

Pediatric Inpatient Asthma Exacerbation Protocol

The following information is intended as a guideline for the acute management of children with asthma. Management of your patient may require a more individualized approach

Admission

Inclusion Criteria: 2 years old and older with a diagnosis of asthma with wheezing, difficulty breathing, cough, or hypoxia

Exclusion Criteria: < 2 yo, diagnosed with viral bronchiolitis or croup, history of Cystic Fibrosis, Chronic Lung Disease, Cardiac Disease, or known Airway Anomalies

- Review orders and ensure systemic steroids have been given prior to admission to floor. Contact Licensed Independent Practitioner (LIP) if not given.
- Review Orders and ensure medications (albuterol, oxygen to keep saturations >90%), systemic steroids, and home medications) have been ordered.
- Identify triggers for asthma exacerbation (allergies, reflux, infections, medication adherence).
- Advise parents of how to contact nurse if patient's condition worsens.
- Registered nurse (RN) to obtain vital signs and **Admission Pediatric Asthma Score (Admission PAS)** within 30 minutes of patient's arrival to the floor.
- Review most recent **PRE-albuterol Pediatric Asthma Score (PRE-Albuterol PAS)**.

Use the greater of the most recent **PRE-Albuterol PAS** and **Admission PAS** to determine initial standing albuterol orders

Progression

Mild = PAS 0-2

- (< 20 kg) Albuterol MDI 4 puffs Q4 x 12 hrs
- (≥ 20 kg) Albuterol MDI 4-8 puffs Q4 x 12 hrs
- Alternative:
 - (< 20 kg) Albuterol neb 2.5 mg Q4 x 12 hrs
 - (≥ 20 kg) Albuterol neb 5 mg Q4 x 12 hrs
- Repeat PAS 15 min after treatment (preferably by same provider)
- Notify LIP if PAS increases above this level or does not decrease following albuterol
- LIP to reassess after 12 hours of Q4 treatment

Moderate = PAS 3-5

- (< 20 kg) Albuterol MDI 4 puffs Q2 x 12 hrs
- (≥ 20 kg) Albuterol MDI 4-8 puffs Q2 x 12 hrs
- Alternative:
 - (< 20 kg) Albuterol neb 2.5 mg Q2 x 12 hrs
 - (≥ 20 kg) Albuterol neb 5 mg Q2 x 12 hrs
- Repeat PAS 15 min after albuterol (preferably by the same provider)
- Notify LIP if PAS increases above this level or does not decrease following albuterol
- LIP to reassess after 12 hours of Q2 treatment

Severe = PAS 6-10

- Albuterol MDI 8 puffs or start continuous Albuterol
 - Albuterol 20 mg/hr continuously for 1 hour
- Notify LIP immediately
- Consider Rapid Response
- Repeat PAS within 15 min after albuterol (Preferably by the same provider)
- Rapid Response if PAS is equal to or greater than 6 after albuterol or after 1 hour of continuous albuterol

Reassessment

Discharge Criteria

- Patient on room air
- Albuterol spaced to every 4 hours
- Asthma education completed
- Ensure PCP f/u within 7 days of hospital discharge
- Ensure hospital f/u scheduled with Pulmonary/Allergy within 90 days of discharge
- Rx for albuterol Q4 hours for 48 hours
- Rx for oral corticosteroids for 3-10 days
- Ensure patient has inhaled corticosteroids
- Provide Asthma Action Plan
- Consider flu shot when appropriate



Please contact UNC Pediatric Pulmonology at 919-966-1145 with questions or comments. Approved by the Pediatric Asthma Quality Improvement Committee-- November 2021

PEDIATRIC ASTHMA SCORE (PAS)

1. PAS should be done prior to treatment and repeated 15 minutes afterward (preferably by the same provider)
2. Add elements into a single score
3. Document score in Epic flowsheet and/or other areas of clinical documentation

ELEMENT		POINTS		
		0	1	2
1. <u>Respiratory Rate</u> Obtain over 30 sec and multiply by 2	2 - 3 yrs	≤ 34	35-39	≥ 40
	4 - 5 yrs	≤ 30	31-35	≥ 36
	6 - 11 yrs	≤ 26	27-30	≥ 31
	≥ 12 yrs	≤ 23	24-27	≥ 28
2. <u>Auscultation</u> Auscultate anterior and posterior lung fields Assess air entry and presence of wheezing		No Wheezes	Expiratory Wheezes	Inspiratory & expiratory wheezes <u>OR</u> diminished breath sounds
3. <u>Work of Breathing</u> Assess for nasal flaring or retractions (suprasternal, intercostal, subcostal)		≤ 1 sign	2 signs	≥ 3 signs
4. <u>Dyspnea</u> * As developmentally appropriate. * If sleeping AND not showing physical signs of respiratory distress, score the patient zero for this category		Speaks full sentences, playful, <u>AND</u> takes PO well	Speaks partial sentences, short cry <u>OR</u> poor PO	Speaks short phrases, grunting, <u>OR</u> unable to take PO
5. <u>O2 Requirement</u> ** ** Do not take patients off supplemental oxygen to obtain score		≥ 92% on RA		Supplemental oxygen required to maintain saturations above 92%

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