Asthma
Emergency Department Management

Assessment History
- Potential triggers
- Time of onset
- Comorbidities: heart disease, airway problems other than asthma, adrenal problems, hypertension, diabetes mellitus
- Steroids in past 24 hours
- History of intubations, ED visits, hospitalizations

Identify Asthma Exacerbation
Child with asthma with cough, wheeze or respiratory distress
- Vital Signs
- If SpO₂ < 90%, place on O₂
- Weight (kg)
- Assign RS
- Order ED Asthma order set
- Notify respiratory therapy (RT)
- Notify provider if severe

Possible Diagnostic Testing
*Routine testing NOT recommended
- Consider CXR if patient has one of the three F’s:
  - Focal findings
  - Foreign Body suspected
  - Failure to respond
- RVP or influenza swab, if consistent with influenza-like illness or atypical pneumonia
- CBC
- CBG
- BMP

Moderate - Severe RS: 5 and above
- Place on CRM
- Attempt oral dexamethasone 0.6 mg/kg PO once (max 16 mg/day). If not tolerated, give methylprednisolone 1mg/kg/dose (max 60mg/day)
- Start weight-based combination nebulizer treatment:
  - Albuterol Nebulized
    - 2.5 mg x 3 = 7.5 mg (for patients < 10 kg)
    - 5 mg x 3 = 15 mg (for patients > 10 kg)
  - Ipratropium Bromide
    - 500 mcg (for patients < 10 kg)
    - 1000 mcg (for patients > 10 kg)
- Place PIV
- RT reassign RS and provider to reassess patient at the end of treatment. Initiate asthma education.

Mild RS: 0-4
- Albuterol
  - 4 puffs (for patients < 10 kg)
  - 8 puffs (for patients > 10 kg)
- Consider Dexamethasone 0.6 mg/kg PO once (max 16 mg/day)
  or
  Prednisone/Prednisolone 2 mg/kg PO once (max 60 mg/day)
- Start albuterol metered dose inhaler (MDI) Q1-2°
- Place PIV
- RT reassign RS, provider to reassess within 2 hours of treatment

If Severe RS: 8 and above
- Continuous albuterol (0.5-1mg/kg/hr)
- Start IV fluids; normal saline bolus 20mL/kg (max 1,000mL) if giving Magnesium Sulfate
- Consider Magnesium Sulfate 50 mg/kg IV (max 2 grams)
- Consider Terbutaline 10 mcg/kg (max 250 mcg)
- Consider Epinephrine 0.01 mg/kg (max 0.5mg/dose)
- Consider further diagnostic testing
- Provider to reassess hourly while on continuous albuterol
- Admit to intermediate care on continuous albuterol and IV fluids (unless qualifies for PICU)

If Moderate RS: 5-8
- Start albuterol metered dose inhaler (MDI) Q1-2°
- Does patient need Q2-4 hour treatments or SpO₂ remains <90%
- Place in observation (See inpatient asthma Pathway)

If Mild RS: 0-4
- Consider Albuterol MDI in 2 hours

Indications For Considering PICU
- Worsening work of breathing after combined nebulizer
- FiO₂ > 60% or need for positive pressure
- No response to Magnesium Sulfate
- Need for Terbutaline
- Previous history of intubation/PICU
- Declining mental status

Discharge
- Consider scheduling Albuterol Q4 hours for 24-48 hours and repeating dex in 24 hours (or a 3-5 day course of pred).
- Consider referral based on “Guidelines to Referral to Pulmonology/Allergy”
- Recommend follow-up within 3-7 days with PCP

Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

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