

	<b>Department Name Address</b>	<b>ALS</b>	<b>Paramedic</b>
		<b>Revision #</b>	
		<b>Implementation Date</b>	
<b>Protocol</b>	<b>2.1.4 Congestive Heart Failure – Pulmonary Edema</b>	<b>Last Reviewed/Update Date</b>	
<b>Author / Owner</b>		<b>Medical Director</b>	

Pulmonary edema occurs when fluid from the blood plasma backs up in the lungs due to left sided heart failure (CHF) resulting from a left sided MI. Signs and symptoms include: dyspnea, orthopnea, rales and/or wheezing, and dependent pitting edema. Treating the underlying causes for pulmonary edema/CHF should be considered: SVT, MI, or cardiogenic shock. A patient with a history of CHF and wheezing should not be assumed to be an “asthma patient” unless there is a history of asthma or allergic reaction.

Treatment goals include: ensuring adequate oxygenation and ventilation, correction of potentially lethal dysrhythmias, enhancement of circulation, relief of pain, and safe timely transport to an appropriate facility.

1. Baseline care standards.
2. Place patient on cot in fowler’s position (head elevated 60 – 90 degrees) unless hypotensive.
3. Be prepared to intubate per airway management protocol if the patient is in or progresses to respiratory failure.
4. Administer CPAP with 10 cm H<sub>2</sub>O PEEP.
5. Establish IV Normal Saline TKO.
6. Apply cardiac monitor and complete a 12 lead ECG.
  - If ST elevation MI proceed with appropriate protocol.
  - Treat dysrhythmias per protocol.
7. If systolic blood pressure is greater than 100 mmHg, administer:
  - *Nitroglycerine 0.4 mg SL every 5 minutes for 3 doses or until blood pressure drops to <100 mm/hg.*
  - *Nitroglycerine drip at 5 mcg / minute and increase by 5 mcg every 3 minutes until blood pressure is between 100 and 140 systolic.*
  - *Morphine Sulfate 2 mg. IV. May repeat every 5 minutes as necessary. Monitor blood pressure and level of consciousness closely.*

7. Administer diuretics:
  - *Lasix 40 mg IV* if the patient is not on Lasix, or
  - *Lasix 80 mg IV* if the patient takes Lasix.
8. If systolic blood pressure is less than 90 mmHg, administer:
  - *Dopamine 2 – 5 mcg/kg/min* and titrate upwards to maintain systolic BP > 90 mmHg.
9. If patient has nausea, administer:
  - *Promethazine 12.5 mg IV*.
10. Transport to nearest appropriate facility.

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*Medical Director's Signature*

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*Date*

Disclaimer:

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