≥ 18 month old patient presents with asthma symptoms (wheezing, cough, SOB, increased WOB)

**CRS Score and Assessment**
Oxygen as needed to maintain SpO2 >90%

**CRS Score**
- **0-2**: Albuterol via intermittent nebulizer¹
  - Repeat CRS 15 min post treatment
- **3-5**: Albuterol via intermittent nebulizer (may give q20min up to 3 treatments)¹
  - **Add Ipratropium Bromide**: May repeat x1
  - Give steroids X1 dose²
  - Consider continuous HR and SpO2 monitoring
  - Repeat CRS 15-30 min post treatment
- **6-8**: Albuterol via intermittent nebulizer give 3 treatments back to back¹
  - **Add Ipratropium Bromide**: Repeat x1
  - Give steroids x1 dose³
  - Continuous HR and SpO2 monitoring
  - Repeat CRS 30 min post treatment
  - Make NPO
- **≥9**: Albuterol via intermittent nebulizer⁴:
  - Give 3 treatments back to back
  - May continue q15-20 min as needed until patient is transported
  - Add 0.5mg Ipratropium Bromide⁴: Repeat x1
  - (Max Total dose 1mg)
  - Start IV
  - Give steroids²
  - Consider IVF bolus
  - Continuous HR and SpO2 monitoring
  - Repeat CRS 30 min post treatment
  - Make NPO
  - Transfer to hospital

**Clinical Respiratory Score (CRS)**
- CRS <3: NO
- CRS ≥3:
  - If Clinically Improved: CRS ≤3?
  - If clinically improved: Repeat treatment per CRS score maximum 3 treatments, then consider transfer to ED
  - If CRS >3: Repeat treatment per CRS score maximum 3 treatments, then consider transfer to ED

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**Definitions**
- CRS: Clinical Respiratory Score

**Discharge Home**

**Transfer to Emergency Department**

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*Developed through the efforts of Children's Healthcare of Atlanta and its physicians in the interest of advancing pediatric healthcare. This pathway is a general guideline and does not represent a professional care standard governing providers' obligation to patients. Care is revised to meet the individual patient's needs. © 2019 Children's Healthcare of Atlanta*
### Medication Dosing

#### 1. Respiratory Medications
- Albuterol via intermittent nebulizer:
  - <15 kg use 2.5mg
  - ≥15 kg use 5mg
- Ipratropium Bromide 0.5mg via intermittent nebulizer, may repeat x1 (max dose 1mg)

#### 2. Steroid Dosing
- **Dexamethasone tablets** PO x1 (based on 0.6mg/kg PO) (Max dose 16mg)
  - <12kg: 4mg (1 tablet)
  - 12 to <15kg: 8mg (2 tablets)
  - 15 to <25kg: 12mg (3 tablets)
  - ≥25kg: 16mg (4 tablets)
  - Do not give if patient had a dose in the last 24 hours
  - Consider Steroid taper if the patient has had 2 courses of steroids in the past 60 days
- **Dexamethasone** 0.6mg/kg IM (Max dose 16mg) (Give steroids PO unless patient is vomiting)
- **Methylprednisolone** 2mg/kg IV x1 if CRS ≥9 or patient not tolerating PO (max dose 60mg)

### Additional Medications
- **Epinephrine** (Concentration 1mg/mL) 0.01mg/kg IM (Max dose 0.5mg)

### Transfer Criteria

#### 1. Consider Transfer to Hospital if:
- CRS ≥4 after response to 2-3 treatments
- O2 requirement to keep SpO₂ > 90%
- Clinical Hypoxia
- Unable to manage patient at home

#### 2. Consider Air Transport if:
- Acute Respiratory Failure
- CRS≥9 after 2-3 treatments
- FiO₂ ≥50%
- tPEWS =7 or score of 3 in any of categories Airway, Circulation, or Disability
- Use CHOAA Air Transport or call 911 as appropriate

### Discharge

#### 1. Discharge Criteria
- CRS ≤3
- Breathing easy with good air exchange
- SpO₂ >90% on room air consistently
- Family able to manage patient at home
- Able to maintain SpO₂ >90%, RR, WOB, through feeding/activity

#### 2. Discharge Orders
- Follow Up with PCP/Subspecialist
- Education:
  - Asthma Basics (Asthma Management Plan)
  - MDI Teaching if applicable
  - DPI Instruction
- Discharge Medications:
  - Albuterol MDI with spacer
    - 4 puffs QID times 2 days and q4 hours prn cough/wheezing/symptoms
  - Inhaled steroids
    - 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 (Arunity Ellipta) 100 mcg/actuation - 1 puff daily (For patients ≥12 years old)
  - Oral Steroid: Dexamethasone PO x1 24 hours after first dose
    - <12kg: 4mg PO
    - 12 to <15kg: 8mg PO
    - 15 to <25kg: 12 mg PO
    - ≥25kg: 16mg PO (Max dose 16mg)
    - Consider steroid taper if the patient has had 2 courses of steroids in the past 60 days

### Discharge Risk Assessment

#### Risk Screen: (Consider transfer and/or Care Concern Call)
- 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
- Failure of outpatient therapy (already on q4 hour nebs or oral steroids ≥48 hours)
- Direct exposure to tobacco smoke
- Consider Subspecialty Referral if:
  - Hospitalized 2 or more times in the past year
  - >3 ED/UC visits in the past 12 months
  - 2 or more courses of oral steroids in the past 2 months
  - 2 or more canisters of albuterol in the past 6 months