

**PURPOSE:** The purpose of this policy is to define the indications, procedure and documentation required for the use of Continuous Positive Airway Pressure (CPAP) by paramedics.

**AUTHORITY:** Division 2.5, California Health and Safety Code, Sections 1797.220

**POLICY:**

- I. Prior to using CPAP the paramedic must successfully complete a training program approved by the San Joaquin County EMS Agency, which includes operation of the device to be used, indications and contraindications for use, and appropriate patient treatment.
- II. INDICATIONS:
  - A. The goal of CPAP is to improve ventilation and oxygenation in an effort to avoid intubation in patients who present with severe respiratory distress.
  - B. CPAP is authorized for use in patients who are age 8 or older with one of the following:
    1. Congestive Heart Failure (CHF) with acute pulmonary edema
    2. Near drowning/submersion
    3. Other causes of severe respiratory distress, excluding trauma
- III. CONTRAINDICATIONS:
  - A. Absolute Contraindications (DO NOT USE):
    1. Respiratory or cardiac arrest
    2. Failing respirations
    3. Inability to maintain airway
    4. Severely depressed level of consciousness (LOC)
    5. Systolic blood pressure < 90mmHg
    6. Signs and symptoms of pneumothorax
    7. Major trauma, especially head injury or suspected chest injury
    8. Facial anomalies or inability to obtain a mask seal
    9. Vomiting
  - B. Relative Contraindications (USE CAUTIOUSLY):
    1. Decreased LOC
    2. Claustrophobia or unable to tolerate mask

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IV. EQUIPMENT:

- A. CPAP pressure generator and circuit set with ability to deliver 7.5 cm to 10 cm of H<sub>2</sub>O pressure.
- B. Appropriate sized face mask and straps.
- C. Inline nebulizer if required for bronchodilator administration.
- D. Oxygen supply.

V. PROCEDURE:

- A. Position the patient in a seated position with legs dependant.
- B. Apply cardiac monitor and assess vital signs.
- C. Repeat vital signs every five minutes; SpO<sub>2</sub> must be used to continuously monitor the patient's oxygen saturation.
- D. Treat the patient according to appropriate treatment policy (i.e. pulmonary edema).
- E. Set up the CPAP system following manufacturer directions.
- F. Explain the procedure to the patient. It is important to reassure the patient throughout the procedure.
- G. Verify that oxygen is flowing to the mask and then apply mask.
- H. Do not exceed 10 cm of H<sub>2</sub>O pressure.
- I. Continuously monitor patient for improvement or failure to improve.
- J. The patient should improve in the first five minutes with CPAP, evidenced by decreased heart rate and blood pressure, decreased respiratory rate and an increased SpO<sub>2</sub>.

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- K. If the patient does not improve or becomes worse with CPAP, remove the CPAP device and assist ventilations with BVM as needed.
- L. Notify the receiving hospital of the type of CPAP device that is being used.

VI. DOCUMENTATION:

- A. The use of CPAP must be documented on the patient care record.
- B. Vital signs to include heart rate, blood pressure, respiratory rate, and SpO2 must be documented every 5 minutes.
- C. Narrative documentation should include a description of the patient's response to treatment.
- D. Additional narrative documentation should include if the patient does not respond to CPAP and endotracheal intubation is required.
- E. A CPAP audit form will be completed by the attending paramedic and submitted to provider CQI liaison. These forms and the attached patient care records are to be submitted by the CQI liaison to the EMS Agency with the monthly airway report.

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