

# ED Asthma Exacerbation Pathway

Approved by Clinical Excellence Committee: Feb 2023

**Exclusion Criteria:**

1. Patients < 2yo
2. Acute Illness (pneumonia, bronchiolitis, croup, aspiration)
3. Chronic Conditions (CLD, CF, BPD, Restrictive lung disease, neuromuscular disorders)
4. Medically complex patients

**Inclusion Criteria:**

2yo or greater with Hx of asthma or recurrent wheezing presenting with acute onset of wheezing, cough, dyspnea, respiratory distress, hypoxia, or tachypnea

**Dosing Reference**

**Dexamethasone:** PO 0.6mg/kg (max 16mg)  
**Methylprednisolone:** IV 2mg/kg (max 80mg)  
**Albuterol:** Continuous 20mg/hr  
 MDI w/ spacer: 8-20kg = 4 puffs  
 >20kg = 8 puffs  
**Magnesium Sulfate:** IV 50mg/kg (max 2grams) over 20 mins  
**Terbutaline:** SubQ: Children 0.01mg/kg/dose every 20 mins x 3doses  
 Adol 0.25mg/dose every 20 mins x 3 doses  
**Aminophylline:** IV Load dose 5.7mg/kg

1) Provide supplemental oxygen to maintain sat  $\geq$  91%  
 2) Routine CXR **not** recommended

1) Perform CRS score  
 2) Assess need for steroids

Hour 1

**Mild Exacerbation ( $\leq$ 3)**

- PO Dexamethasone (unless already received PTA)
- Albuterol MDI w/ spacer
- CRS=0 consider provider discharge from triage or WR

**Moderate Exacerbation (4-7)**

- PO Dexamethasone (unless already received PTA)
- Albuterol and atrovent x3

**Severe Exacerbation (8-12)**

- PO dexamethasone or IV solumedrol
- Start continuous albuterol with Atrovent: -0.75mg <2yo  
-1.5mg >2yo
- Consider IV placement
- Consider IV magnesium, SubQ terbutaline, IV aminophylline or IM epinephrine

Hour 2

**Good Response**  
 CRS  $\leq$ 3

- Response sustained for at least 1 hour after treatment
- Consider Discharge
- Complete Discharge Checklist\*

**Incomplete Response**  
 CRS 4-7 or No improvement

- Albuterol treatment (MDI or neb)
- Consider IV magnesium

**Poor Response**  
 CRS 8-12 or no improvement or worsening

- Continuous albuterol
- Consider IV Magnesium if not already given
- Consider PPV or adjuvant meds (terbutaline, aminophylline, ect.)
- Evaluate need for ICU admission

Reassess and Score after 1st hour

Hour 3

**Good Response**  
 RS  $\leq$ 3

- If moderate or severe score initially observe for 1-3 hours after last treatment
- Consider Discharge
- Complete Discharge Checklist

**Incomplete Response**  
 CRS 4-7 or No improvement

- Albuterol treatment (MDI or neb)
- Consider IV magnesium if not already given
- Admit to inpatient  
 -Admission Criteria for SSU and floor: spaced to q2hr

**Poor Response**  
 CRS 8-12 or no improvement or worsening

- Continuous albuterol
- Consider IV Magnesium if not already given
- Consider PPV or adjuvant meds (terbutaline, aminophylline, ect.)
- Admit to ICU

Reassess and Score after 2nd hour

Reassess and Score after 3rd hour for Disposition

## Disposition Plan

### \*Discharge Checklist

#### Medications

- Order 2<sup>nd</sup> dose of dexamethasone
- Refill/order albuterol
- Relabel MDI and spacer used in ED for home
- Consider refill of controller

#### Follow Up

- With PCP or specialist

#### Education

- Review control of environmental factors
- MDI or neb teaching

### Admission

- Admit to SSU or other service if spaced to q2hr albuterol
- Consider viral studies

### Criteria for ICU admission

- 1) Need for PPV
- 2) Need for continuous albuterol (>2 hours after steroids)
- 3) Need for terbutaline or theophylline drip
- 4) Worsening resp. status or score despite aggressive treatment

### Clinical Respiratory Score

Assess	Score 0	Score 1	Score 2
<b>Respiratory Rate</b>	<2 months <50 2-12 months <40 1-5 years <30 >5 years <20	<2 months 50-60 2-12 months 40-50 1-5 years 30-40 >5 years 20-30	<2 months >60 2-12 months >50 1-5 years >40 >5 years >30
<b>Auscultation</b>	Good air movement, expiratory scattered wheezing or loose rales/crackles	Depressed air movement, inspiratory and expiratory wheezes or rales/crackles	Diminished or absent breath sounds, severe wheezing, or rales/crackles or marked prolonged expiration
<b>Use of Accessory Muscles</b>	Mild to no use of accessory muscles, mild to no retractions <b>OR</b> nasal flaring on inspiration	Moderate intercostals retractions, mild to moderate use of accessory muscles, nasal flaring	Severe intercostals and substernal retractions, nasal flaring
<b>Mental Status</b>	Normal to mildly irritable	Irritable, agitated, restless	Lethargic
<b>Room Air SpO2</b>	> 95%	90-95%	<90%
<b>Color</b>	Normal	Pale to normal	Cyanotic, dusky