### **Treatment Protocol: PULMONARY EDEMA / CHF**

Ref. No. 1214

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

- 1. Assess airway and initiate basic and/or advanced airway maneuvers prn (MCG 1302)
- 2. Maintain patient in position of comfort 1
- 3. Administer Oxygen prn (MCG 1302)
  High flow Oxygen 15 L/min for patients with impending respiratory failure
- 4. CPAP for all alert patients with moderate or severe respiratory distress, SBP ≥ 90mmHg, and no other contraindications (MCG 1315) ②
- 5. Initiate cardiac monitoring (MCG 1308)
- For associated chest pain and/or suspected cardiac ischemia § Perform 12-lead ECG

Aspirin 325mg chewable tablets PO if alert

Treat in conjunction with TP 1211, Cardiac Chest Pain

- 7. Establish vascular access (MCG 1375)
- 8. For SBP > 100 with no sexually enhancing drugs within 48 hours: 4

Nitroglycerin, 0.4mg SL, for SBP ≥ 100mmHg

**0.8mg SL**, for SBP ≥ 150mmHg

1.2mg SL, for SBP ≥ 200mmHg

Repeat every 3-5min prn x2 for persistent dyspnea

Assess blood pressure prior to each administration and determine subsequent dose based on SBP as listed above

Hold Nitroglycerin if SBP < 100mmHg 6

9. If wheezing despite CPAP

#### Albuterol 5mg (6mL) via neb

May be given simultaneously with nitroglycerin based on clinical assessment of patient If patient reports history of COPD or asthma, treat in conjunction with *TP 1237, Respiratory Distress* 

10. For patients who progress to respiratory failure and/or shock

Assist ventilations and **CONTACT BASE** 

Treat in conjunction with TP 1207, Shock/Hypotension

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#### **SPECIAL CONSIDERATIONS**

- Fowler's or Semi-Fowler's positioning is likely to be most comfortable for awake patients with pulmonary edema.
- Early use of CPAP has been shown to decrease hospital length of stay and risk of intubation for patients with pulmonary edema. Unless contraindicated, it should be initiated for all patients in moderate or severe respiratory distress from pulmonary edema regardless of SpO<sub>2</sub>.

Contraindications: refer to MCG 1315

- Cardiac ischemia should be suspected in patients complaining of chest pain or with new onset pulmonary edema without history of CHF/Heart failure. CHF is a common cause of ECG abnormalities that do not require transport to a SRC.
- In patients with recent use of sexually enhancing drugs, or systolic murmur and pulmonary edema due to critical aortic stenosis, nitroglycerin may precipitate significant hypotension and cardiovascular collapse. If patient with systolic murmur on exam, consider discussion with Base Physician prior to NTG administration.
- Sudden significant decreases in blood pressure may cause stroke symptoms in patients with previously uncontrolled hypertension. If blood pressure decreases > 40mmHg or patient develops neurologic abnormalities (stroke symptoms or ALOC) after nitroglycerin, hold additional doses. Reassess blood pressure after 5 minutes.

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