Asthma / COPD / Wheezing (Adult and Pediatric)

CFR and All Provider Levels

1. ABCs and vital signs
2. Airway management
3. Administer oxygen
4. Place the patient in a position of comfort
5. Assist the patient with administering their prescribed Albuterol (metered dose inhaler or nebulizer), if available and trained to do so
6. Evaluate for any respiratory distress/respiratory failure, shock, cardiac arrest and treat as needed

CFR STOP

EMT

7. For **ADULT** and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with a history of Albuterol use), administer 0.02% Ipratropium Bromide mixed with 0.083% Albuterol Sulfate nebulized over 5-15 minutes as follows:
    - **ADULT:** 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
    - **PEDIATRIC:**
        - Age < 6 years: 0.02% Ipratropium Bromide 1.25 ml (0.5 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
        - Age ≥ 6 years: 0.02% Ipratropium Bromide 2.5 ml (1 unit dose) mixed with 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized. Repeat as needed (maximum 3 doses)
8. Transport
    - Initiate transport after starting nebulizer treatment
    - Do not delay transport to complete medication administration
9. For **ADULT** patients with persistent respiratory distress, begin continuous positive airway pressure (CPAP) therapy (Appendix N: Continuous Positive Airway Pressure Therapy), if available

10. For patients who are in severe respiratory distress/respiratory failure and/or shock, administer Epinephrine as follows:
    - Age < 9 years and weight < 30 kg:
        - OPTION A: Epinephrine 0.15 mg IM via syringe, if available
        - OPTION B: Pediatric Epinephrine auto-injector IM
    - Age ≥ 9 years or weight ≥ 30 kg:
        - OPTION A: Epinephrine 0.3 mg IM via syringe, if available
        - OPTION B: Adult Epinephrine auto-injector IM

EMT STOP

Paramedic

11. For **ADULT** and **PEDIATRIC** patients (age ≥ 2 years or age ≥ 18 months with a history of Albuterol use), administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
12. For patients with persistent symptoms:
    - 12.1 Obtain intravascular access
    - 12.2 For **ADULT** patients, administer Magnesium Sulfate 2 g IV (diluted in 50-100 ml Normal Saline) over 10 minutes
    - 12.3 For **ADULT and PEDIATRIC** patients ≥ 2 years old, administer one of the following:
        - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
        - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)
13. For patients who are in severe respiratory distress/respiratory failure and/or shock:
    - 13.1 Perform advanced airway management as needed
    - 13.2 If not already administered, or for persistent symptoms despite prior administration, administer Epinephrine 0.01 mg/kg IM (maximum 0.3 mg) of a 1:1,000 concentration [maximum 2 doses, including Epinephrine administered by BLS. Multiple Epinephrine doses shall be given at least 20 minutes apart]
14. Monitor vital signs every 5 minutes
15. Begin cardiac monitoring

Paramedic STOP

Medical Control Options

EMT:

16. Administer additional weight-appropriate dose of Epinephrine IM, if needed and as available:
    - Age < 9 years and weight < 30 kg:
        - OPTION A: Epinephrine 0.15 mg IM, if available
        - OPTION B: Pediatric Epinephrine auto-injector IM
    - Age ≥ 9 years or weight ≥ 30 kg:
        - OPTION A: Epinephrine 0.3 mg IM, if available
        - OPTION B: Adult Epinephrine auto-injector IM
17. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)

Paramedic:

18. Administer Epinephrine 0.01 mg/kg IM (maximum 0.3 mg) of a 1:1,000 concentration
19. Administer 0.083% Albuterol Sulfate 3 ml (1 unit dose) nebulized over 5-15 minutes. Repeat as needed (maximum 3 doses)
20. For **PEDIATRIC** patients, administer Magnesium Sulfate 50 mg/kg IV (maximum 2 g) diluted in 50-100 ml Normal Saline over 10 minutes
21. For **PEDIATRIC** patients age < 2 years, administer one of the following:
    - OPTION A: Dexamethasone 0.6 mg/kg IV/IM/PO (maximum 12 mg)
    - OPTION B: Methylprednisolone 1 mg/kg IV/IM (maximum 60 mg)

Key Points / Considerations

- Children < 2 years with their first episode of wheezing likely have viral bronchiolitis. There is no role for racemic Epinephrine, Albuterol, Ipratropium Bromide or steroids in bronchiolitis
- The management of bronchiolitis includes supplemental oxygen for hypoxic or dyspneic patients, intravenous fluids for signs of severe dehydration, or ventilatory support as needed
- For children ≥ 18 months for whom there is a history of Albuterol use, or a strong family history of asthma, atopy or eczema; Albuterol may be administered followed by evaluation for clinical response
- Epinephrine should be used with caution in patients with COPD
- A silent chest is an ominous sign that indicates respiratory failure and arrest are imminent
- Under standing orders, ALS may administer a total of 2 doses of Epinephrine, if it was not previously administered by BLS
- IV formulation of Dexamethasone may be administered orally (PO)
- Administration of steroids via IV shall be performed slowly over 2 minutes
- When administering steroids to pediatric patients, Dexamethasone is preferred over Methylprednisolone