



## Section 14: Appendix 2: Medical Procedures

### SECTION 14: CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) DEVICE

E	EMT	E
A	AEMT	A
P	PARAMEDIC	P

INDICATIONS	SIGNS AND SYMPTOMS	CONTRAINDICATIONS
<ul style="list-style-type: none"> <li>Breathing patient whose condition is not improving with oxygen therapy</li> <li>Respiratory distress or failure, due to pulmonary edema, CHF, or COPD</li> <li>Patients 15 years of age or older</li> </ul>	<ul style="list-style-type: none"> <li>Dyspnea and tachypnea &gt; 25</li> <li>Chest pain</li> <li>Hypertension</li> <li>Tachycardia</li> <li>Anxiety</li> <li>Altered LOC</li> <li>Rales and wheezes</li> <li>Frothy sputum (severe cases)</li> <li>Accessory muscle use</li> <li>Retractions</li> <li>SPO2 &lt; 94%</li> </ul>	<ul style="list-style-type: none"> <li>Respiratory arrest / compromise</li> <li>Agonal respirations</li> <li>Unconscious</li> <li>Shock (cardiac insufficiency)</li> <li>Pneumothorax - (with no chest tube)</li> <li>Penetrating chest trauma</li> <li>Persistent nausea and vomiting</li> <li>Facial anomalies, facial trauma</li> <li>Known blebs               <ul style="list-style-type: none"> <li>Unable to follow commands</li> </ul> </li> <li>Hypercarbia</li> <li>B/P &lt; 90 systolic</li> </ul>

#### PROCEDURE

- Assure there is a patent airway and patient breathing is life sustaining.
- Administer 100% oxygen via appropriate delivery system.
- Perform appropriate patient assessment, including obtaining vital signs, SPO2 reading and cardiac rhythm.
- Verbally instruct the CPAP procedure to the patient.
- Apply CPAP device, starting at 5 cm H2O.
- Slowly titrate the pressure up to patient response. 10 cm H2O maximum.
- Continuously reassess the patient, obtaining vital signs every 5 minutes.
- Monitor continuous SPO2.
- Follow the appropriate set of standing orders for your specific device for continued treatment.
- Contact medical control as soon as possible to allow for prompt availability of hospital CPAP equipment and respiratory personnel.

#### KEY POINTS

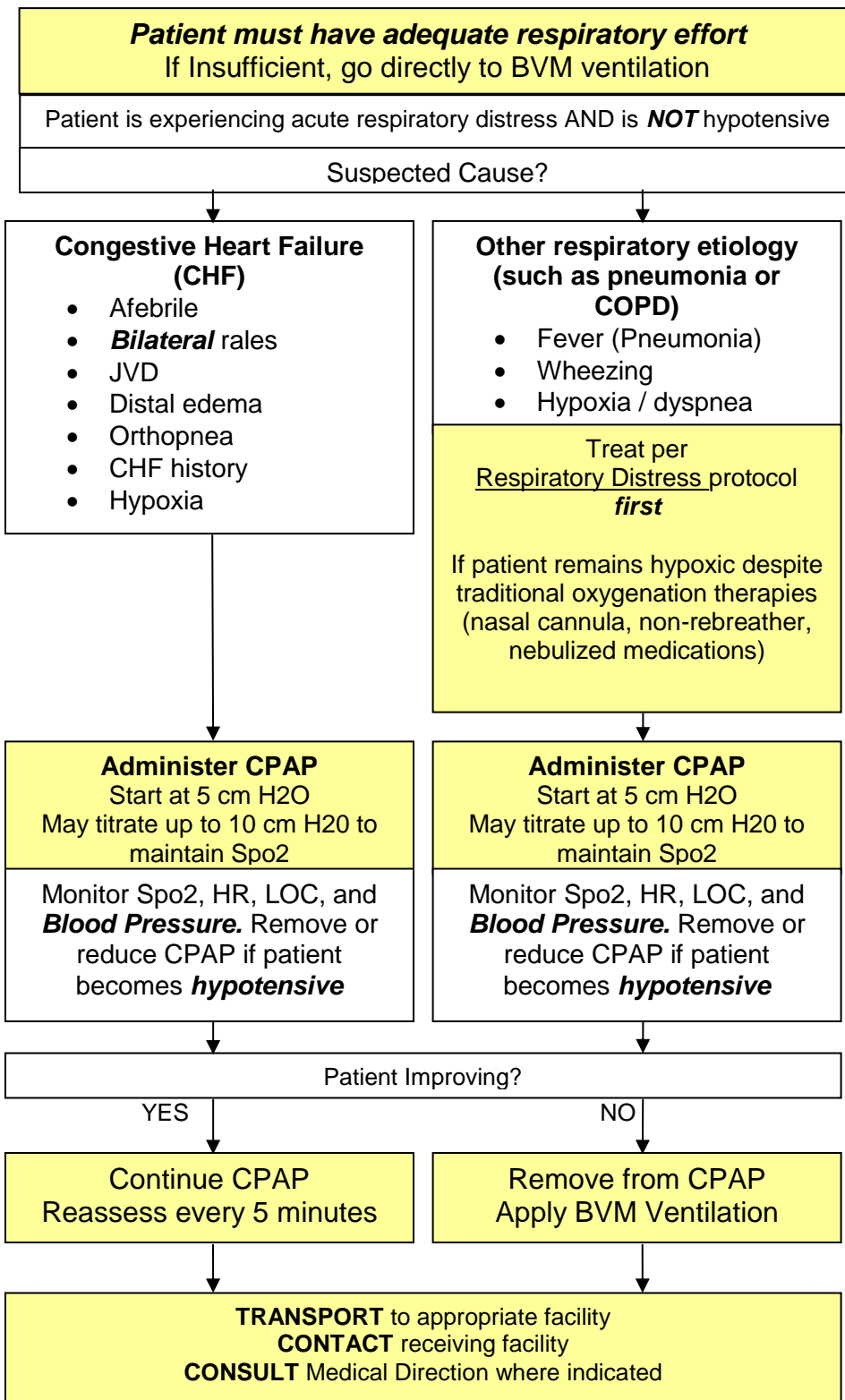
- CPAP Indications:** Hypoxemia and SOB secondary to CHF or other causes **not responding to O2 therapy**
- CPAP Contraindications:** BP <90 systolic, respiratory arrest, agonal respirations, unconscious, shock associated with cardiac insufficiency, pneumothorax, penetrating chest trauma, persistent nausea and vomiting, facial anomalies, facial trauma, know blebs, unable to follow commands, apnea, hypercarbia, and CPAP airway compromise.
  - Patient must be adequately and spontaneous breathing**
  - The use of CPAP has long been recognized as an effective treatment for patients suffering from exacerbation of congestive heart failure and COPD.
  - The use of CPAP for the treatment of patients who might otherwise receive endotracheal intubation holds several benefits:
    - CPAP is a less invasive procedure with lesser risk of infection. This eliminates the possibility for adverse reactions following the administration of any antibiotics given for infection.
    - CPAP eliminates the necessity of weaning the patient off an ET tube and ventilator.
    - CPAP used in the pre-hospital setting reduces the need to intubate patients in the hospital.
    - CPAP allows the alert patient to have a continued dialogue with his / her caregivers. This allows for the exchange of additional medical history. It also allows for the patient to be involved in the decision-making process for his / her care.
    - CPAP should be used as a last resort only in asthmatic patents. Prepare to intubate and ventilate.

**For circumstances in which the patient does not improve or continues to deteriorate despite CPAP and / or medication therapy, terminate CPAP administration and perform BVM ventilation and endotracheal intubation if necessary.**



# Section 14: Appendix 2: Medical Procedures

## SECTION 14: CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) DEVICE-Cont.



E	EMT	E
A	AEMT	A
P	PARAMEDIC	P

**ASTHMA CAUTION**

Use extreme caution when using CPAP on ASTHMA patients.

Use only if patient is hypoxic and not responding to any other treatment including aerosols and IM Epinephrine (Adrenaline) or Terbutaline (Brethine).

Be prepared to intubate and ventilate these patients.