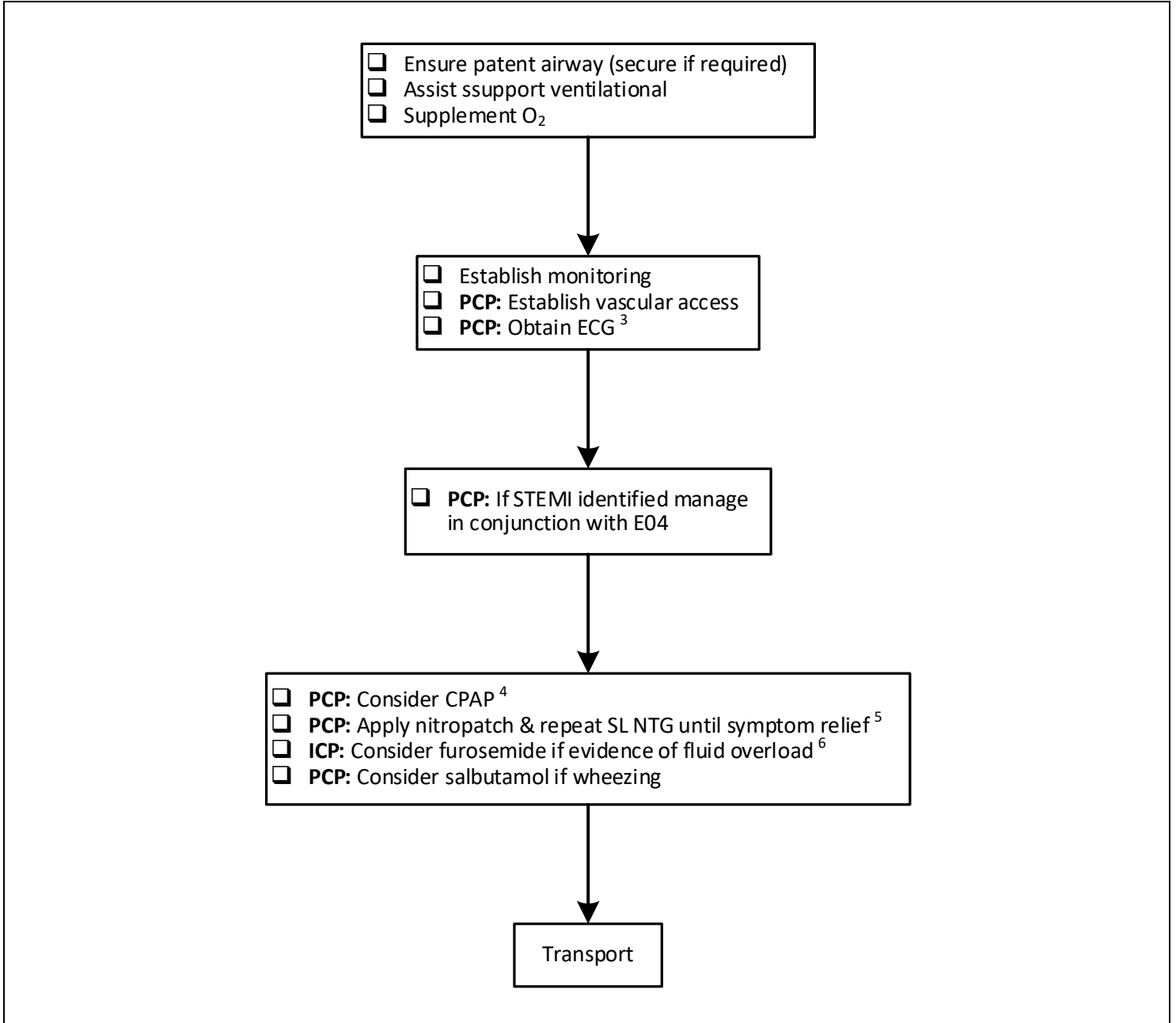
	<b>E08 - ACUTE DECOMPENSATED HEART FAILURE</b>	
	All ages	MEDICAL
Version date: 2024-01-15		Effective date: 2024-02-13 (0700 hrs)



<b>IDENTIFIER:</b>	<b>EMR:</b> EMR	<b>PCP:</b> PCP & ICP	<b>ICP:</b> ICP only	None - All providers
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### INDICATIONS

- Patients with acute dyspnea, worsening of chronic dyspnea, respiratory distress, or respiratory failure known or suspected to be due to heart failure

### CONTRAINDICATIONS

- Not applicable

### NOTES



1. In the absence of arterial blood gas analysis, respiratory failure should be presumed with a pulse oximetry measurement of less than 90% on room air or a capnometry reading of greater than 45 mmHg. Patients with dyspnea or distress can *rapidly* progress to respiratory failure despite adequate initial readings. Continuous monitoring with oximetry, capnometry, electrocardiography and frequent blood pressure measurements is essential.  
  
Agitation in a patient with respiratory distress is assumed to be due to hypoxemia until proven otherwise, while a decrease in level of consciousness may indicate progressing hypercapnia. **DO NOT SEDATE A PATIENT WITH RESPIRATORY DISTRESS OR FAILURE.**
2. **Acute decompensated heart failure (ADHF)** is a common cause of dyspnea and may be due to a variety of cardiac diseases. It may occur suddenly due to a new event (eg. ischemia, arrhythmia) or may represent a more gradual deterioration of the chronically failing heart (eg. disease progression, noncompliance). While commonly called congestive heart failure, it is not always accompanied by signs of fluid overload (ie. congestion).  
  
**Pulmonary edema** refers to ADHF causing fluid overload in the lungs (ie, respiratory distress, crackles, distended neck veins) and is often called *cardiogenic* pulmonary edema to differentiate it from noncardiac causes of increased lung fluid. In addition to crackles, wheezing due to edema in the bronchiolar walls may be present and work of breathing may improve with bronchodilator administration.
3. Acute coronary syndrome (ACS) with myocardial ischemia, injury or infarction may present as heart failure without cardiac pain.
4. Continuous positive airway pressure (CPAP) ventilation is an aerosol generating medical procedure (A09). Extended personal protective equipment (PPE) is required.
  - CPAP ventilation can be performed if the patient has tested negative for COVID that day (by PCR or RAD administered by a health care provider), or the patient's status is unknown but COVID is reasonably not suspected based on circumstances leading up to the event.
  - Do not perform CPAP if the patient has tested positive for COVID in the preceding ten days (by PCR or self-administered RAD), or the patient's status is unknown but COVID is suspected based on the patient's clinical presentation, or known exposure.
5. Vasodilators are first line pharmacotherapy for pulmonary edema. As it is often accompanied by ventricular dysfunction, hypotension must be avoided with these.

6. Limited data suggest that diuretics are effective in relieving symptoms in pulmonary edema and *early* administration is associated with lower mortality. Although the peak effect may take up to two hours, the onset of diuresis typically begins within 15 to 20 minutes. It may also cause venodilation leading to early symptom improvement.

**LINKS**

- A09 - AEROSOL GENERATING MEDICAL PROCEDURES
- M09 - FUROSEMIDE
- M21 - NITROGLYCERIN

**APPROVED BY**

	
EMS Medical Director	EMS Associate Medical Director

**VERSION CHANGES (REFER TO X05 FOR CHANGE TRACKING)**

- Known exposure added to COVID suspect