CONTINUOUS POSITIVE AIRWAY PRESSURE (202)

Adults	**Pediatrics** *(13 years and under)*
Public Safety First Aid Procedures: Only	**Public Safety First Aid Procedures: Only**
• Support ABC's • Administer oxygen as needed • Request fire/EMS	• Support ABC's • Administer oxygen as needed • Request fire/EMS
BLS Procedures: EMT's and Paramedics start here	**BLS Procedures: EMT's and Paramedics start here**
• Support ABC's • Apply oxygen • Request ALS or rapid transport to appropriate facility • Is patient > 8 years old, GCS >10, Able to follow commands with B/P > 90 systolic? • Two of the following criteria present: Respiratory rate > 25, retractions or accessory muscle use, SpO2 <94%, abnormal or diminished lung sounds? • If yes, check for contraindications, agonal respirations or apnea, pneumothorax or penetrating chest trauma, tracheostomy, systolic B/P < 90, aspiration risk (vomiting, epistaxis, facial trauma) If no contraindications, initiate CPAP otherwise enter appropriate protocol.	• Support ABC's • Apply Oxygen • Request ALS or rapid transport to appropriate facility • Is patient > 8 years old, GCS >10, Able to follow commands with B/P > 90 systolic? • Two of the following criteria present Respiratory rate > 25, retractions or accessory muscle use, SpO2 <94%, abnormal or diminished lung sounds? • If yes, check for contraindications, agonal respirations or apnea, pneumothorax or penetrating chest trauma, tracheostomy, systolic B/P < 90, aspiration risk (vomiting, epistaxis, facial trauma) If no contraindications, initiate CPAP otherwise enter appropriate protocol.
ALS Prior to Base Hospital Contact: Paramedic only	**ALS Prior to Base Hospital Contact: Paramedic only**
Base Hospital Contact Required:	**Base Hospital Contact Required:**
• Midazolam 5mg IM or 2mg IV	• Midazolam 0.1 mg/kg IM or 0.05 mg/kg IV not to exceed adult dose.

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Special Considerations

- Use caution if patient has decreased mentation or is unable to cooperate with procedure
- Recent G.I. bleed or epigastric surgery
- May cause hypotension due to increased intrathoracic pressure
- May cause pneumothorax, gastric distention, corneal drying

1. Continuous Positive Airway Pressure (CPAP) may be considered if available for emergency medical technicians and paramedics who have met the training requirements for the skill.

2. Continuous Positive Airway Pressure (CPAP) is a non-invasive mechanically assisted oxygen delivery system designed to decrease work of breathing while allowing time for patients to respond to other medical interventions.

3. CPAP has been shown to rapidly improve pulmonary gas exchange, decreasing the need to endotracheal intubation. Endotracheal intubation is associated with a longer length of hospital stay and an increase in morbidity and mortality.

4. Continuous airway pressure offers several significant benefits to a patient experiencing respiratory distress. The continuous pressure prevents the small airway from collapsing on exhalation, providing an increase in alveolar ventilation. Additionally, fluid is moved from the airway, back into the vasculature which reduces pulmonary edema.

5. CPAP is approved for use on adults, and children age eight (8) and older. The use of CPAP is dependent of proper mask fit. The size and anatomy of the patient is a more important factor than the age in determining eligibility for CPAP.

6. The administration of CPAP requires the patient understanding and cooperation. The procedure must be explained to the patient and the paramedic should offer verbal support and encouragement. Onset of relief of symptoms usually begins to occur within five minutes.

7. Midazolam may be carefully considered for anxiety related to respiratory distress and the procedure. Midazolam may allow the patient to tolerate CPAP, thereby avoiding endotracheal intubation. Midazolam may also decrease respiratory rate. Midazolam should be given in the lowest possible dose to achieve patient cooperation and likely will only be required in the initial application of CPAP. Anxiety will likely diminish once respiratory status begins to improve. The paramedic should be prepared for intubation if respiratory status worsens.

8. CPAP may be briefly removed to administer Nitroglycerine for CHF, ensure the entire tablet has dissolved prior to reapplying CPAP.

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9. CPAP must be used in accordance with manufacturer guidelines. CPAP pressures should be titrated to desired effect, demonstrated by improved respiratory status, decrease in heart rate, and an increase in SpO2. Pressure should be titrated between 5cm/water to a maximum of 15 cm/water. Typically, 10 cm/water is effective for pulmonary edema and 5 cm/water is effective for other respiratory complaints.

10. Patients receiving CPAP require close observation of respiratory status and hemodynamic stability. Vitals signs, including respiratory rate, heart rate, blood pressure, and Sp02 must be recorded every five minutes throughout treatment and transport until release from care. Prepare to assist ventilations or intubate if patient condition worsens.

11. Patients with CPAP in use may only be released to a paramedic with equal training for transport to the hospital. In cases where the transport paramedic is not trained in the use of the device, the paramedic who initiated CPAP must accompany the patient to the hospital.