

# HEALTHEAST MEDICAL TRANSPORTATION MEDICAL OPERATIONS MANUAL

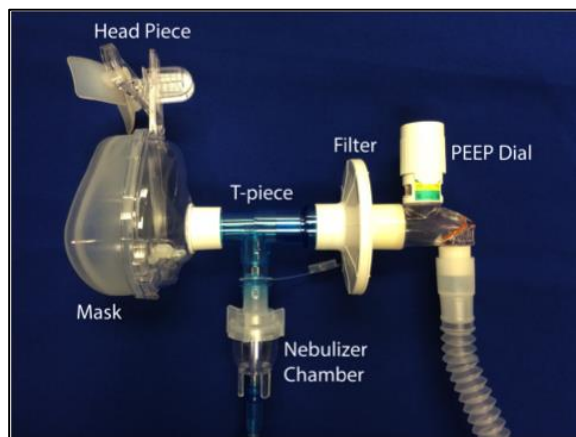
## 7D CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

### PATIENT CARE GOALS

- To maintain oxygen saturation and carbon dioxide within normal, healthy parameters.
- To help reduce work of breathing.<sup>1,2,3</sup>
- To decrease the likelihood that patients will require endotracheal intubation.

### EMT

1. Explain the procedure to the patient.
2. Apply Capnoline for ETCO<sub>2</sub> monitoring and delivery of supplemental oxygen if needed.
3. Before initiating treatment, complete the following required assessments:
  - Level of consciousness – patient must be alert and able to follow commands
  - Blood pressure – systolic pressure must be above 90 mmHg
  - Heart rate, respiratory rate, and SpO<sub>2</sub>, ETCO<sub>2</sub>
  - Auscultation of lung sounds
4. Repeat these assessments every 5 minutes once CPAP has been initiated.
5. Select the appropriate size mask. The mask should cover the patient's nose and mouth in a similar manner to the mask on a BVM.
6. Assemble the circuit in the order shown to the right.
  - The blue "T-piece" can be found in the in-line neb kit and is only necessary if the patient requires nebulized medications.
  - The filter can be found in the bag near the CPAP circuit and should be used if the patient has a known or suspected airborne infection (i.e., TB, SARS, Influenza).
7. Attach the green quick connect on the opposite end of the device to the green quick connect coupler on an oxygen bottle or ambulance wall. Once connected to oxygen, listen for the flow of air through the mask.
8. If nebulized medication is required, connect the nebulizer chamber to a second oxygen source.
9. Place the mask on the patient's face and apply gentle pressure until a tight seal is obtained.
10. Adjust the headpiece vertically to the center of the patient's forehead by squeezing the two tabs together and sliding the piece up or down.
11. Attach the head straps once the patient becomes comfortable with the treatment. Tighten the straps sufficiently to maintain a leak-free mask seal.
12. The initial PEEP setting on standing orders for all patients is 5.0 cmH<sub>2</sub>O.



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13. Pulmodyne O2 Max system provides 31% Oxygen. If patient requires supplemental oxygen to attain oximetry saturations between 93-96% deliver oxygen via the Capnoline from a supplemental oxygen source.

### PARAMEDIC

14. If patient's condition has not improved in 5-10 minutes, consider increasing PEEP. PEEP can be increased by spinning the white PEEP dial clockwise. If patient condition continues to decline, prepare to perform **7F Advanced Airway Management**.
15. Treatment should be discontinued if the patient develops any of the following:
  - Decline in respiratory drive or deterioration of vital signs after initiation of treatment
  - Decrease in level of consciousness or intolerance of the treatment
  - Gastric distention
16. Do not remove CPAP unless complications develop. If the patient's respiratory condition improves to where they feel the treatment is no longer necessary, encourage them to continue treatment.
17. Once respiratory failure has been ruled out, anxiety related to CPAP may be treated as per **1D Anxiety and Sedation Management**.
18. Advise the receiving hospital as soon as possible to allow preparation for a patient receiving CPAP treatment. Initiating CPAP is not a reason to automatically bypass a closer local hospital, especially if the facility is capable of continuing the treatment.
19. Upon arrival at the hospital, continue CPAP until the receiving staff is prepared to transition to their equipment and provide the necessary respiratory support.

### DOCUMENTATION KEY POINTS

- Provider impression and clinical indicators used in the decision to apply CPAP.
- Required assessments (see above) before initiating CPAP, every 5 minutes during CPAP, and upon arrival at the receiving hospital.
- Initial and final PEEP settings used and reason(s) for increasing PEEP.
- Response and/or complications from CPAP

### NOTES

<sup>1</sup> **Indications:** CPAP should be utilized for patients >30 kg (9 years old) with respiratory distress and two or more of the following:

- Respiratory rate greater than 25 breaths per minute.
- Retractions or accessory muscle usage.
- SpO<sub>2</sub> less than 94%.
- Rales (crackles).
- Wheezing.

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CPAP treatment should be strongly considered for, but is not limited to, patients with the following diagnostic impressions:

- Pulmonary edema
- Acute asthma
- Pneumonia
- Chronic obstructive pulmonary disease

<sup>2</sup> **Contraindications** include:

- Inadequate respiratory drive requiring assisted ventilation or intubation
- Tracheostomy or intubated patients
- Obstructed or traumatically compromised airway
- Patients with persistent nausea/vomiting, or unable to clear their own airway secretions
- Conditions that preclude or interfere with obtaining an adequate mask seal
- Respiratory distress due to blunt or penetrating chest trauma
- Pneumothorax and/or hemothorax (including new or recent event)
- Acute myocardial infarction or other significant coronary ischemic event
- Systolic blood pressure less than 90 mmHg
- Patients unable to participate in treatment, including those with decreased level of consciousness or inability to cooperate with or tolerate the procedure

<sup>3</sup> Treatment with CPAP does not violate DNR/DNI orders.