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# **Albuterol Dosing:**

- Continuous albuterol alone: 0.083% (2.5 mg / 3 mL)
- If combined with ipratropium 0.5% solution (0.5 mL = 2.5 mg)

## **Intensive Care Indications** Any of the following:

- Prolonged continuous albuterol for > 4 hrs with worsening symptoms
- Inadequate ventilation with hypercapnea (PCO<sub>2</sub> on capillary blood gas > 45)
- Need for high flow nasal cannula or non-invasive ventilation due to concern for respiratory failure
- Persistent hypoxemia (SpO<sub>2</sub> < 90%) despite supplemental O<sub>2</sub> (≥ 3 L/min or > 40% FiO<sub>2</sub> with non-rebreather)
- Altered level of consciousness (drowsiness)

# **Discharge Criteria** All of the following:

- Resolution of respiratory distress
- Resolution of hypoxemia (SpO<sub>2</sub> ≥ 90% on room air)
- Does not require albuterol more frequently than q4 hours
- Ability of caregiver to provide q4h albuterol at home

### Discharge Checklist

- Continue yellow zone therapies on discharge
- Determine systemic steroid plan based on initial steroid administered and patient needs
- Consider "stepping up" green zone therapies if indicated
- Provide Asthma Action Plan and asthma education
- **Recommend** appropriate follow-up with either PCP or Asthma Provider
- Confirm pt has access to prescribed medications within 2-3 hours after discharge

#### Other Resources

- Asthma Reference Guide
- **Caregiver Smoking Cessation**

Patient > 2 yrs of age admitted to the general pediatric service for asthma exacerbation Is the exacerbation mild, moderate, Severe or severe? • Initiate oxygen to achieve SpO<sub>2</sub> Moderate • Administer: Albuterol (MDI with spacer) < 20 kg: 4 puffs • *Initiate* oxygen to achieve SpO<sub>2</sub> ≥ 90% ≥ 20 kg: 8 puffs • Administer: • Dexamethasone (Link to Evidence) • *Consider* systemic steroid if ≥ 2 0.6 mg/kg PO x1 dose (Max: 12 mg) (2nd dose on day 2 may be considered) albuterol treatments are required: • Prednisolone/Prednisone • Dexamethasone (Link to 2 mg/kg/day PO x3-5 days (Max: 60 mg/day) Evidence) 0.6 mg/kg PO x1 dose Albuterol (MDI with spacer) (Max: 12 mg) < 20 kg: 4 puffs ≥ 20 kg: 8 puffs Prednisolone/Prednisone 2 mg/kg/day PO x3-5 days -or- Continuous Albuterol (nebulized) (Max: 60 mg/day)

< 20 kg: 10 mg/hr ≥ 20 kg: 15 mg/hr

• Consider (if not already administered)

 Magnesium sulfate 50 mg/kg IV (Max dose: 2 grams) Initiate oxygen to achieve SpO<sub>2</sub> ≥ 90%

• Provide NS boluses and/or MIVF depending on volume status. If >1L bolus is needed, monitor lung exam closely for signs of volume overload

#### Administer:

 Methylprednisolone IV 2 mg/kg/day q24 OR divided q 6 to 12 Max: 60 mg/day

#### -and-

• Continuous Albuterol (nebulized)

< 20 kg: 10 mg/hr ≥ 20 kg: 15 mg/hr

If not already administered:

• Magnesium sulfate IV 50 mg/kg (Max: 2 grams)

• Ipratropium bromide (nebulized)

1500 mcg x1 with continuous Albuterol

## • Epinephrine:

• For Adele Hall

1 mg/mL solution, 0.01 mg/kg IM

For CM Kansas

7.5 to < 25 kg: 0.15 mg / 0.3 mL (1:2000) IM (EpiPen Jr)

≥ 25 kg: 0.3 mg / 0.3 mL (1:1000) IM (EpiPen)

Review indications for transfer to intensive care

• Providers, nurses, and RT will continue to evaluate and communicate with one another to:

Discuss patient care goals and any deviations from the expected course of illness.

• In general, RT will space albuterol according to Respiratory Care Plan. (Bronchodilator Weaning Protocol Link)

### **Special Considerations:**

- Consider "High Risk Asthma" order for pt with ≥4 acute care asthma visits in the last year, or history of PICU admission.
- For patients who are followed in Advanced Asthma Interdisciplinary Respiratory Clinic, consult Pulmonology and do not space albuterol per Respiratory Care Plan
- If patient is unable to tolerate nebulized medications via face mask due to behavioral discomfort with interface, albuterol may be nebulized through high flow nasal cannula at flows ≤ 0.25 L/kg/min with max of 10L/min and max 40% FIO2.

