MWLC EMSS Skills Sheet
CPAP

Name:	1st attempt:		Meets Standard		Does not meet standard
Date:	2nd attempt:		Meets Standard		Does not meet standard

Instructions: The purpose of this skills sheet is to outline the requirements for utilizing continuous positive airway pressure (CPAP).
Required items to meet standards are indicated with an asterisk.

Performance standard NP=Step not performed. 0=Does not meet standard. Unsuccessful; critical or excess prompting; improper technique. 1=Meets Standard. Successful; minimal to no prompting; proper technique.	**1st attempt**	**2nd attempt**
* BSI: Gloves & Eye Protection. (minimum required)		
*** Assess for indications**: Must be 18 yrs of age; alert w/ intact airway & ventilatory drive (Patients you may expect to intubate if untreated) ☐ *Cardiogenic pulmonary edema w/ hemodynamic stability ☐ COPD/asthma w/ severe distress ☐ Submersion incident ☐ Flail chest without evidence of pneumothorax ☐ Elderly patients with if O_2 via NC or NRM is ineffective ☐ Extremely obese patient with hypoxia/hypercarbia ☐ Patients with DNR/POLST orders w/ severe resp distress declining intubation ☐ Post-extubation rescue for acute respiratory failure		
*** Assess for contraindications**: ☐ Younger than 18 years of age ☐ AMS; aspiration risk; inability to clear secretions; questionable ability to protect airway ☐ Need for immediate airway control (intubation), need for assist/control ventilation with BVM, facial burns. Intubation shall be considered if there is evidence of imminent cardiopulmonary arrest, decreased level of consciousness, severe hypotension, near-apnea, and/or copious frothy sputum. ☐ Unstable respiratory drive; ventilatory failure ☐ Hypotension *SBP □ 90 & DBP < 60 or ECG instability ☐ Gastric distention; impaired swallowing, persistent vomiting, active upper GI bleeding; possible esophageal rupture ☐ Compromise of thoracic organs (penetrating chest trauma, pneumothorax) ☐ Uncooperative pt or those unable to tolerate mask due to extreme anxiety, claustrophobia, or pain ☐ Recent upper airway or esophageal surgery ☐ Possible increased ICP: Evidenced by decreased LOC; HTN; abnormal pupils ☐ Facial abnormalities/trauma that would complicate mask seal (facial burns) and result in a significant air leak, epistaxis		
*** Initial Assessment Considerations** ☐ Assess room air pulse oximetry and end-tidal capnography (value and waveform). ☐ If possible ACS, Obtain 12-lead ECG with first set of vitals.		

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*** Prepare patient and equipment:**

- ☐ Position patient sitting up at 45 degrees or higher unless contraindicated.
- ☐ Inform patient what they can expect and purpose/benefits of CPAP.
- ☐ Begin treatment of condition per MWLC EMSS Region IX SOP.
- ☐ Have intubation equipment ready, if needed.
- ☐ Obtain CPAP supplies and equipment.
- ☐ Attach CPAP O2 tubing to regulator/flow-meter. Begin O2 flow @ 15 L.
- ☐ Hold mask firmly on patient's face with oxygen flowing (or allow them to hold mask firmly to their own face). Allow patient to adjust to using the mask and evaluate effectiveness of mask seal.
    - Begin PEEP at 5cm (PEEP setting controlled by O2 flow rate. (see attached chart provided by CPAP manufacturer on attached oxygen supply tubing or in packaging)
- ☐ Attach / adjust straps and adjust forehead pad flat on forehead.
- ☐ Continue end-tidal capnography monitoring using a cannula under mask.
- ☐ Slowly adjust O_2 rate (which adjusts PEEP) to desired SpO_2 / $EtCO_2$ value(s).
  DO NOT EXCEED 10cm PEEP.

*** Ongoing reassessment:**

- ☐ Patient tolerance, comfort, mental status.
- ☐ Respiratory rate/depth; feeling of distress, use of accessory muscles, ability to talk.
- ☐ Lung sounds; SpO2; capnography (value and waveform).
- ☐ Blood Pressure, Pulse rate; ECG rhythm.
- ☐ Gastric distention or vomiting.

ADJUST PEEP TO down to 5cm if:

- ☐ SBP < 90 (MAP < 65).
- ☐ Patient intolerance with appropriate coaching / support.

Support patient to encourage continuation of CPAP per MWLC EMSS Region IX SOP:

- ☐ If SBP ≥ 90 (MAP ≥ 65) and pt very anxious**:** midazolam per SOP.
- ☐ If patient needs frequent coaching, consider need for additional personnel during transport.

REMOVE CPAP if:

- ☐ Patient develops chest pain (ACS).
- ☐ Patient intolerance (mask makes situation worse).
- ☐ Inability to resolve hypotension (SBP < 90, MAP < 65).

***Possible complications:**

- ☐ High pulmonary pressures can cause a decrease in preload to heart resulting in a decrease in cardiac output (↓**BP**).
- ☐ High airway pressures can over distend alveoli resulting in barotrauma resulting in **pneumothorax.**
- ☐ Over distention of lungs can reduce their ability to move easily (decreases compliance).
- ☐ Positive pressure may increase secretions or dry upper airways; difficulty clearing respiratory secretions.
- ☐ Gastric distension/vomiting; rare with PEEP levels < 15 cm H2O. Use caution in aerophagia sensitive patients. (following gastric stapling or upper GI surgery)
- ☐ Aspiration with very high gas flow and gastric distention.
- ☐ Increased ICP. Eye irritation. ☐ Sinus congestion: pain.
- ☐ Requires patient cooperation to tolerate tight fitting mask.
- ☐ Facial skin necrosis at the site of mask contact if long-term use **.**

Evaluator name, signature, comments: