

PICU / IPU Asthma Weaning Protocol

HASS Scoring (5-15)

HASS Tool Explained



Patients admitted to BBCH with asthma
Age 24 months – 18 years-old

**Guidelines are
not meant to
replace clinical
judgement**

Scoring to be done pre-treatment and recorded
under Peds HASS under scoring tools in EPIC

Mild (Score 5-6)

- Proceed to next phase in wean

Moderate (Score 7-9)

- Maintain current dose*
- If score 7 and stable for >4 hours, consider advancing to next phase, discuss with provider

* If elevated HASS due to oxygen need without dyspnea, retractions, or significant wheeze, consider advancing to next phase. Discuss with provider.
** Consider IV Magnesium Sulfate 50 mg/kg (max 2g) if not already given. Use on IPU at attending discretion. PICU Consult if HASS >9.

Severe (Score 10-15)

- Contact provider, consider stepping back phase or additional therapies**

- Reassess after treatment, consider further escalation in therapy if score remains elevated

Continuous Albuterol (PICU)

- Suggested starting doses:**
- <20kg: 10mg/hr
 - 20-39kg: 15mg/hr
 - >40kg: 20mg/hr
- Wean dose by 5mg/hr if score is "mild" down to 5mg/hr before moving to next phase

Phase I (PICU)

- Albuterol 5mg/ hr for 2 hours

Phase II (PICU / IPU)

- Albuterol neb q2h**
- <20kg: 2.5mg
 - >20kg: 5mg
- Or**
- Albuterol MDI q2h w/ spacer**
- <20kg: 4 puffs
 - >20kg: 8 puffs
- Can also transition to po steroids if not already done*

Phase III (PICU / IPU)

- Albuterol q3h**
- Same dosing as prior phase

Phase IV (PICU / IPU)

- Albuterol neb q4h**
- Same dosing as prior phase
 - Consider weaning dose to 4 puffs / 2.5mg nebs if stable at q4

- Requirements for discharge:**
- Spaced to q4h (1-2 treatments)
 - Goal 4 puffs or 2.5mg neb q4h scheduled
 - Asthma action plan completed
 - Teaching with MDI / spacer completed
 - Family / patient demonstrates appropriate technique
 - Has meds in hand or meds at home
 - Follow-up scheduled w/ PCP +/- pulmonology

- If dexamethasone was given in ED, patient should receive 2nd dose at 24 hours from first dose (0.6mg/kg – 16mg max). Other options include prednisolone liquid or prednisone tabs 1 mg/kg/day, duration dependent on clinical status.

References:

- National Asthma Education and Prevention Program. Expert Panel Report 3 (EPR-3): Guidelines for the Diagnosis and Management of Asthma-Summary Report 2007. J Allergy Clin Immunol. 2007 Nov;120(5 Suppl):S94-138. doi: 10.1016/j.jaci.2007.09.043. Erratum in: J Allergy Clin Immunol. 2008 Jun;121(6):1330. PMID: 17983880.
- Iramain R, Castro-Rodriguez JA, Jara A, Cardozo L, Bogado N, Morinigo R, De Jesús R. Salbutamol and ipratropium by inhaler is superior to nebulizer in children with severe acute asthma exacerbation: Randomized clinical trial. Pediatr Pulmonol. 2019 Apr;54(4):372-377. doi: 10.1002/ppul.24244. Epub 2019 Jan 22. PMID: 30672140.
- Payares-Salamanca L, Contreras-Arrieta S, Florez-García V, Barrios-Sanjuanelo A, Stand-Niño I, Rodriguez-Martinez CE. Metered-dose inhalers versus nebulization for the delivery of albuterol for acute exacerbations of wheezing or asthma in children: A systematic review with meta-analysis. Pediatr Pulmonol. 2020 Dec;55(12):3268-3278. doi: 10.1002/ppul.25077. Epub 2020 Sep 25. PMID: 32940961.
- Abecassis L, Gaffin JM, Forbes PW, Schenkel SR, McBride S, DeGrazia M. Validation of the Hospital Asthma Severity Score (HASS) in children ages 2-18 years old. J Asthma. 2022 Feb;59(2):315-324. doi: 10.1080/02770903.2020.1852414. Epub 2020 Dec 2. PMID: 33198536.
- McBride SC, McCarty K, Wong J, Baskin M, Currier D, Chiang VW. A pediatric hospital-wide asthma severity score: Reliability and effectiveness. Pediatr Pulmonol. 2022 May;57(5):1223-1228. doi: 10.1002/ppul.25861. Epub 2022 Mar 28. PMID: 35182050.