

HEALTHEAST MEDICAL TRANSPORTATION  
MEDICAL OPERATIONS MANUAL

**3C ACUTE PULMONARY EDEMA**

**PATIENT CARE GOALS**

- Decrease the patient's respiratory distress and work of breathing, while maintaining adequate oxygenation, ventilation, and perfusion.
- Appropriate monitoring of SpO<sub>2</sub> and EtCO<sub>2</sub>

**EMT**

1. Assess the patient and provide initial care, including oxygen, positioning, ventilatory assistance, and vascular access, if needed, per **1B General Assessment and Care**.
2. Perform **7D CPAP**, using a PEEP setting of 5cmH<sub>2</sub>O, if indicated.
  - If patient has not improved after 10 minutes and is tolerating CPAP **increase PEEP to 10 cm H<sub>2</sub>O**.
  - If patient has not improved after 20 minutes on CPAP **increase PEEP to 15 cm H<sub>2</sub>O**.
  - 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.
3. Administer **sublingual nitroglycerin<sup>1</sup> 0.4 mg** if systolic blood pressure is greater than 100 mmHg.
  - Repeat every 3-5 minutes as long as systolic blood pressure remains above 100 mg Hg.
4. If patient shows signs of bronchospasm administer **albuterol (Proventil) 2.5 mg via nebulizer<sup>2</sup> (7U Nebulized Medication Administration)**. May repeat every 10 minutes as needed.

**PARAMEDIC**

5. Consider **7F Advanced Airway Management** if patient exhibits signs of respiratory failure.<sup>3</sup>
6. Administer **albuterol (Proventil)<sup>2</sup> continuously via nebulizer**.
7. If CPAP is initiated, treat any related anxiety per **1D Anxiety and Sedation Management**.<sup>4</sup>
8. If systolic blood pressure is greater than 110 mmHg, initiate **nitroglycerin infusion<sup>1</sup> at 0.5 mcg/kg/min**.
  - Titrate upwards in **0.5 mcg/kg/min** increments every 5 minutes until symptoms improve and/or systolic blood pressure < 100. Max dose **4 mcg/kg/min**.
9. If systolic blood pressure is greater than 90 but less than 110 mmHg, continue **7D CPAP**.
10. If systolic blood pressure is less than 90 mmHg, initiate **dopamine (Inotropin) infusion starting at 5 mcg/kg/min (maximum dose of 20 mcg/kg/minute)** titrated to a MAP greater than 65 mmHg.

**DOCUMENTATION KEY POINTS**

- Assessment of respiratory status, including respiratory rate, auscultated lung sounds, use of accessory muscles, SpO<sub>2</sub>, and EtCO<sub>2</sub>.
- Initial and ongoing assessments, monitoring, interventions, patient response, and complications (if any) encountered.

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## NOTES

- <sup>1</sup> **Nitroglycerin**: Use of medication for erectile dysfunction – sildenafil (Viagra or Revatio) or vardenafil (Levitra) within the past 24 hours or tadalafil (Cialis) within the past 48 hours – is a contraindication for administration of **nitroglycerin** due to risk of severe hypotension.
- <sup>2</sup> **Albuterol (Proventil)** may be administered by nebulizer attached to the CPAP circuit. If the patient is intubated, administer **albuterol (Proventil)** via nebulizer attached to the endotracheal tube.
- <sup>3</sup> Respiratory failure exists when gas exchange is impaired to the point that shock develops with marked decrease in mental status or loss of consciousness.
- <sup>4</sup> **Lorazepam (Ativan)** should only be given for anxiety associated with CPAP once impending respiratory failure and/or shock have been excluded.