SAN FRANCISCO EMERGENCY MEDICAL SERVICES AGENCY

Effective: 01/01/11 **Protocol: P-004.7**
Supersedes: 08/01/07

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

SUBJECTIVE FINDINGS

- Respiratory disease history.
- Previous airway interventions.
- History of pneumothorax or tracheostomy.
- Head (especially maxillo-facial) or chest trauma.

OBJECTIVE FINDINGS

- Hyperventilation (respiratory rate greater than 24) and hypoxia (O2 saturation less than 94%).
- Fatigue (especially of respiratory effort) and use of accessory muscles of respiration.
- No physical findings of pneumothorax, such as tracheal deviation.
- Inability to improve ventilation with oxygen administration and other airway adjuncts as appropriate.
- GCS 14 or greater.
- Age 12 years old or greater.
- Contraindications to CPAP include maxillo-facial or chest trauma with the potential for pneumothorax, significant epistaxis, cardiac arrest, apnea, tracheostomy, active vomiting or upper GI bleeding.

BLS Treatment	ALS Treatment
• Routine Medical Care. • Pulse oximetry. • Pre-oxygenate with 100% oxygen. • Assist with preparation of equipment if qualified.	• Explain procedure to patient and position. • Utilize other treatments for shortness of breath/pulmonary edema or COPD concomitantly, such as **NTG** or **Albuterol.** • Start Continuous Positive Airway Pressure (CPAP) device at ambient pressure (0 mm H2O). • Place mask and instruct patient to breathe in through their nose slowly and exhale through their mouth as long as possible. • Slowly titrate the pressure to 7.5 mm H2O. • Prepare for backup airway management (such as bag-valve-mask ventilation). • Observe patient closely for signs of inability to tolerate therapy, such as: - Decreasing oxygen saturation - Increasing anxiety and combativeness - Patient expresses desire to stop CPAP - Decreasing level of consciousness • Prepare for transport. • Unless the patient is unable to tolerate it, once started, CPAP

	should be continued until taken over by the receiving facility, including during transport to and from ambulance and during stretcher-gurney transfers. • Confirm nasal mask fit each time patient is moved or device is manipulated in any way.

DOCUMENTATION

- Respiratory assessment.
- O2 saturation pre and post CPAP initiation.
- Use of appropriate adjunctive therapy (**NTG** for cardiac etiology and **Albuterol** for COPD etiology).

PRECAUTIONS AND COMMENTS

- Complications include inducement of a pneumothorax.
- CPAP can only be used on conscious patients, as some patients with COPD may have significant gas trapping and will be unable to maintain a sufficient Inspiratory: Expiratory ratio. Continued use of CPAP in these patients will result in pnemothorax. When in doubt about patient ability to tolerate CPAP discontinue or have an assistant contact the Base Hospital Physician for consultation.
- If CPAP will benefit the patient, this will be apparent in approximately the first 5 minutes of application.
- If suctioning is necessary, maintain the CPAP mask and utilize oro-pharyngeal suctioning.
- If patient is treated with CPAP notify the receiving hospital that **"This is a CPAP patient"** in order to assure time for respiratory therapy to be available and avoid delays in transfer of care.