

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

GENERAL CONSIDERATIONS

- A. Continuous Positive Airway Pressure (CPAP) has been shown to rapidly improve vital signs, work of breathing, gas exchange, decreased the sense of dyspnea, and decrease the need for endotracheal intubation in patients suffering from shortness of breath from asthma, COPD, CHF and pulmonary edema.
- B. The use of CPAP for the treatment of patients who might otherwise receive endotracheal intubation holds several benefits:
 1. CPAP is a less invasive procedure with less risk of infection. This decreases the possibility for adverse reactions following the administration of any antibiotics given for infections.
 2. CPAP eliminates the necessity of weaning the patient from the ventilator and ET tube.
 3. CPAP eliminates the necessity of sedating or paralyzing an alert patient in order to perform laryngoscopy.
 4. CPAP allows the alert patient to have a continued dialogue with his/her caregivers. This allows you to obtain additional medical history, and for the patient to be involved in the decision-making regarding their care.

INDICATIONS

- A. Any patient who is in respiratory distress or failure with signs and symptoms consistent with asthma, COPD, CHF or pulmonary edema, and who:
 1. Is awake and able to follow commands;
 2. Has a patent, self-maintained airway; AND
 3. Is 15 years of age or older.

CONTRAINDICATIONS

- A. Apnea / respiratory arrest
- B. Pneumothorax or chest trauma
- C. Tracheostomy
- D. Actively vomiting
- E. Unable to sit up
- F. Confused, somnolent, obtunded, or too anxious to tolerate mask

PROCEDURE

- A. Assess for indications and contraindications.
- B. Perform appropriate patient assessment, including lung sounds, vital signs, pulse oximetry, end-tidal CO₂.
- C. Advanced providers to start IV NS KVO, if possible, and place on cardiac monitor.
- D. Assure adequate oxygen supply to device.

- E. Apply CPAP device per manufacturer's recommendations.
- F. Explain procedure to the patient: "The mask will feel uncomfortable and you will feel some pressure from the mask, but it will help your breathing a lot. You need to breathe in through your nose slowly and exhale through your mouth for as long as possible before inhaling again."
- G. Slowly titrate the CPAP pressure until SPO₂ increases and symptoms improve. **Do NOT exceed 10 cm water pressure.**
- H. Continuously reassess the patient; monitoring pulse oximetry, vital signs, end-tidal CO₂ if available (can use nasal prongs under mask).
- I. Administer appropriate medications per protocol.
- J. Be sure to notify the receiving facility so they are set up to take over CPAP on arrival.

NOTE: 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 ventilations and advanced airway management as indicated.