

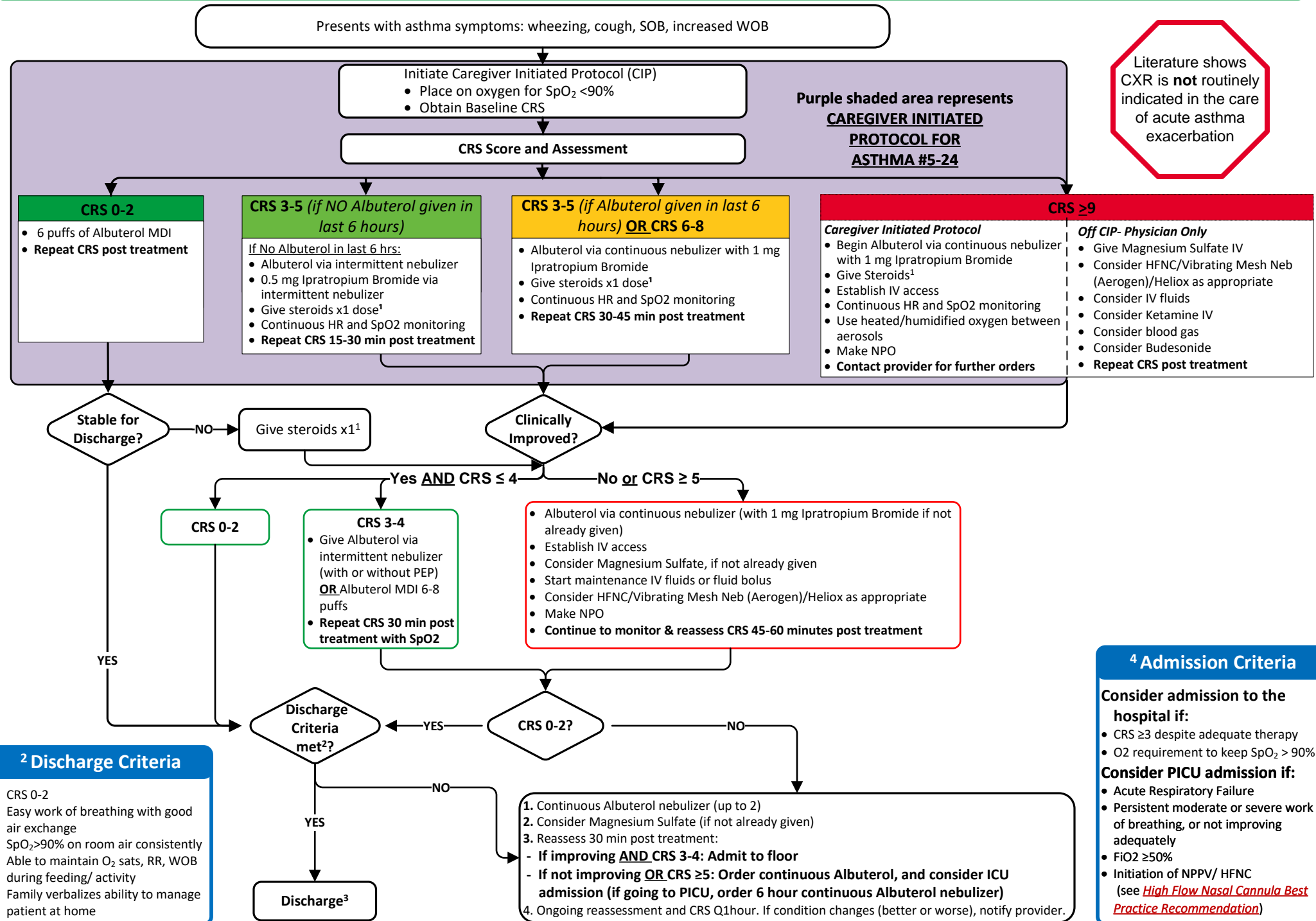
Asthma Clinical Practice Guideline: Emergency Department Management

Inclusion: ≥ 18 months old, presents with asthma symptoms, otherwise healthy, in acute asthma exacerbation

Exclusion: Transfer from outside hospital with asthma treatment already started

UPDATED 1/31/24

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Literature shows CXR is **not** routinely indicated in the care of acute asthma exacerbation

² Discharge Criteria

- CRS 0-2
- Easy work of breathing with good air exchange
- SpO₂ >90% on room air consistently
- Able to maintain O₂ sats, RR, WOB during feeding/ activity
- Family verbalizes ability to manage patient at home

⁴ Admission Criteria

Consider admission to the hospital if:

- CRS ≥3 despite adequate therapy
- O₂ requirement to keep SpO₂ > 90%

Consider PICU admission if:

- Acute Respiratory Failure
- Persistent moderate or severe work of breathing, or not improving adequately
- FiO₂ ≥50%
- Initiation of NPPV/ HFNC (see [High Flow Nasal Cannula Best Practice Recommendation](#))



Inclusion: ≥ 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
- ≥15 kg use 15 mg/hr

Albuterol via Intermittent PEP nebulizer:

- <15 kg: 2.5 mg Albuterol and 5 cm H₂O
- 15-18 kg: 5 mg Albuterol and 8 cm H₂O
- 18-25 kg: 5 mg Albuterol and 10 cm H₂O
- >25 kg: 5 mg Albuterol and 12 cm H₂O

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)

¹ 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)
- ≥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 CO₂ 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

³ 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 ≥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)
 - ≥ 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