

Pediatric Patient in ED for Acute Asthma Exacerbation/Status Asthmaticus
Inclusion: Age \geq 2 yr, with respiratory symptoms, known h/o wheeze, albuterol use, or asthma

Assess patient using Rainbow Clinical Asthma Score (CAS) see below

	0 – None/Mild	1 – Moderate	2 – Severe
Wheeze	None or end expiratory wheezes	Inspiratory and/or expiratory wheezes	Breath sounds becoming inaudible
Accessory Muscle Usage	None	Intercostal and/or tracheosternal	Intercostal and/or tracheosternal muscles PLUS use of sternocleidomastoid muscles
Air Exchange	Equal all lobes	Decreased in some lobes	Decreased in all lobes
Oxygenation	SpO ₂ \geq 94% on room air	SpO ₂ < 94% on room air OR SpO ₂ \geq 94% on supplemental O ₂	SpO ₂ <94% on supplemental O ₂
Respiratory Rate	1-5 yrs: <30 bpm 6-14 yrs: <25 bpm \geq 15 yrs: <20 bpm	1-5 yrs: 30-35 bpm 6-14 yrs: 25-30 bpm \geq 15 yrs: 20-25 bpm	1-5 yrs: >35 bpm 6-14 yrs: >30 bpm \geq 15 yrs: >25 bpm

Place patient on carepath per CAS

CAS 0-2

CAS 3-5

CAS \geq 6

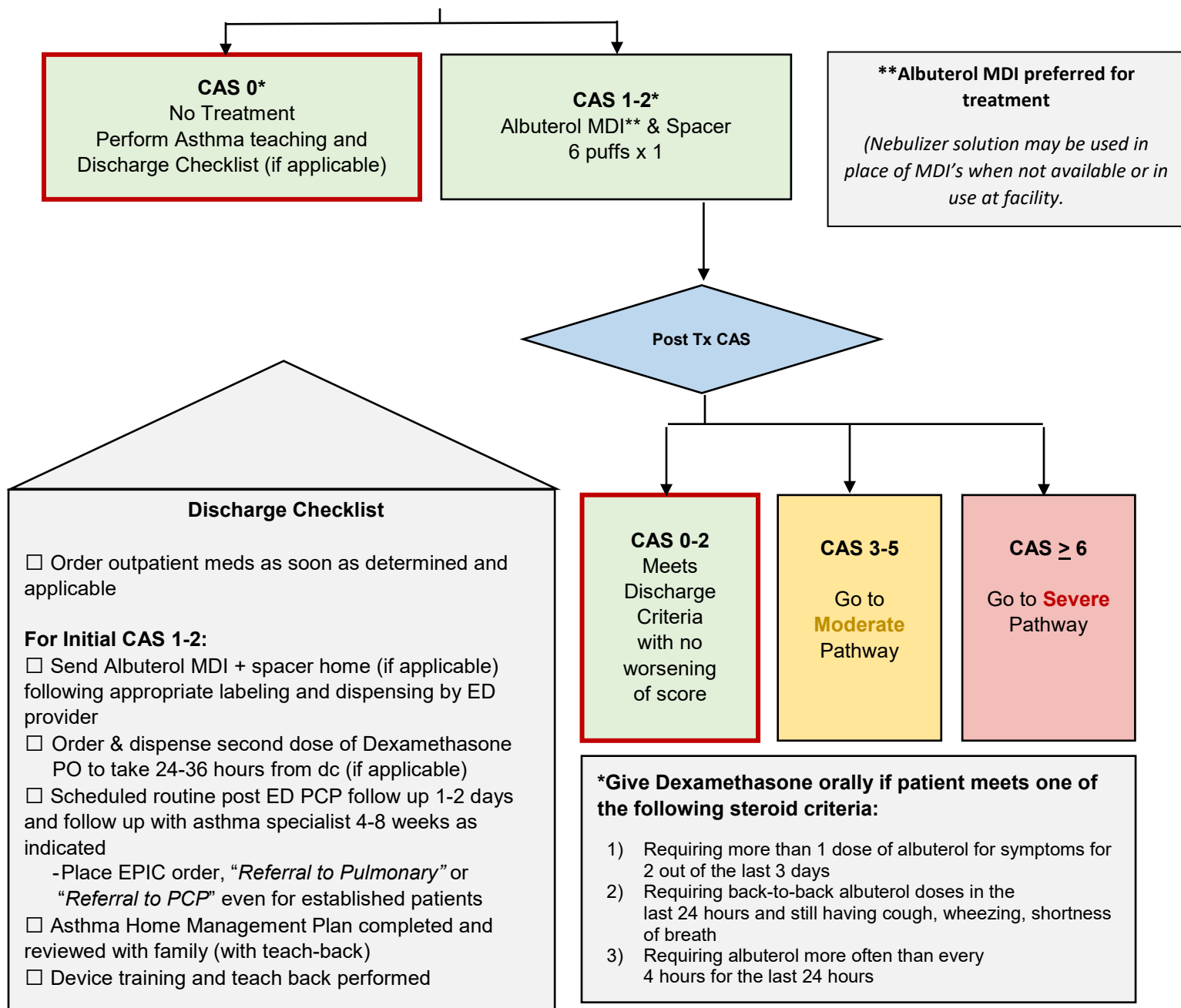
Go to
Mild Pathway
*(CAS=0 does not require
 treatment EPIC Asthma Care
 Path)*

Go to
Moderate Pathway

Go to
Severe Pathway

Acute Asthma ED Clinical Pathway - MILD (CAS 0-2)

Inclusion: Age ≥ 2 year, with respiratory symptoms, known h/o wheeze, albuterol use, or asthma



Discharge Checklist

Order outpatient meds as soon as determined and applicable

For Initial CAS 1-2:

- Send Albuterol MDI + spacer home (if applicable) following appropriate labeling and dispensing by ED provider
- Order & dispense second dose of Dexamethasone PO to take 24-36 hours from dc (if applicable)
- Scheduled routine post ED PCP follow up 1-2 days and follow up with asthma specialist 4-8 weeks as indicated
 - Place EPIC order, "Referral to Pulmonary" or "Referral to PCP" even for established patients
- Asthma Home Management Plan completed and reviewed with family (with teach-back)
- Device training and teach back performed

***Give Dexamethasone orally if patient meets one of the following steroid criteria:**

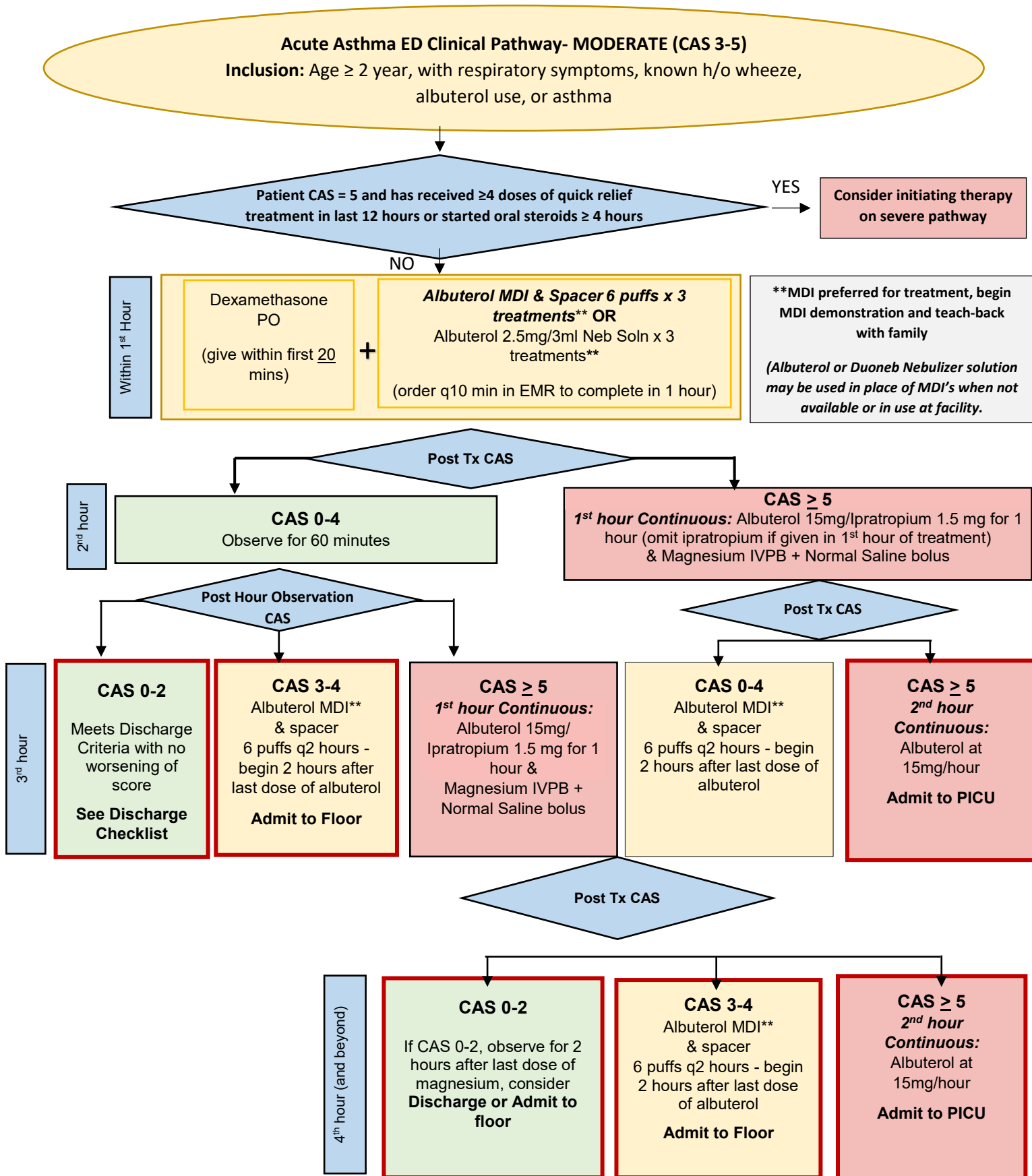
- 1) Requiring more than 1 dose of albuterol for symptoms for 2 out of the last 3 days
- 2) Requiring back-to-back albuterol doses in the last 24 hours and still having cough, wheezing, shortness of breath
- 3) Requiring albuterol more often than every 4 hours for the last 24 hours

Medication Dosing Overview

(See Asthma Focused – ED PEDS Order Set in EPIC)

- Albuterol MDI (90 mcg/inh) 6 puffs
- Albuterol/Ipratropium Nebulizer (2.5 mg/0.5 mg/per dose)
- Albuterol 15 mg/Ipratropium 1.5 mg/21 mL in sodium chloride 0.9% continuous (ED only)
- Albuterol Continuous Nebulizer 15 mg/hour
- Administer Supplemental oxygen to achieve SpO2 > 93%

- Magnesium sulfate 50mg/kg IV piggyback x 1 over 20 minutes (max dose 2000 mg)
- Normal Saline IV bolus 20mL/kg over 1 hour (max 1000 ml)
- Methylprednisolone IV push 2mg/kg (max 60 mg)
- Dexamethasone oral X 1 dose per 24 hours
 - 0-8 kg = 4 mg
 - 8.1-15 kg = 8 mg
 - 15.1-20 kg = 12 mg
 - > 20 kg = 16 mg



Acute Asthma ED Clinical Pathway - SEVERE (CAS ≥ 6)/Status Asthmaticus

Inclusion: Age ≥ 2 year, with respiratory symptoms, known h/o wheeze, albuterol use, or asthma

*****All #3 Albuterol 2.5mg/Ipratropium 0.5mg (Duoneb) doses can be mixed in nebulizer and give as a continuous dose over 30 minutes**

****MDI preferred for treatment, begin MDI demonstration and teach-back with family**

(Nebulizer solution may be used in place of MDI's when not available or in use at facility. Follow current PPI recommendations to minimize exposure to viral droplets)

Within 1st 60 minutes

Dexamethasone PO or Methylprednisolone IV (give within first 20 mins) + Albuterol 2.5mg/ Ipratropium 0.5 mg nebulized solution q10 minutes x 3 doses (give back to back); administer through acorn nebulizer***

followed by

Magnesium IVPB and Normal Saline Bolus and Initiation of Continuous Albuterol at 15mg/hr x 1 hr

Post Tx CAS

2nd hour

CAS 0-4
Observe for 60 minutes
Escalate therapy if worsening

CAS ≥ 5
1st Hour Continuous: Albuterol at 15mg/hour
Admit to PICU

Post Observation CAS

3rd hour (and beyond)

CAS 0-2
Consider discharge if 3rd hour score is 0-2 and patient presented with minimal or no treatment at home prior to ED and adequate monitoring following magnesium.
Discharge or Admit to floor

CAS 2-4
Albuterol MDI** & spacer
6 puffs q2 hours - begin 2 hours after last dose of albuterol
Admit to Floor

CAS ≥ 5
2nd hour Continuous: Albuterol at 15mg/hour
Admit to PICU

Medication Dosing Overview
(See Asthma Focused – ED PEDS Order Set in EPIC)

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| <ul style="list-style-type: none"> Albuterol/Ipratropium Nebulizer (2.5 mg/0.5 mg/per dose) Albuterol Continuous Nebulizer 15 mg/hour Administer Supplemental oxygen to achieve SpO₂ > 93% Magnesium sulfate 50mg/kg IV piggyback x 1 over 20 minutes (max dose 2000 mg) Normal Saline IV bolus 20mL/kg over 1 hour (max 1000 ml) | <ul style="list-style-type: none"> Methylprednisolone IV push 2mg/kg (max 60 mg) Dexamethasone oral X 1 dose per 24 hours <ul style="list-style-type: none"> 0-8 kg = 4 mg 8.1-15 kg = 8 mg 15.1-20 kg = 12 mg > 20 kg = 16 mg |
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