

	COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY	Document #	8829.06
	<u>PROGRAM DOCUMENT:</u> Continuous Positive Airway Pressure (CPAP)	Draft Date:	01/25/08
		Effective:	05/01/17
		Revised:	08/30/16
		Review:	11/01/18

 EMS Medical Director

 EMS Administrator

Purpose:

- A. To serve as a guideline for the indications and application of CPAP.

Authority:

- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

Indications:

Adult patients in moderate to severe respiratory distress being treated under protocol #8026-Respiratory Distress: Shortness of Breath and who are:

- 1. Spontaneously breathing
- 2. Conscious
- 3. Not suspected to have a pneumothorax

Contraindications:

- A. Apneic Patients
- B. Pediatric Patients
- C. Cardiac and/or respiratory arrest
- D. Suspected Pneumothorax
- E. Vomiting Patients
- F. Unconscious patients
- G. Uncooperative patients after coaching
- H. Inability to achieve a good seal with the CPAP facemask

Special Precautions:

- A. Do not delay medication administration to apply CPAP
- B. Patients must be CONTINUOUSLY monitored for the development of:
 - 1. Respiratory failure – remove CPAP circuit and use Bag Valve Mask (BVM) and/or advanced airway adjunct
 - 2. Vomiting – remove CPAP circuit to prevent aspiration.
 - 3. Suspected barotrauma – remove CPAP
- C. Monitor oxygen consumption, especially if nebulizers are being run off the same oxygen supply

- D. If staffing permits, allow one paramedic to focus on setting up, coaching and monitoring the patient's response to CPAP and another paramedic responsible for patient care.

Equipment:

- A. CPAP pressure generator and circuit set between 5 and 10 cm H₂O pressure
- B. Appropriate sized facemask and straps
- C. Inline nebulizer if required for bronchodilator administration
- D. Oxygen supply

Procedure:

- A. Assemble equipment
- B. Explain procedure to patient
- C. Assist patient to use and tolerate the mask and circuit
- D. Use straps to maintain CPAP seal if needed
- E. Patient to be transported in a position that facilitates continuous visual monitoring and minimizes aspiration risk
- F. Monitor patient and response to CPAP
- G. Notify hospital that CPAP is in use so that equipment can be made available upon arrival at the hospital to continue CPAP.

Medication Administration:

- A. **FiO₂ shall be decreased titrated to the least amount needed to maintain SAO₂ > 94%.**
- B. Albuterol 2.5 mg will be administered via in line nebulizer utilizing at least 8 liters per minute.
- C. Nitrates, ~~if indicated~~ **if able, shall be** delivered via sub lingual Nitroglycerine 0.4mg prior to application of CPAP, then Nitropaste one (1) inch applied to the chest.

Management of Hypotension on CPAP:

- A. CPAP may introduce transient hypotension via decreased venous return
- B. If Systolic Blood Pressure (SBP) < 80 mm Hg remove CPAP and any Nitropaste.
- C. If SBP 80-90 mmHg, **decrease CPAP to no more than 5 cm H₂O pressure, and** administer 500 cc normal saline bolus x 1, if BP remains <90 mmHg after fluid bolus then remove CPAP and any Nitropaste.

Cross Reference: Respiratory Distress-Shortness of Breath, PD#8026