

EL DORADO COUNTY EMS AGENCY

FIELD PROCEDURES

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(on file)

EMS Agency Medical Director

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

PURPOSE:

To avoid intubation and the associated complications of intubation to improve ventilation and oxygenation, and to reduce the patient's work of breathing and increase their lung functional reserve capacity.

INDICATIONS:

Moderate to severe respiratory distress- defined as increased/increasing respiratory effort, low oxygen saturation, difficulty speaking, and/or signs of decreased level of consciousness*:

- Patients in **moderate to severe** congestive heart failure (CHF) with acute pulmonary edema
- Drowning
- Acute smoke inhalation /respiratory burns
- Pneumonia
- Asthma
- COPD
- Consider use for flail segment

*** If patient has mild to moderate ALOC, proceed with caution but be prepared to discontinue CPAP and ventilate patient with a BVM.**

COMPLICATIONS:

- Tension pneumothorax
- Hypotension
- Aspiration

CONTRAINDICATIONS:

- Pediatrics (patients <34kg or who fit within the limits of the length/weight-based resuscitation tools)
- Respiratory or cardiac arrest
- Signs and symptoms of pneumothorax
- Facial trauma
- Vomiting
- Patients with a tracheotomy
- Pulmonary fibrosis
- Hypotension
- Significant ALOC (GCS <8 Consider BVM/intubation)
- Uncooperative after coaching

PRECAUTIONS:

- Use with caution in patients that retain CO₂ (COPD)
- May cause hypotension. **If the patient's blood pressure drops >20 mm Hg or less than 90 systolic, reduce to next lower valve (7.5 to 5.0 or 10.0 to 7.5)**
- **If patient's condition continues to deteriorate or level of consciousness declines, discontinue CPAP.**
- Due to changes in preload and afterload of the heart during CPAP therapy, a complete set of vital signs must be obtained every five (5) minutes
- Patients must be closely monitored for signs of potential vomiting and resulting aspiration

PROCEDURE:

1. Place patient in a position of comfort.
2. Obtain baseline vital signs, including SPO₂ reading.
3. Setup CPAP system according to manufacturer's instructions. Start with 7.5 cm valve. May adjust valve up to 10.0 cm if patient is not responding well with 7.5 cm valve.
4. Apply mask and begin CPAP while reassuring the patient.
5. Continuously reevaluate the patient and record vital signs every five (5) minutes.
6. Administer medications per protocol, as appropriate for the patient's condition.
7. On adjustable flow CPAP generators, it is appropriate to adjust oxygen flow rate, titrating oxygen to the patient's condition. Advise the receiving hospital that the patient is on CPAP.
8. Discontinue use if the patient's condition worsens or the patient requires intubation.