

Case Scenario Scenario 2

Dispatch: Difficulty breathing

Initial Impression: 64 y/o F presents CA&O though a bit lethargic sitting upright in a chair, tripodding, in respiratory distress.

Primary Assessment Findings: ∅ gurgling, stridor, or snoring. ⊕ frothy pink sputum noted around lips. RR = tachypenic with good TV, pt able to speak in 3-4 word sentences. ⊕ accessory muscle use. LS = rales in the mid and upper lobes ⊥, ∅ air movement to bases ⊥. Radial pulse = tachycardic, weak, and irregular. Skin = cool, diaphoretic, and peripherally cyanotic. RA SpO₂ = 76%.

Discussion:

With your group members, please discuss the following:

- *Is the patient's airway patent? How do you know?*
 - *Airway is patent, as the patient is moving air and there is no gurgling, stridor, or snoring.*
- *How would you describe the patient's respiratory status?*
 - *The patient is in respiratory distress. Her rate and tidal volume are still adequate, telling us she is not yet in respiratory failure, but the fact that she is lethargic and hypoxic is concerning. She is heading towards respiratory failure. Rales (crackles) in the lungs tells us she has pulmonary edema.*
- *Are there any interventions you would like to perform right now?*
 - *Call ALS*
 - *Allow patient to sit upright, initiate CPAP*
 if no CPAP available, O₂ via NRM 10-15 lpm
 - *Initiate rapid transport*
- *Is this patient stable or unstable, and what is your transport priority (rapid versus delayed)?*
 - *Unstable, rapid.*
- *Based on this initial impression, what does your differential diagnosis include?*
 - *AMI, CHF/acute pulmonary edema, COPD, Asthma, pulmonary embolism*
- *Based on the primary exam findings, is your patient in shock? If so, can you guess at the category and stage of shock?*
 - *The patient is in shock, most likely cardiogenic shock, and a BP will be useful in determining if she is in compensated or decompensated shock.*

History of Present Illness: Pt states she went to Easter lunch yesterday with family, started experiencing diff brth when she returned home in the afternoon, breathing has been getting worse since. She experienced orthopnea last night so was forced to sleep sitting up in her arm chair. Pt states that she then experienced an acute onset of nausea, and weakness about 30 minutes ago, and experiences dizziness and near-syncope when she attempts to stand. She denies CP, vomiting, syncope, abd or back pn, or headache.

PMH	Medications	Allergies
<ul style="list-style-type: none"> • AMI x 2 • CABG x 2 '96 • HTN • IDDM 	<ul style="list-style-type: none"> • Metoprolol • Procardia • ASA • NTG prn • Insulin 	<ul style="list-style-type: none"> • NKDA

Discussion:

- **What does the patient's history tell you about her current problem?**
 - The patient's PMH tells us she is at risk for AMI and heart failure. Left heart failure will result in acute pulmonary edema (APE). This patient is exhibiting signs (tachypnea, hypoxia, pink frothy sputum) and symptoms (difficulty breathing, orthopnea) of APE .
- **Based on this new information, how has your differential diagnosis changed? What does it now include?**
 - AMI and CHF/APE are now at the top of the list. In addition to tachypnea, hypoxia, and pink frothy sputum, the patient's symptoms include orthopnea, a characteristic of CHF/APE. In addition, she states she went to a holiday lunch... we should ask if she watched her salt intake. If she ingested a lot of sodium, she would retain water and increase her intravascular volume, and some of that volume would spill over into her lungs resulting in an episode of CHF/APE. The episode of APE may be straining her already diseased and weakened heart, leading to heart attack. The patient is complaining of acute onset of nausea, and weakness about 30 minutes ago, classic symptoms for females having an AMI.
- **Do you expect the patient's medications to effect her vital signs or ability to compensate for developing shock? If so, how?**
 - The patient takes metoprolol, a beta-1 selective beta blocker, to protect her against having another AMI. This will slow down her heart rate, making it hard for her to compensate for developing shock. Procardia is a calcium channel blocker used in the treatment of chronic hypertension. It works by relaxes vascular smooth muscle. It will interfere with vasoconstriction, further interfere with the body's attempt to compensate for shock.
- **Based on the history findings, what clinical exam findings do you anticipate?**
 - Rales/crackles. If the patient has right sided heart failure we would expect to find JVD and peripheral edema.

Vital Signs:

- HR = 88/min, weak, irregular
- BP = 130/86 mmHg
- RR = 24/min with adequate TV
- SpO₂ = 76% on room air

SpO₂ will increase based on oxygen delivery device chosen:

- NC: SpO₂ increases to 80%
- NRM: SpO₂ increases to 86%
- CPAP: SpO₂ increases to 94%

Clinical Exam:

- **HEENT/Neck**
 - PEARL
 - Ø JVD, Ø tracheal deviation
- **Chest/Back**
 - Lung sounds with rales in the mid and upper lobes ⊥, Ø air mvmt to bases ⊥.
 - ⊕ accessory muscle use noted
 - Surgical scar noted over sternum
- **Abdomen/Pelvis**
 - ABD SNT, no masses, rigidity, distention, or guarding noted
 - Ø sacral edema noted
- **Extremities**
 - Sensory, motor intact all extremities
 - Ø peripheral edema noted

Discussion:

- **Based on the patient's vital signs, is she in shock? If so, what category and stage of shock?**
 - The patient is in compensated cardiogenic shock.
- **Have the clinical exam findings influenced your differential diagnosis? What is your diagnosis?**
 - Final diagnosis is most likely acute pulmonary edema/CHF. There is a chance, based on the patient's symptoms, that she is also having an AMI.
- **How would you manage this patient?**
 - Call ALS
 - Allow patient to sit upright
 - Oxygen administration
 - CPAP preferred, NRM @ 15 lpm if no CPAP available
 - Contact medical control, give report, may get orders to treat for AMI
 - NTG 0.4 mg SL q 5 min: with CPAP, helps "flush out" edema in lungs. And, if edema is secondary to AMI, NTG helps!
 - ASA 324 mg chewed: will help is edema secondary to AMI.
 - Rapid transport to ED