Firelands Regional Medical Center School of Nursing
AMSN 2026
Unit 6: Heart Failure online assignment (1.5H)

Directions:

- Read Lewis Chapter 38, review ATI Pharmacology Made Easy 5.0: Cardiovascular Module: Drug Therapy for Heart Failure, and review the Unit 6 Pharmacology List.
- Utilizing the resources above, complete the case study. There will be many items for each question.
- Utilizing the Pharmacology List and ATI/Skyscape, complete three ATI Medication Templates from the Pharmacology List (see below for further details).
- This assignment is due in the Unit 6: HF assignment drop box by March 9, 2026 at 0800.
- Be prepared to discuss this assignment in class.
- You must complete the assignment in full to receive the 1.5H theory credit.

Assignment Objectives:

- Determine overall goals in the treatment of heart failure.

CASE STUDY:

Frannie Failure, a patient on 4P, calls the nurse and states, "I feel really puffy. My rings feel so tight on my fingers and I am having trouble catching my breath." The patient is lying flat in the bed and is alert and oriented x 3. Normal saline 0.9% @ 125mL/HR is running.

Assessment:

- Vital Signs: T 97.9 oral, HR 120, RR 24, SpO2 86% RA, BP 152/94, pain 0/10.
- Respiratory: Lung sounds- crackles throughout bilaterally, non-productive cough.
- Cardiac: Heart sounds- S3, pedal pulses not palpable, 3+ pitting edema bilateral feet and ankles.
- Skin intact, pale and cool.
- Gastrointestinal: Bowel sounds x4 WNL, BM yesterday morning.
- Intake/Output: Patient has had 900ml in and 200ml out over the last 8 hours.

1. **What additional information would you want/need to know**? Additional information I would want to know that pertain to the patient are the medical history, current medications the patient takes, recent weight gain, changes in fluid intake, and symptoms that the patient could be experiencing like dyspnea, chest pain, or palpitations. Other information that would be pertinent would be seeing the patients' labs to evaluate changes as well as possibly doing an EKG, x-ray, and echocardiogram to evaluate the ejection fraction of the patient to determine the severity of their heart failure. I would want to know previous vital signs to determine the patient baseline and to see what may be considered " normal" for them. Determining how long the patient has been puffy, as well as experiencing the other symptoms like the crackles, edema, and lower urine output is important as well.

2. **What assessment/ interventions would be appropriate for this patient?**
   Assessments/interventions that would be appropriate for this patient would be monitoring their respiratory status including gas exchange, oxygen saturation, arterial pH, PaO2, PaCO2, chest x-ray findings, and work of breathing. Cardiovascular assessment should include heart sounds and evaluating the presence of the S3 with peripheral perfusion, and checking pulses. Since the patient is experiencing signs of fluid overload it is especially important to evaluate lung sounds, respiratory rate, and oxygen saturation. The fluid status should also be monitored by checking their severity of the edema, monitoring intake and output of the patient, and reviewing the patient's weight. Vital signs should also be monitored closely for tachycardia, hypertension, and the patient potentially going hypoxic.
   Immediate nursing interventions should focus on improving oxygenation and reducing the fluid overload. The patient should be placed in a high fowler's position to promote oxygenation as well as applying supplemental oxygen. The normal saline should be stopped as it may worsen the patient's fluid overload. Continuous cardiac monitoring should be initiated as well as a strict intake and output. Reassessment should be done on the patient's lung sounds, oxygen saturation, and edema.
3. **What would you anticipate the healthcare provider to order?**
   Based on the patient's symptoms and assessment anticipated orders would include a chest x-ray, 12-lead ECG, echocardiogram, BNP, basic metabolic panel, BUN and creatinine to evaluate kidney function. Other orders include monitoring the heart rhythm and daily weight will also be important to detect possible dysrhythmias and monitor the patient's fluid status.
   Medications will also be ordered for the patient that would likely include loop diuretics to remove the excess fluid that the patient is experiencing. ACE inhibitors may be prescribed to decrease the afterload and improve cardiac output. Beta blockers may be ordered when the patient is stabilized to decrease heart rate and reduce cardiac workload. Digoxin may also be ordered to improve myocardial contractility.
   Additional orders may include oxygen therapy for the patient, fluid restriction, possible sodium restriction, intake and output monitoring, and discontinuation of IV fluids.
4. **What medications would be appropriate for this patient (include all pertinent from the Unit 6 Pharmacology List) ? What doses? Nursing Interventions?**
   <u>You will pick three of these medications to complete the ATI Medication Templates.</u>
   Medications that will be appropriate for this patient that is experiencing heart failure are furosemide, lisinopril, losartan, metoprolol, digoxin, spironolactone, morphine, and nitrates.

   Loop diuretics such as furosemide or bumetanide would likely be ordered first because the patient is showing significant fluid overload, evidenced by crackles in the lungs, edema, low oxygen saturation, and poor urine output. Furosemide may be given PO 20-80 mg/day, IV 20-40 mg, IV bolus 0.1 mg/kg followed by 0.1 mg/kg/hr; double every 2 hours to a maximum of 0.4 mg/kg/hr. Loop diuretics can increase the excretion of sodium and water by the kidneys, which helps reduce pulmonary congestion and peripheral edema. Nursing interventions include monitoring blood pressure, potassium levels, urine output, and daily weights. The nurse should assess for dehydration and electrolyte imbalances when receiving loop diuretics.

ACE inhibitors (lisinopril) are commonly used in heart failure to decrease the afterload and improve cardiac output. Lisinopril is given PO 10 mg once daily, can be increase 2-40 mg/day (starting at 5 mg/day in patients receiving diuretics). ACE inhibitors cause vasodilation, which decrease resistance in the blood vessels and allow the heart to pump more efficiently. Nursing interventions include monitoring blood pressure, kidney function, and potassium levels. With this medication the nurse should also monitor for adverse effects of persistent cough or angioedema.

ARBs (losartan) should be used for patients who cannot tolerate ACE inhibitors. These medication also promote vasodilation and reduce the workload on the heart. Losartan is given PO and ranges 25-100 mg/day starting at 25 mg and increasing as tolerated. Nursing interventions include monitoring blood pressure, renal function, and potassium levels.

Beta blockers (metoprolol succinate) is also used in the management of heart failure. Beta blockers decrease heart rate and reduce myocardial oxygen demand, which helps improve long-term cardiac function. Metoprolol is commonly prescribed at doses PO 25- 100 mg/day up to 400-450 mg/day depending on the release. IV is given 5 mg every 2 min for three doses for MI followed by oral dosing. Nursing interventions include checking heart rate and blood pressure before administration and holding medication is the heart rate is less than 60 beats per minute or if hypotension is present.

Digoxin may also be prescribed to increase cardiac contractility and improve cardiac output. This can be given PO, IM and IV. IV has a loading dose 0.5-1 mg given as 50% of the dose initially and one quarter of the initial dose in each of 2 subsequent doses at 6-12 hour intervals. PO loading dose is 0.75- 0.5 mg given as loading does and then maintenance dose of 0.125 mg-0.5 mg/day depending on body weight, renal function, and serum level. This medication helps the heart pump more efficiently and may reduce symptoms such as fatigue and shortness of breath. Nursing interventions include checking the apical pulse for one full minute before administration and holding the medication if the pulse is below 60 beats per minute. The nurse should also monitor serum digoxin levels and potassium levels and watch for signs of digoxin toxicity including nausea, vomiting, vision changes, or dysrhythmias.

Nitrates may be used to treat heart failure symptoms. They work by causing vasodilation, which decreases preload and reduced the amount of blood returning to the heart. This helps decrease pulmonary congestion and improves symptoms of shortness of breath. Nitro may be given 0.3-0.6mg and may repeat every 5 minutes for 2 additional doses. IV 5mcg/minutes and increase 5mcg/minute every 3-5 minutes to 20mcg/minute (max 200mcg/min). Nursing interventions include monitoring blood pressure closely as hypotension may occur and assessing for side effects of headache, dizziness, or flushing.
Potassium-sparing diuretic and aldosterone antagonist (spironolactone) helps to reduce fluid retention and prevent cardiac remodeling. 25mg-400mg depending on use. Nursing

interventions include monitoring potassium levels and kidney function because this medication can cause hyperkalemia.

5. **What patient education would you provide to Frannie Failure?**

Patient education for Frannie Failure would be education on managing heart failure and prevention future exacerbations. The patient should be instructed to take all medications exactly as prescribed and not stop medications without consulting the healthcare provider. IF prescribed digoxin, the patient should learn the signs of toxicity and report symptoms such as nausea, vomiting, or visual disturbances. Diuretics should generally be taken in the morning to prevent frequent urination during the night.

Other education is that the patient should receive is to monitor their weight daily at the same time each morning using the same scale and wearing similar clothing. A weight of 2-3 pounds in one day or 5 pounds in one week should be reported to the healthcare provider because it may indicate possible fluid retention. Diet should focus on following a low-sodium diet avoiding processed or high-salt foods. If a fluid restriction is ordered the patient should follow recommended limits.

The patient should also be educated to recognize worsening symptoms of heart failure, such as increased shortness of breath, swelling in the legs or abdomen, rapid weight gain, fatigue, or a persistent cough. Lifestyle modifications such as quitting smoking, limiting alcohol intake, maintaining moderate physical activity as tolerated, and attending regular follow-up appointments can also help manage heart failure and improve overall health outcomes.