

HEALTHEAST MEDICAL TRANSPORTATION
MEDICAL OPERATIONS MANUAL

3B ASTHMA, COPD, BRONCHOSPASM

PATIENT CARE GOALS

- Identify respiratory compromise, restore and maintain adequate ventilations, and ensure adequate oxygenation and perfusion.
- Improve patient comfort and ease of breathing, including relief of bronchoconstriction and assistance with elimination of secretions, as needed.
- Appropriate monitoring of SpO₂ and EtCO₂

EMT

ADULT	PEDIATRIC (less than 60 kg)
<ol style="list-style-type: none"> 1. Assess the patient and provide initial care, including oxygen, positioning, ventilatory assistance, and vascular access, if needed, per 1B General Assessment and Care.^{1,2} 2. For asthma or allergic reaction related bronchospasm with severe symptoms³ perform 7W EpiPen® Administration. May repeat in 10 minutes if no response. 3. Administer albuterol (Proventil) 2.5 mg via nebulizer (7V Nebulized Medication Administration). May repeat every 5-10 minutes as needed. 4. Initiate CPAP, using a PEEP setting of 5cmH₂O per 7D CPAP. <ul style="list-style-type: none"> • Administer continuous albuterol (Proventil) in-line with CPAP • If patient not improved after 10 minutes and is tolerating CPAP increase PEEP to 10 cm H₂O. • If patient not improved after 20 minutes on CPAP increase PEEP to 15 cm H₂O. 5. If CPAP is contraindicated, continue high-flow oxygen and perform 7A Nasopharyngeal Airway or 7B Oropharyngeal Airway, 7C Bag Valve Mask, and other respiratory support as needed. 	<ol style="list-style-type: none"> 1. Assess the patient and provide initial care, including oxygen, positioning, ventilatory assistance, and vascular access, if needed, per 1B General Assessment and Care.^{1,2} 2. For asthma or allergic reaction related bronchospasm with severe symptoms³ perform 7W EpiPen® Administration. May repeat in 10 minutes if no response. 3. Administer albuterol (Proventil) 2.5 mg via nebulizer (7V Nebulized Medication Administration). May repeat every 5-10 minutes as needed. 4. If CPAP mask fits child, initiate CPAP, using a PEEP setting of 5cmH₂O per 7D CPAP. <ul style="list-style-type: none"> • Administer continuous albuterol (Proventil) in-line with CPAP • If patient not improved after 10 minutes and is tolerating CPAP increase PEEP to 10 cm H₂O. • If patient not improved after 20 minutes on CPAP increase PEEP to 15 cm H₂O. 5. If CPAP is contraindicated, continue high-flow oxygen and perform 7A Nasopharyngeal Airway or 7B Oropharyngeal Airway, 7C Bag Valve Mask, and other respiratory support as needed.

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PARAMEDIC

ADULT	PEDIATRIC (less than 60 kg)
<p>4. Administer albuterol (Proventil) 2.5mg / ipratropium bromide (Atrovent) 0.5mg (Duoneb) via nebulizer (7V Nebulized Medication Administration) once only.⁴</p> <p>5. Provide continuous nebulized albuterol (Proventil) 2.5 mg after Duoneb, if indicated.</p> <p>6. Treat anxiety related to CPAP per 1D Anxiety and Sedation Management.⁵</p> <p>7. If not currently on steroids or tapering administer methylprednisolone (Solu-Medrol) 125 mg IV/IO slowly.</p> <p>8. For severe bronchospasm (respiratory failure), administer 1:1,000 epinephrine (Adrenalin) 0.3 mg IM every 10-15 minutes as needed.⁶</p> <p>9. If advanced airway placed:</p> <ul style="list-style-type: none"> • Administer continuous albuterol (Proventil) via in line nebulizer (7V Nebulized Medication Administration). • Administer magnesium sulfate 2 grams IV over 10 minutes.⁷ 	<p>4. Administer albuterol (Proventil) 2.5mg/ ipratropium bromide (Atrovent) 0.5mg (Duoneb) via nebulizer (7V Nebulized Medication Administration) once only.⁴</p> <p>5. Provide continuous nebulized albuterol (Proventil) 2.5 mg after Duoneb, if indicated.</p> <p>6. Treat anxiety related to CPAP per 1D Anxiety and Sedation Management.⁵</p> <p>7. If not currently on steroids or tapering administer methylprednisolone (Solu-Medrol) 2 mg/kg IV/IO slowly.</p> <p>8. For severe bronchospasm (respiratory failure), administer 1:1,000 epinephrine (Adrenalin) 0.01 mg/kg IM every 10-15 minutes as needed.⁶</p> <p>9. If advanced airway placed:</p> <ul style="list-style-type: none"> • Administer continuous albuterol (Proventil) via in line nebulizer (7V Nebulized Medication Administration). • Administer magnesium sulfate 50 mg/kg (up to 2 grams) IV over 10 minutes.⁷

DOCUMENTATION KEY POINTS

- Assessment of respiratory status, including respiratory rate, auscultated lung sounds, use of accessory muscles, SpO₂, and EtCO₂.
- Medication and procedures used including patient response.
- Initial and ongoing assessments, monitoring, interventions, patient response, and complications (if any) encountered.

NOTES

¹ The use of manual chest compression to aid exhalation is prohibited in the spontaneously breathing patient due to potential for injury and cardiovascular compromise.

² For hyperventilation provide coaching and reassurance. Do **not** use paper bag. Place patient on NRB mask at 15 L/min and monitor vitals per protocol.

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- ³ Severe symptoms are present when the work of breathing results in tripod posture, unable to speak any more than few words, or altered mental status.
- ⁴ **Ipratropium bromide (Atrovent)** should only be administered once. In children less than 10kg use **albuterol (Proventil)** only.
- ⁵ **Lorazepam (Ativan)** should only be given for anxiety associated with CPAP once impending respiratory failure, hypoxia, and/or shock have been excluded.
- ⁶ Respiratory failure exists when gas exchange is impaired to the point that shock develops with marked decrease in mental status or loss of consciousness.
- ⁷ **Magnesium sulfate** must be diluted prior to administration. To do this, expel 4 mL normal saline from a saline flush. Then, draw 2 grams (4 mL) of **magnesium sulfate** into the flush. This makes a 20% solution (200 mg/1 ml).