

Tuolumne County Emergency Medical Services Agency
EMS System Policies and Procedures

Policy: Administration of Continuous Positive Airway Pressure (CPAP)

#552.45

Medical Director:



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EMS Coordinator:



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I. AUTHORITY

Division 2.5, California Health and Safety Code, Section 1797.220, California Code of Regulations, Title 22, Division 9, Section 100144 and 100145

II. DEFINITIONS

"Continuous Positive Airway Pressure" or "CPAP" is a means of delivering a constant positive pressure against a patient's airway in an effort to increase lung volume, and therefore improve ventilation.

III. PURPOSE

The purpose of this policy is to establish criteria and procedures for the use of Continuous Positive Airway Pressure (CPAP) in the pre-hospital setting. CPAP is implemented to improve ventilation and oxygenation, and to attempt to obviate intubation in patients with congestive heart failure (CHF) and acute pulmonary edema, asthma, COPD, patients who are victims of near drowning suspected or confirmed carbon monoxide poisoning.

IV. POLICY

A. GOALS: Goals of CPAP are to:

1. Diminish dyspnea
2. Decrease respiratory rate
3. Decrease heart rate
4. Increased SpO₂
5. Stabilize blood pressure
6. Improve patients respiratory symptoms

B. INDICATIONS FOR USE:

1. Severe respiratory distress with labored breathing AND:
 - i. History of CHF with pulmonary edema or
 - ii. Near drowning or
 - iii. Asthma or COPD or
2. Suspected or confirmed carbon monoxide poisoning.

C. CONTRAINDICATIONS FOR USE:

1. Age < 8 yrs old
2. Respiratory or cardiac arrest
3. Agonal respirations
4. Severely depressed level of consciousness
5. Systolic blood pressure < 90 mmhg
6. Signs and symptoms of pneumothorax
7. Inability to maintain airway patency

8. Major trauma, especially head injury with increased ICP or significant chest trauma
9. Facial anomalies or trauma (e.g., burns, fractures)
10. Vomiting

D. COMPLICATIONS:

1. Hypotension
2. Pneumothorax
3. Corneal drying

V. EQUIPMENT SPECIFICATIONS

- A. In-line CPAP Valves with fixed pressure delivery of 5, 7.5 or 10 mm Hg

VI. PROCEDURE:

- A. Place pt in a high fowlers position with legs dependant
- B. Monitor ECG, vital signs, (BP, HR, RR, SpO2)
- C. While one member is setting up CPAP equipment, the second team member should treat the patient according to treatment protocols, i.e. Oxygen, monitor, IV, medications
- D. Patients receiving CPAP therapy must be under direct observation at all times so that the sealed mask may be removed for any sign of intolerance or the development of nausea or vomiting.
- E. Begin CPAP therapy with the least pressures to achieve relief for the patient. Fixed pressure devices will be utilized, with pressure options of 5.0, 7.5 or 10 mm Hg.
- F. The pt should be reassessed frequently for blood pressure, heart rate, respiratory rate and SpO2 via pulse oximetry.
- G. Bag-valve-mask ventilation or endotracheal intubation should be considered if the patient shows progressive respiratory failure.
- H. Hospital personnel receiving the patient will be informed of the implementation of CPAP and the outcome of utilization.

VII. EDUCATION REQUIREMENTS

- A. Required paramedic training for the utilization of CPAP will consist of attendance at an in-service for the selected equipment, to include personal experience with the assembly of the valve, tubing and mask.
- B. All paramedics will be familiar with the limits of the equipment, including potential incompatibilities with nebulized treatments and limited selection of oxygen concentration delivery.