Child Health BC Provincial Pediatric Asthma Management Guideline:
Huddle Facilitator Guide

Facilitator Instructions

Approximate time to complete this huddle is 20 minutes. It is meant to be delivered as an open dialogue. It can be completed with one person, or with a small group. Facilitate participants through a review of the Child Health BC Provincial Pediatric Asthma Guideline & Resources using the script below. Once the guideline has been introduced, teams can practice using the clinical care algorithms through use of an asthma simulation scenario.

Learning Objectives

1. Increase awareness of the revised Provincial Pediatric Asthma Guideline
2. Understand the importance of calculating a Pediatric Respiratory Assessment Measure (PRAM) score to direct clinical care
3. Describe initial and ongoing management of asthma in pediatric patients
4. Increase awareness of Asthma Action Plans, the Asthma Wallet Card and other available supporting resources

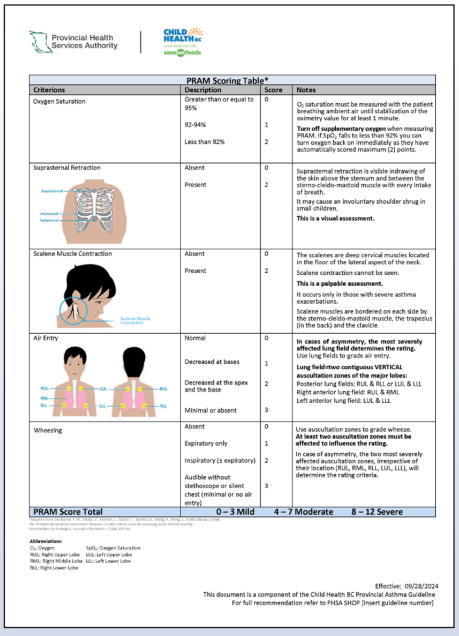
Background

- Child Health BC has collaborated with partners across B.C. to establish a revised provincial guideline and resources for use with pediatric patients presenting to emergency departments (ED), urgent care settings or admitted to an inpatient care setting
- Evidence-based management of pediatric patients experiencing acute asthma symptoms includes repeated doses of salbutamol and ipratropium, along with corticosteroids (for moderate to severe exacerbations) within the first 60 minutes of care
- Appropriate dosing (eg. weight for salbutamol) as well as minimization of gaps in drug delivery by using the appropriate delivery device with minimal disruptions within the first 60 minutes of care improves outcomes

Introduce the Guideline

The CHBC Provincial Pediatric Asthma Guideline: Initial and Ongoing Management of Pediatric Asthma Exacerbations and accompanying resources have been developed to assist clinicians with identifying and providing initial management and ongoing management of pediatric asthma. The guideline includes:

- ✔ PRAM Scoring Table
- ✔ PRAM Lanyard
- ✔ CHBC Provincial Pediatric Asthma Initial Management Algorithm
- ✔ CHBC Provincial Pediatric Asthma Ongoing Management Algorithm
- ✔ Discharge Medication Recommendations
- ✔ Asthma Education Checklist
- ✔ Parent/Caregiver Resources including Asthma Action Plans & Asthma Wallet Card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PRAM Scoring Table*

Criterions	Description	Score	Notes
Oxygen Saturation	Greater than or equal to 95%	0	O_2 saturation must be measured with the patient breathing ambient air until stabilization of the oximetry value for at least 1 minute. **Turn off supplementary oxygen** when measuring PRAM. If SpO_2 falls to less than 92% you can turn oxygen back on immediately as they have automatically scored maximum (2) points.
	92-94%	1	
	Less than 92%	2	
Suprasternal Retraction	Absent	0	Suprasternal retraction is visible indrawing of the skin above the sternum and between the sterno-cleido-mastoid muscle with every intake of breath. **This is a palpable assessment.** It may cause an involuntary shoulder shrug in small children. **This is a visual assessment.**
	Present	2	
Scalene Muscle Contraction	Absent	0	The scalenes are deep cervical muscles located in the floor of the lateral aspect of the neck. Scalene contraction cannot be seen. **This is a palpable assessment.** It occurs only in those with severe asthma exacerbations. Scalene muscles are bordered on each side by the sterno-cleido-mastoid muscle, the trapezius (in the back) and the clavicle.
	Present	2	
Air Entry	Normal	0	**In cases of asymmetry, the most severely affected lung field determines the rating.** Use lung fields to grade air entry. **Lung field=two contiguous VERTICAL auscultation zones of the major lobes:** Posterior lung fields: RUL & RLL or LUL & LLL Right anterior lung field: RUL & RML Left anterior lung field: LUL & LLL
	Decreased at bases	1	
	Decreased at the apex and the base	2	
	Minimal or absent	3	
Wheezing	Absent	0	Use auscultation zones to grade wheeze. **At least two auscultation zones must be affected to influence the rating.** In case of asymmetry, the two most severely affected auscultation zones, irrespective of their location (RUL, RML, RLL, LUL, LLL), will determine the rating criteria.
	Expiratory only	1	
	Inspiratory (≥ expiratory)	2	
	Audible without stethoscope or silent chest (minimal or no air entry)	3	
PRAM Score Total	0 – 3 Mild	4 – 7 Moderate	8 – 12 Severe

Abbreviations: O_2: Oxygen; SpO_2: Oxygen Saturation; RUL: Right Upper Lobe; LUL: Left Upper Lobe; RML: Right Middle Lobe; LLL: Left Lower Lobe; RLL: Right Lower Lobe

Effective: 09/28/2024
This document is a component of the Child Health BC Provincial Asthma Guideline
For full recommendation refer to PHSA SHOP [Insert guideline number]

PRAM Scoring

Using the questions below engage participants in a discussion on PRAM scoring. Have the group complete a PRAM score based on a clinical scenario.

Is PRAM scoring used for all children?

PRAM is a validated clinical scoring tool for ages 2-17 years. In addition, based on CHBC Provincial Asthma Working Group consensus, it may be applied to children under the age of 2 years provided they meet the diagnostic criteria for asthma.

What if a PRAM score is lower than expected based on the child's clinical presentation?

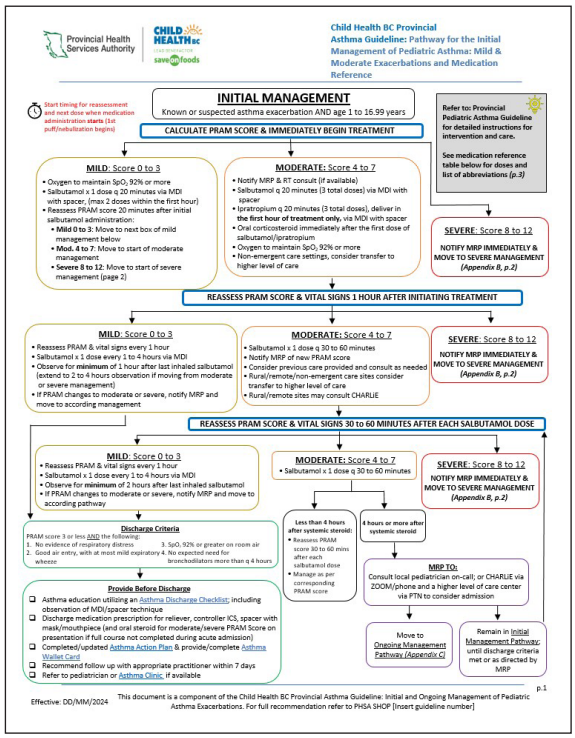
Older children with moderate/severe exacerbations may present with a lower PRAM score and may need more aggressive therapy than what their PRAM score dictates. Regardless of score, decreased level of consciousness, agitation, drowsiness, or confusion are clinical features of cerebral hypoxemia and should be considered signs of impending respiratory failure. This guideline does not replace clinical judgment.

Is PRAM used for all respiratory assessments?

No, PRAM is only validated for children with an acute asthma exacerbation.

If a child presents with 93% oxygen saturations, suprasternal retractions, decreased air entry at the right lower lobe and inspiratory wheezing, what is their PRAM score?

6 (O_2 saturation - 1, Suprasternal retractions - 2, Air entry - 1, Wheezing - 2)



Initial Management

What immediate actions should you take if your patient has a PRAM score of 6?

Immediately notify the Most Responsible Practitioner (MRP), consult the Registered Respiratory Therapist (RRT) if available, and follow the recommendations outlined on the CHBC Provincial Pediatric Asthma Initial Management Algorithm following the moderate pathway.

What do you anticipate to be the priority care interventions?

Facilitate discussion with participants using the sequence & interventions outlined on the management algorithm. Including:

- Administer salbutamol q 20 minutes (x 3 total doses), delivered via MDI with spacer
- Administer ipratropium q 20 minutes (x3 total doses), **delivered in the first hour of treatment only**, via MDI with spacer
- Give oral corticosteroid immediately after the first dose of salbutamol/ipratropium

Should my patient have an X-ray?

No, it is recommended that only children with severe asthma, slow/inadequate response to therapy or diagnostic uncertainty, should have an chest x-ray to assess for barotrauma, possible pneumothorax and/or pneumonia/atelectasis. For children presenting with first-time wheezing or with typical findings of asthma, X-rays rarely yield important positive findings and expose patients to radiation, increase cost of care, and prolonged ED length of stay and may lead to overuse of antibiotics as outlined by Choosing Wisely Canada

Is it OK to use high flow oxygen therapy (HFNC) with pediatric patients during severe asthma exacerbations?

- At sites where the required personnel and equipment are available, non-invasive ventilation (bilevel positive airway pressure - BiPAP) should be used as a first step to support work of breathing in patients with severe asthma exacerbation or impending respiratory failure. Consult with RRT/Higher Level of Care center to discuss pharmaceutical options for sedation to improve tolerability of BiPAP
- The use of HFNC can be considered for respiratory support only when simple face mask oxygenation is inadequate and BiPAP is not available
- There is no clear evidence to show superiority over simple face mask for improving oxygenation or less failure rates than BiPAP
- It is known that the delivery of inhaled medications diminishes as flow rates increase with HFNC
- It is recommended to consult with local pediatrician on-call; if no pediatrician is available, call CHARLiE via ZOOM/phone and a higher level of care center via PTN prior to initiating

Ongoing Management

When does a child transfer from initial to ongoing management within the guideline?

Physicians can transition asthma treatment from initial management to ongoing management when it has been at least 4 hours since the administration of the initial systemic steroid, and if the patient's most recent PRAM score is less than or equal to 7. See the Ongoing Asthma Management Algorithm for further details.

Family/Caregiver/Chosen Support Resources

The following documents are available to support education:

- Asthma Action Plans translated into 9 languages
- Asthma Wallet Card
- Patient and family/caregiver handout: Asthma - What You Should Know
- Educational video translated into 5 languages - Childhood Asthma: A Guide for Families and Caregivers
- Asthma resources to assist patients/families with their asthma management such as asthma diaries and dose tracking sheets

Discharge

What should my patient be discharged home with?

Review the Asthma Education Checklist with patient/caregiver and provide:

- A prescription for age-appropriate reliever medication, controller ICS (minimum duration of 3 months to 1 year) and an oral steroid for moderate/severe PRAM score on presentation if full course of oral steroid not completed during acute admission (if required) for those presenting with mild/moderate exacerbation
- A spacer with mask or mouthpiece for use with all MDIs
- Completed age appropriate Asthma Action Plan (My Asthma Diary, Dose Tracking Sheet)
- Asthma Wallet Card

Additional Resources

The following resources will support your team in learning more about the pediatric asthma guideline. They can be found on the Child Health BC Pediatric Asthma Care Across Community Settings webpage:

- PRAM Scoring Table & PRAM Lanyard
- CHBC Provincial Pediatric Asthma Guideline Factsheet
- CHBC Provincial Pediatric Asthma Guideline Frequently Asked Questions (FAQ)
- Pediatric Asthma Simulation Scenarios for Mild/Moderate Exacerbation, Severe Exacerbation and Ongoing Management
- CHBC Provincial Pediatric Asthma Guideline Webinar. This recording will provide an overview of, and highlight the key recommendations within the asthma guideline