

**Base Hospital Contact: Required for respiratory failure, severe respiratory distress unresponsive or not amenable to CPAP.**

1. Use appropriate PPE **①**
2. Assess airway and initiate basic and/or advanced airway maneuvers prn (*MCG 1302*) **② ③**
3. Maintain patient in position of comfort **④**
4. Administer **Oxygen** prn (*MCG 1302*)  
**High flow Oxygen 15 L/min** for all patients with impending respiratory failure, suspected pneumothorax, inhalation injury, or carbon monoxide exposure
5. If patient with stridor, obstruction or tracheostomy concerns, treat per *TP 1234, Airway Obstruction*
6. If pulmonary edema/CHF exacerbation suspected, treat per *TP 1214, Pulmonary Edema/CHF*
7. If anaphylaxis suspected, treat in conjunction with *TP 1219, Allergy*
8. Initiate CPAP for alert patients with moderate or severe respiratory distress. **⑤**  
Hold CPAP for patients with hypotension, suspected pneumothorax, upper airway edema/obstruction or other contraindications (*MCG 1315*)
9. Capnography is encouraged for patients with moderate or severe respiratory distress (*MCG 1305*) **⑥**
10. Initiate cardiac monitoring prn (*MCG 1308*)  
Perform 12-lead ECG if cardiac ischemia suspected and treat in conjunction with *TP 1211, Cardiac Chest Pain*
11. Consider the following etiologies of respiratory distress without pulmonary edema:  
Bronchospasm (asthma or COPD) – document Provider Impression as *Respiratory Distress / Bronchospasm*  
Pneumonia – document Provider Impression as *Respiratory Distress / Other*  
Pulmonary embolism – document Provider Impression as *Respiratory Distress / Other*  
Spontaneous pneumothorax – document Provider Impression as *Respiratory Distress / Other*
12. For bronchospasm, COPD or asthma exacerbation:  
**Albuterol 5mg (6mL) via neb or 4 puffs via MDI ⑦⑧**  
May repeat x2 prn wheezing  
May be administered in-line with CPAP for patients with moderate or severe respiratory distress  
Document Provider Impression as *Respiratory Distress / Bronchospasm*  
  
For deteriorating respiratory status despite albuterol:  
**Epinephrine (1mg/mL) administer 0.5mg (0.5mL) IM**  
Consider early in asthma exacerbation with poor perfusion or severe respiratory distress **⑨**  
Unlikely to benefit patients with COPD exacerbation

DEPARTMENT OF HEALTH SERVICES  
COUNTY OF LOS ANGELES

Treatment Protocol: RESPIRATORY DISTRESS

Ref. No. 1237

13. Establish vascular access prn ([MCG 1375](#))
14. For poor perfusion ([MCG 1355](#)):  
**Normal Saline 1L IV rapid infusion**  
Reassess after each 250mL increment for evidence of volume overload (pulmonary edema); stop infusion if pulmonary edema develops  
  
For persistent poor perfusion, treat in conjunction with [TP 1207, Shock/Hypotension](#)
15. If sepsis suspected, treat in conjunction with [TP 1204, Fever/Sepsis](#)
16. If overdose is suspected, treat in conjunction with [TP 1241, Overdose/Poisoning/Ingestion](#)
17. If inhalation injury suspected, treat in conjunction with [TP 1236, Inhalation Injury](#)
18. Perform needle thoracostomy for suspected tension pneumothorax ([MCG 1335](#))
19. For agitation post-advanced airway in patients who require ongoing ventilation support, administer sedation and analgesia prn, dose per MCG drug reference.

### **SPECIAL CONSIDERATIONS**

- ① Consider wearing surgical mask when caring for patients with respiratory distress of unclear etiology, which may be infectious.
- ② Initiate BMV to assess patient response. Effective BMV may improve the patient's respiratory status enough to restore adequate spontaneous respirations. Place advanced airway if BMV is ineffective and consider placement once assessment for rapidly reversible causes is complete. Paramedics should use judgment based on patient characteristics, circumstances, and skill level when selecting the advanced airway modality.
- ③ If positive pressure ventilation is performed at any time, document Provider Impression as *Respiratory Arrest / Respiratory Failure*
- ④ Fowler's or Semi-Fowler's positioning is likely to be most comfortable for awake patients with respiratory distress.
- ⑤ Early use of CPAP has been shown to decrease ICU length of stay and risk of intubation for patients with severe respiratory distress. It should be strongly considered for patients in moderate-to-severe respiratory distress, based on assessment of work of breathing, regardless of SpO<sub>2</sub>. CPAP is appropriate for undifferentiated respiratory distress. It is the treatment of choice for patients with COPD exacerbation and may be used in conjunction with albuterol or if patient does not improve after initial albuterol.
- ⑥ Persistently high or increasing end-tidal CO<sub>2</sub> (EtCO<sub>2</sub>) readings above normal with low respiratory rate indicate respiratory failure (bradypneic hypoventilation); low EtCO<sub>2</sub> readings with a low respiratory rate also may represent respiratory failure due to low tidal volumes (hypopneic hypoventilation); consider the need for assisted ventilations in these cases. In a patient with respiratory distress of unclear etiology, a "shark-fin" capnography waveform indicates likely Bronchospasm/COPD exacerbation. Gradually elevating EtCO<sub>2</sub> waveforms ("stacking") in a patient with BMV indicates excessive ventilation by the provider, resulting in inadequate exhalation; in this case, decrease ventilation rate significantly to avoid progression to cardiopulmonary arrest.
- ⑦ Wheezing may also be caused by pulmonary edema; reassess breath sounds frequently for patients without history of asthma or with other concerns for volume overload (edema, etc.), because as air entry improves with treatment, rales may be more easily heard. If pulmonary edema/CHF exacerbation suspected, treat per *TP 1214, Pulmonary Edema/CHF*.
- ⑧ Administration of albuterol via a metered-dose inhaler (MDI) with spacer is considered equivalent to nebulized albuterol; a spacer is typically required for this route to be effective in novice users. MDIs are single use and should be left with the hospital staff upon handoff of the patient.
- ⑨ Epinephrine may be administered prior to albuterol as initial drug therapy in patients with Respiratory Failure due to bronchospasm.