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
    - ETCO2 >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.
- Asses 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 ETCO2 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.

  - 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/H2O/ For all other dyspnea, titrate to 5cm/H2O.
- 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 SpO2, vital sign assessment, and ETCO2 as available
- Response to treatment
- Any adverse reaction