

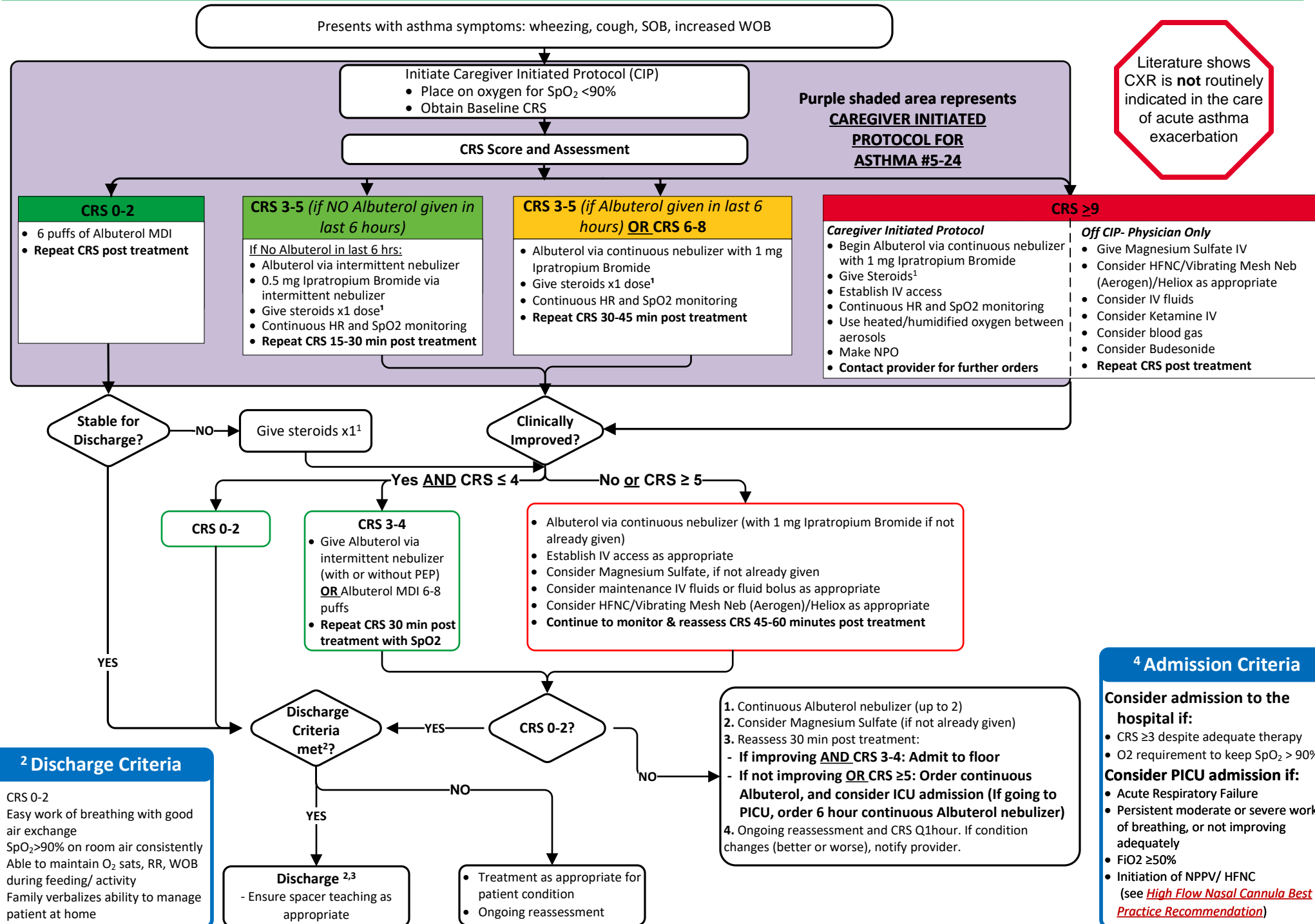
# Asthma Clinical Practice Guideline: Emergency Department Management

Inclusion:  $\geq 18$  months old, presents with asthma symptoms, otherwise healthy, in acute asthma exacerbation

Exclusion: Transfer from outside hospital with asthma treatment already started

UPDATED 6/3/24

Page 1 of 2



# Asthma Clinical Practice Guideline: Emergency Department Management

UPDATED 6/3/24

Page 2 of 2



Inclusion:  $\geq 18$  months old, presents with asthma symptoms, otherwise healthy, in acute asthma exacerbation

## Medications

### Respiratory Medications

**Albuterol Metered Dose Inhaler (MDI):** 90 mcg/puff

- 4-6 puffs with spacer per guideline

**Albuterol via continuous nebulizer:**

- $<15$  kg use 7.5 mg/hr
- $\geq 15$  kg use 15 mg/hr

**Albuterol via Intermittent PEP nebulizer:**

- $<15$  kg: 2.5 mg Albuterol and 5 cm H<sub>2</sub>O
- 15-18 kg: 5 mg Albuterol and 8 cm H<sub>2</sub>O
- 18-25 kg: 5 mg Albuterol and 10 cm H<sub>2</sub>O
- $>25$  kg: 5 mg Albuterol and 12 cm H<sub>2</sub>O

**Ipratropium Bromide:**

- 0.5 mg via intermittent nebulizer
- 1 mg via continuous nebulizer, given over one hour

**Budesonide** 1.5 mg via continuous nebulizer (per provider discretion)

### <sup>1</sup> Steroid Dosing

**Dexamethasone:** 0.6 mg/kg PO (Max dose 16 mg)

- $<12$  kg: *Per physician discretion only.* Consider Dexamethasone 4 mg QD **or** Prednisolone 1-2 mg/kg/day (QD or BID)
- 12 to  $<15$  kg: 8 mg (packet of 2 tablets)
- 15 to  $<25$  kg: 12 mg (packet of 3 tablets)
- $\geq 25$  kg: 16 mg (packet of 4 tablets)
  - Do not give if patient had in past 24 hours
  - Give steroids PO unless patient is vomiting
  - Consider steroid taper if patient had 2 courses of steroids in past 60 days

**Dexamethasone IM Dosing:** 0.6 mg/kg (Max dose 16 mg)

**Methylprednisolone IV:** 2 mg/kg x1 (Max dose 60 mg) if CRS  $>9$  or not tolerating PO

### Additional Medications (CRS $> 6$ )

**Magnesium Sulfate** 50 mg/kg IV over 20 min (Max dose 2 grams)

**Ketamine** 0.5-1 mg/kg IV x1; continuous infusion 0.3mg/kg/hr

### Adjunct Therapies

*May consider **Ipratropium Bromide 0.5 mg** for cough (if not already given)*

**Epinephrine** (Concentration 1mg/mL) 0.01 mg/kg IM (Max dose 0.5 mg)

**Terbutaline:** 0.005- 0.01 mg/kg SQ

**End Tidal CO<sub>2</sub> monitoring**

## Discharge

### Discharge Risk Assessment

**Risk Screen: (Consider Observation and/or discussion with PCP/Specialist)**

- Hospitalized two or more times in past 6 months, history of ICU/intubation
- $>3$  ED visits in past 6 months
- 2 or more canisters of Albuterol in past 6 months
- Failed outpatient therapy (already on Q4 nebs or oral steroids  $>48$  hours)
- Direct exposure to tobacco smoke

**Consider Subspecialty Referral if:**

- Hospitalized two or more times in past year
- $>3$  ED visits in past 12 months
- 2 or more courses of oral steroids in past 2 months
- 2 or more canisters of Albuterol in past 6 months

### <sup>3</sup> Discharge Orders

- Follow up with PCP/ Subspecialist
- Education (watch asthma video if given continuous treatment)
- Asthma Management Plan (Asthma Basics)

### Discharge Medications:

- Albuterol MDI with spacer
  - 4 puffs QID for 2 days then Q4 hours PRN cough/wheeze
- Inhaled steroids (as appropriate):
  - Fluticasone propionate (Flovent) 44 mcg/puff - 2 puffs BID x1 canister (no refills) (For patients  $<12$  years old)
  - Budesonide (Pulmicort respules) 0.5mg/2ml inhalation solution- BID via nebulizer
  - Fluticasone furoate (Arnuity Ellipta) 100 mcg/actuation- 1 puff daily (For patients  $\geq 12$  years old)
- Oral Steroid: Dexamethasone PO x1 24 hours after first dose
  - $<12$  kg: Provide prescription for Dexamethasone 4 mg x1 **or** Prednisolone 1-2 mg/kg/day (QD or BID) for 3-5 days
  - 12 to  $<15$  kg: dispense 8 mg (packet of 2 tablets)
  - 15 to  $<25$  kg: dispense 12 mg (packet of 3 tablets)
  - $\geq 25$  kg: dispense 16 mg (packet of 4 tablets)
  - Consider steroid taper if patient had 2 courses of steroids in past 60 days

## Definitions

**CRS:** Clinical Respiratory Score

**MDI:** Metered Dose Inhaler

**HFNC:** High Flow Nasal Cannula

**NPPV:** Non-invasive Positive Pressure (BiPAP/CPAP)

**PEP:** Positive Expiratory Pressure