nebulization with oxygenConsult and prepare for transfer
- to a higher level of careBC Patient Transfer Network (PTN): 1-866-233-2337
- Go to the moderate pathway



Course Material for:

See Page 2 for dose references to accompany the initial management pathway¹

PRAM Initial Management Pathway Dose References¹

Salbutamol	Less than 20 kg: 5 puffs by MDI and spacer or 2.5 mg by nebulizer
	20 kg or greater: 10 puffs by MDI and spacer or 5mg by nebulizer
lpratropium	Less than 20 kg: 3 puffs by MDI and spacer or 250 mcg by nebulizer
	20 kg or greater: 6 puffs by MDI and spacer or 500 mcg by nebulizer
Dexamethasone	0.3-0.6 mg/kg/dose (max dose 16 mg per dose) PO daily x 1-2 days
Prednisone/ Prednisolone	1-2 mg/kg/dose (max dose 60 mg per dose) PO daily x 5 days
Methylprednisolone	1 mg/kg/dose (max dose 60 mg per dose) IV q 6 hours
Magnesium Sulfate	40-50 mg/kg/dose (max dose 2 g per dose) IV x 1 dose over 20 minutes
	Avoid in children with neuromuscular disease
Sodium Chloride	0.9% 20 mL/kg bolus IV over 15-30 minutes

For a complete interactive experience with the PRAM Initial Management Pathway and PRAM Score

Take UBC CPD's Pediatric Asthma Management Course ubccpd.ca/course/pediatric-asthma-management

References

- Child Health BC. Provincial Asthma Guideline: Initial Management of Pediatric Asthma in Emergent/Urgent Care Settings. www.childhealthbc.ca/initiatives/asthma. Published May 31, 2018. Accessed November 20, 2018.
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- 3. Vézina K, Chauhan BF, Ducharme FM. Inhaled anticholinergics and short-acting beta(2)-agonists versus short-acting beta2-agonists alone for children with acute asthma in hospital. *Cochrane Database Syst Rev.* 2014;(7):CD010283. DOI: 10.1002/14651858.CD010283.pub2.
- 4. Griffiths B, Ducharme FM. Combined inhaled anticholinergics and short-acting beta2-agonists for initial treatment of acute asthma in children. *Cochrane Database Syst Rev.* 2013;(8):CD000060. DOI: 10.1002/14651858.CD000060.pub2.
- 5. Bhogal SK, McGillivray D, Bourbeau J, Benedetti A, Bartlett S, Ducharme FM. Early administration of systemic corticosteroids reduces hospital admission rates for children with moderate and severe asthma exacerbation. *Ann Emerg Med.* 2012; 60(1):84-91. DOI: 10.1016/j.annemergmed.2011.12.027
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- Griffiths B, Kew KM. Intravenous magnesium sulfate for treating children with acute asthma in the emergency department.
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