

# Southern Illinois Regional EMS System

## II-34 CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) PROCEDURE

### Indications

- For consideration in moderate to severe respiratory distress secondary to near drowning, CHF, acute pulmonary edema (cardiogenic and non-cardiogenic), who present with any of the following:
  - Pulse oximetry <90% not improving with standard therapy
  - ETCO<sub>2</sub> >50 mmHg
  - Accessory muscle use/retractions
  - Respiratory rate >25
  - Wheezes, rales, rhonchi
  - Signs of respiratory fatigue or failure
- Medical Control may consider CPAP use in patients with suspected obstructive diseases (COPD, Asthma)

### Contraindications

- Physiologic
  - Unconscious, unresponsive, or unable to protect airway
  - Inability to sit up
  - Respiratory arrest or agonal respirations
  - Gastric distension
  - Persistent nausea or vomiting
  - Systolic Blood Pressure less than 90 mmHg
    - Unless consulting with Medical control
  - Inability to obtain a good mask seal
  - Less than 16 years of age.
- Pathologic
  - Suspected pneumothorax
  - Shock associated with cardiac insufficiency
  - Penetrating chest trauma
  - Facial anomalies/facial trauma
  - Has active upper GI bleeding or history of recent gastric surgery
  - Suspected Basilar skull fracture

### Procedure

- Treat underlying conditions as needed.
- Assess for indications and contraindications.
- Place patient in a sitting position or similar position of comfort.
- Assess and monitor the patient:
  - Vital signs every 5 minutes
  - Lung sounds before and after CPAP, and as feasible thereafter.
  - Attach cardiac monitor, pulse oximetry, and ETCO<sub>2</sub> as available
- **Medical Control Contact: If BP < 90 systolic, contact Medical Control prior to beginning CPAP.**
- Explain the procedure to the patient.
  - Patient requires assurance to be used effectively.
  - Place the delivery device over the mouth and nose.

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## II-34 CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) PROCEDURE (continued)

- Instruct the patient to breathe in through their nose slowly and exhale through their mouth as long as possible. (Count slowly and aloud to four, then instruct to inhale slowly.)
- For CHF/Pulmonary Edema, titrate to 10cm/H<sub>2</sub>O/ For all other dyspnea, titrate to 5cm/H<sub>2</sub>O.
- Check for air leaks.
- Treatment should be given continuously throughout transport to the ED.
- Continue to coach patient to keep mask in place and readjust as needed.
- **If BP falls below 90 systolic during procedure, contact Medical Control.**
  - 200 mL NS bolus may be ordered, depending on lung sounds.
  - If IV bolus not feasible and hypotension not resolved, discontinue CPAP.
- If respiratory status/level of consciousness deteriorates, remove device and begin BVM resuscitation.

### In the Event of Life-Threatening Complications

- Stop CPAP treatment.
- Offer reassurance.
- Institute BLS and ALS support per protocol.
- Adverse reactions to CPAP are to be documented on an Incident Report and forwarded to the SIREMS for Quality Assurance within 24 hours of the occurrence.
- On arrival at the receiving emergency department, immediately communicate any adverse reactions to the emergency department staff.

### Documentation

- CPAP level
- Frequent SpO<sub>2</sub>, vital sign assessment, and ETCO<sub>2</sub> as available
- Response to treatment
- Any adverse reaction