

MEDIC-Endorsed ED Care Guidelines for Children with Uncomplicated Asthma

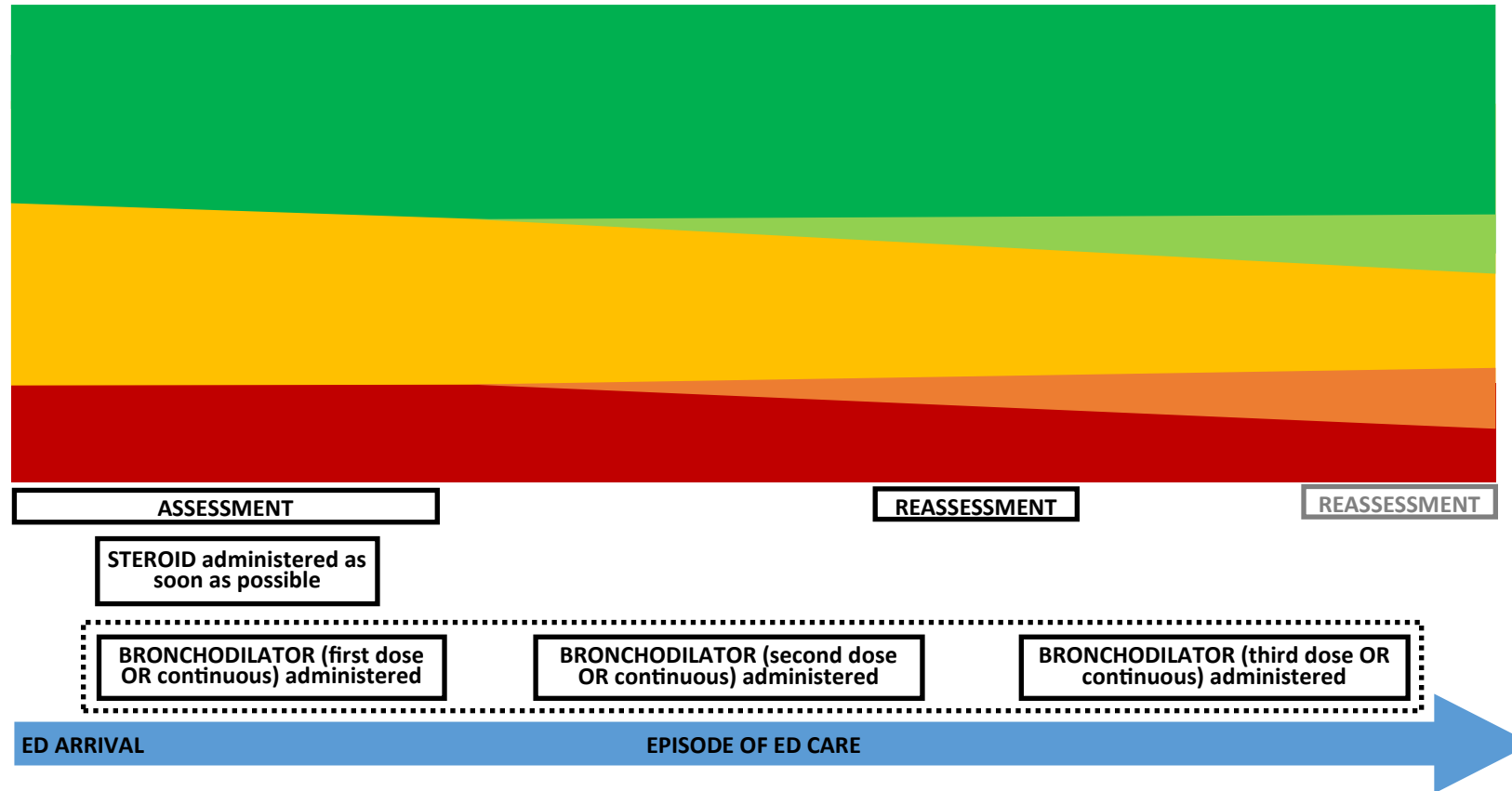
Children with Uncomplicated Asthma

Inclusions:

- Age 2 to <18 years
- Prior diagnosis of asthma (ED diagnosis and/or included in the problem list/HPI) with no other chronic lung disease diagnoses

Exclusions:

- Age <2 years
- Cystic fibrosis
- Ciliary dyskinesia
- Sickle Cell Disease
- Congenital heart disease
- Immunocompromised
 - Cancer (active treatment)
 - HIV/AIDS
 - Transplantation
- Neuromuscular & Neurodegenerative Disorders (that interfere with breathing)
 - Spinal muscular atrophy
 - Muscular dystrophy
- Need for respiratory support
 - Tracheostomy
 - Ventilator dependence
 - Home supplemental oxygen



Minimum treatment & assessment guidelines recommended **prior to considering admission** for a child with uncomplicated asthma:

1. First physical exam/assessment* conducted prior to starting treatment
2. Steroid administration as soon as possible (preferably within 60 min of ED arrival), especially in higher acuity cases
 - Equivalent to 2 mg/kg of prednisolone/prednisone/solumedrol up to 60 mg or 0.6 mg/kg dexamethasone up to 16 mg
3. Bronchodilator administration equivalent to:
 - Albuterol 2.5 mg/dose Q20 min x 3 or 4 puffs Q20 min x 3 if <20kg; 5 mg/dose Q20 min x3 if ≥20kg or 6 puffs Q20 min x3; or continuous 0.5 mg/kg/hr up to 15 or 20 mg/hr
 - Plus Atrovent 0.5 mg/dose Q20 min x3
4. Second physical exam/assessment* conducted following treatment outlined above

“Avoid administering nebulized medications by “blow by,” or placing the mask or nebulizer tubing near the child’s nose and mouth rather than securing the mask properly to the face. A t-piece with mouthpiece or face mask should be used instead.”-American Academy of Pediatrics Section on Pediatric Pulmonary & Sleep Medicine, Choosing Wisely, August 17, 2020

*MEDIC-endorsed evidence-based assessment tools:

- PASS
 - PRAM
 - RAD
- See reverse for rules

MEDIC recognizes there are lower acuity patients who present to the ED with uncomplicated asthma who can be safely discharged with some or none of the treatment outlined above. The guidelines described here are intended to outline the minimum ED treatment & assessment requirements prior to considering admission for a child with uncomplicated asthma.

MEDIC-Endorsed Evidence-Based Assessment Tools

Intent is to use these tools as *part* of your assessment & disposition decision-making. Must conduct & record at least 2 assessments—one pre-treatment & one post-treatment—to monitor for changes on reassessment.

Pediatric Asthma Severity Score (PASS) for Asthma Exacerbation Severity^{1,2}

Pediatric patients 2-18 years old

Physical Exam Findings	Severity	Points
Wheezing <i>High-pitched expiratory sound heard by auscultation</i>	None or mild	0
	Moderate	+1
	Severe wheezing or absent due to poor air movement	+2
Work of breathing <i>Observed use of accessory muscles, retractions, or in-breathing</i>	None or mild	0
	Moderate	+1
	Severe	+2
Prolongation of expiration <i>Ratio of duration of expiration to inspiration</i>	Normal or mildly prolonged	0
	Moderately prolonged	+1
	Severely prolonged	+2
Points @ 1st Assessment		
Points @ Reassessment		
Max Points Possible	6	

Pediatric Respiratory Assessment Measure (PRAM)³⁻⁵

Pediatric patients 2-17 years old

Physical Exam Findings	Severity	Points
O ₂ saturation	≥95%	0
	92-94%	+1
	<92%	+2
Suprasternal retractions present	No	0
	Yes	+2
Scalene muscle contractions present	No	0
	Yes	+2
Air entry	Normal	0
	Decreased at the base	+1
	Decreased at the apex and the base	+2
	Minimal or absent	+3
Wheezing	Absent	0
	Expiratory only	+1
	Inspiratory (+/- expiratory)	+2
	Audible without stethoscope or silent chest (minimal or no air entry)	+3
Points @ 1st Assessment		
Points @ Reassessment		
Max Points Possible	12	

Respiratory Rate, Accessory Muscle Use, & Decreased Breath Sounds (RAD)⁶

Pediatric patients 5-17 years old

Physical Exam Findings	Severity	Points
Respiratory rate <i>Respiratory rate at rest, on room air</i>	≤24	0
	>24	+1
Accessory muscle use <i>Any visible use of accessory muscles</i>	Present	0
	Not present	+1
Decreased breath sounds <i>Any decreased breath sounds on auscultation</i>	Normal	0
	Any decrease	+1
Points @ 1st Assessment		
Points @ Reassessment		
Max Points Possible	3	

¹Performance of a novel clinical score, the Pediatric Asthma Severity Score (PASS), in the evaluation of acute asthma. Gorelick MH, Stevens MW, Schultz TR, Scribano PV. Acad Emerg Med. 2004 Jan;11(1):10-8.

²Predicting need for hospitalization in acute pediatric asthma. Gorelick M, Scribano PV, Stevens MW, Schultz T, Shults J. Pediatr Emerg Care. 2008 Nov;24(11):735-44.

³The Pediatric Respiratory Assessment Measure: A Valid Clinical Score for Assessing Acute Asthma Severity from Toddlers to Teenagers. Ducharme et al. J of Pediatrics 2008.

⁴PRAM score as predictor of pediatric asthma hospitalization. Alnaji F, Zemek R, Barrowman N, Plint A. Acad Emerg Med. 2014 Aug;21(8):872-8. doi: 10.1111/acem.12422.

⁵Prospective evaluation of two clinical scores for acute asthma in children 18 months to 7 years of age. Gouin S, Robidas I, Gravel J, Guimont C, Chalut D, Amre D. Acad Emerg Med. 2010 Jun;17(6):598-603.

⁶The RAD score: a simple acute asthma severity score compares favorably to more complex scores. Arnold DH, Gebretsadik T, Abramo TJ, Moons KG, Sheller JR, Hartert TV. Ann Allergy Asthma Immunol. 2011 Jul;107(1):22-8. Epub 2011 Apr 22.

National Asthma Education and Prevention Program Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma, Summary Report. Figure 21: Management of Asthma Exacerbations: Emergency Department and Hospital-Based Care. 2007. National Heart Lung and Blood Institute. U.S. Department of Health and Human Services. NIH Publication 08-5846. 2007.