N311 Care Plan # 4

Lakeview College of Nursing

Kristy Geier

Demographics (5 points)

Date of Admission 10/28/2020	Patient Initials S.C.	Age 70	Gender Female
Race/Ethnicity Caucasian	Occupation Retired	Marital Status Widowed	Allergies Antihistamines, Atorvastatin, Codeine, Lanolin, Lisinopril, Metformin, Morphine, Statins, Sulfa Antibiotic, Triprolidine, Tape
Code Status Full Code	Height 165.1cm (5'5")	Weight 125kg (275lb. 9.2oz)	

Medical History (5 Points)

Past Medical History: History of AFib, hypertension, Diabetes, edema, obstructive sleep apnea, respiratory failure, diverticulitis, chronic kidney disease, systemic bradycardia, CAD, dyslipidemia, heart failure
Past Surgical History: Colonoscopy, Heart Cath, Echo 10/13/17, XR Chest PA&Lat
Family History: Mother: CA, Stroke; Father: HTN, DM, Heart Disease

Social History (tobacco/alcohol/drugs): Never a smoker, Social/occasional drinker

Admission Assessment

Chief Complaint (2 points): Ineffective Airway Clearance r/t Pleural Effusion as evidenced by "I'm having trouble breathing". Risk for imbalanced fluid volume r/t edema in bilateral extremities due to heart failure.

History of present Illness (10 points): This 70-year-old Caucasian female presents to St. Anthony's Memorial hospital on October 28, 2020 for shortness of breath. **Onset:** Patient lives independently outside of Effingham and presented to the emergency room for trouble breathing. **Location:** She noticed she felt like she was not getting enough oxygen and felt more tired than normal. **Duration:** She woke up in the morning about two weeks ago and felt more tired than usual. She finally decided to present to the emergency room after her breathing was getting

progressively worse. **Characteristics:** Tired more than usual, shortness of breath. She is also noted to have more edema in bilateral extremities more than she normally does. **Aggravating Factors**: Walking in the house, taking deep breaths. **Relieving Factors**: Nothing really relived the shortness of breath at home. Patient was more sedentary than usual due to the difficulty of breathing while trying to walk around her home. **Treatment:** No treatment at home.

Primary Diagnosis

Primary Diagnosis on Admission (3 points): Pleural Effusion r/t difficulty breathing

Secondary Diagnosis (if applicable): Edema r/t Heart Failure

Pathophysiology of the Disease, APA format (20 points): A pleural effusion is an abnormal collection of fluid within the pleural cavity that compresses lung tissue and inhibits lung inflation. It is commonly edematous fluid [fluid that occurs when tiny blood vessels in your body leak fluid. The fluid builds up in surrounding tissues, leading to swelling. Mild cases of edema may result from: sitting or staying in one position too long.] (mayo clinic). The fluid accumulates within the pleural space because of heart failure, severe pulmonary infection, or neoplasm. The fluid may be exudate or transudate, purulent, lymph, or sanguineous (bloody). **Epidemiology:** Transudates are filtrates of the blood that accumulate within the pleural space because of an imbalance in the capillary forces: hydrostatic and oncotic pressure. Elevated hydrostatic pressure causes fluid to leak out of capillaries into the pleural space. Major etiologies of transudates are listed. **Pathophysiology**: Normally, the pleural space contains approximately 1mL of fluid uses to lubricate the visceral and parietal pleural membranes. The pleural cavity should be free pf amu additional fluid or air. Pleural effusions result from a disruption of the balance between hydrostatic and oncotic forces within the lung tissue. When hydrostatic pressure in the lung tissue greatly exceed oncotic pressure, fluid leaks out of the pulmonary capillaries and cells into the pleural space, causing a pleural effusion. In her case, she began feeling tired two weeks before she presented the hospital. She does have a history of heart failure, which was a reason for the pleural effusion. When she presented to the emergency room at HSHS, she was taken for an XR of the chest which showed an opacity in her lung cavity. She also had guided ultrasound the following day which the provider ended up drawing off 1200mL of fluid. In the pathophysiology, it states typically a normal pleural space only has 1mL of fluid. Edema is swelling caused by fluid trapped in the body's tissues. Edema happens most often in the feet, ankles, and legs but can affect other parts of the body, such as the face, hands, and abdomen. It also can involve the entire body. Edema can occur because of the gravity, especially from sitting or standing in one place for too long. Water naturally gets pulled down into the legs and feet. In her case, she started feeling tired two weeks before she presented to the emergency room, and she was likely sitting for longer periods of time because of the increase of fatigue/tiredness. Edema can happen from a weakening in the valves of the veins in the legs

called venous insufficiency. This problem makes it difficult for the veins to carry the blood back up to the heart from the legs. (Cleveland Clinic) The patient also suffers from heart failure as well.
Heart failure is a clinical condition commonly resulting from a weakened ventricular muscle that is unable to sufficiently pump blood into the arterial circulation to meet the needs of the tissues. Less commonly, heart failure can be caused by the ventricle's inability to expand and fill with sufficient blood volume. Heart failure is a disease of epidemic proportions within the United States, with more than 550,000 patients diagnosed with it each year. It affects 5 million Americans and causes 300,000 deaths annually. It is the most common cause of hospitalization. **Etiology:** There are many causes of heart failure; however, the most common cause is ischemic heart disease. Repeated episodes of coronary insufficiency denies the heart muscle needed oxygen and nutrients. **Pathophysiology**: Heart failure can be described in several ways: acute or chronic, systolic, or diastolic dysfunction, high-output or low-output failure, right-sided or left-sided heart failure, and forward or backward failure. These contrasting descriptions are academic distinctions that explain the disorder's various mechanisms. However, these distinctions are often pertinent only early in the disease. Late during heart failure, the distinctions become blurred. **Clinical Presentation of Heart Failure:** In mild to moderate heart failure, the patient may appear in no distress and clinical manifestation may be minimal at rest. However, the patient may report dyspnea upon exertion, dyspnea when lying flat for more than a few minutes, or a nocturnal cough. These are early signs of pulmonary interstitial fluid accumulation caused by failure of the left ventricle. Confusion, difficulty concentrating, and headache can occur with decreased cerebral perfusion. Cold, pale legs and feet may be noticeable to the patient caused by diminished circulation in the extremities. The patient admits that she eats regular food at home and does not necessarily watch her salt intake at home. She was placed on a 1500mL fluid restriction and cardiac diet during her hospital stay. She has been encouraged to change her dietary habits and watch her fluid intake once she discharges home. She is noted to have bilateral edema in both lower extremities which are a sign of heart failure.

Pathophysiology References (2) (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Edema: Causes, Symptoms & Treatment. (n.d.). Retrieved November 08, 2020, from https://my.clevelandclinic.org/health/diseases/12564-edema

https://www.mayoclinic.org/diseases-conditions/edema/symptoms-causes/syc-20366493

Laboratory Data (20 points)
If laboratory data is unavailable, values will be assigned by the clinical instructor

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value (10/28)	Today's Value (11/5)	Reason for Abnormal Value
RBC	**3.90-4.98**	**4.05**	**3.64**	
Hgb	**12.0-15.5**	**12.3**	**10.9**	Due to heart failure. The heart is working harder to pump more blood and oxygen through the body.
Hct	**35-45**	**42.4**	**38.5**	
Platelets	**140-400**	**172**	**141**	
WBC	**4.0-9.0**	**6.9**	**6.9**	
Neutrophils	**40-70**	**Unable to Determine**	**Unable to Determine**	
Lymphocytes	**10-20**	*****	*****	
Monocytes	**Unable to determine**	*****	*****	
Eosinophils	**Unable to determine**	*****	*****	
Bands	**Unable to determine**	*****	*****	

Chemistry Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	**135-145**	**142**	**141**	
K+	**3.5-5.1**	**4.0**	**3.9**	
Cl-	**98-107**	**106**	**106**	
CO2	**22-29**	**34.0**	**32.0**	Due to heart failure and pleural effusion. The heart is not properly pumping blood, and the lungs are not filling with air and therefore keeping more CO2 in the body instead of breathing that CO2 out.

Glucose	**70-99**	**146**	**144**	Due to the diabetes the patient suffers from. She admits she eats a regular diet at home and does not check her sugar often.
BUN	**6-20**	*	**22**	Due to heart failure.
Creatinine	**0.50-1.00**	*	**1.62**	Due to pleural effusion.
Albumin	**Unable to determine**	*	*	
Calcium	*	*	**9.2**	
Mag	*	*	**2.6**	
Phosphate	*	*	*	
Bilirubin	*	*	*	
Alk Phos	*	*	*	

Urinalysis Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	**Unable to Determine**	*	*	
pH	*	*	*	
Specific Gravity	*	*	*	
Glucose	*	*	*	
Protein	*	*	*	
Ketones	*	*	*	
WBC	*	*	*	
RBC	*	*	*	
Leukoesterase	*	*	*	

Cultures Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
Urine Culture	**Unable to determine**	**Unable to determine**	*	
Blood Culture	*	*	*	
Sputum Culture	*	*	*	
Stool Culture	*	*	*	

Lab Correlations Reference (APA):

Pagana, K., Pagana, T., & Pagana, T. *Mosby's diagnostic and laboratory test reference*.

Diagnostic Imaging

All Other Diagnostic Tests (10 points):

ECHO: For suspected pulmonary hypertension (10/28/20)

Findings: Left ventricular normal size, left ventricular systolic function normal, Estimated left ventricular EF 50-55%. Right ventricular mildly depressed, trace of aortic regurgitation, trace mitral regurgitation, mild tricuspid regurgitation.

XR Chest: (10/28/20): Stable chest with abnormal right basilar opacity and suspected effusion.

US Guided Thoracentesis w/ Imaging (10/29/20): For right sided pleural effusion. Moderate amount of fluid was identified within the right hemithorax. 1200mL cloudy, straw-colored fluid removed.

XR Chest (10/30/20): Slightly improved opacity in right lower lung; maybe combination of effusion, atelectasis and or pneumonia.

XR Chest (11/2/20): Cardiomegaly, subjective atrial vascular congestion, unchanged right lower lung opacity.

US Guided Thoracentesis w/ imaging (11/2/20): 1225 mL clear, straw-colored fluid removed.

XR Chest (11/2/20): Improved appearance right pleural space may be small residual effusion with adjacent atelectasis. No pneumonia. Unchanged cardiomegaly. Improved congestion. Suspect stubble small atelectatic changes minimal effusion on left.

Diagnostic testing completed at HSHS St. Anthony's Memorial Hospital

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Current Medications (10 points, 2 points per completed med)
5 <u>different</u> medications must be completed

Medications (5 required)

Brand/ Generic	**Diamox**	**Lasix**	**Humalog**	**Tylenol**	**Klor-Con**
Dose	**500mg**	**40mg**	**0-12 units 4xdaily AC&HS**	**650mg**	**20mEq**
Frequency	**Daily**	**Daily**	**Daily**	**Q4H/PRN**	**BID**
Route	**Oral**	**IV**	**SubCu Injection**	**Oral**	**Oral**

Classification	**Carbonic anhydrase inhibitor**	**Loop Diuretic**	**Human insulin**	**Nonsalicylate, paraminophenaol derivative**	**Electrolyte cation**
Mechanism of Action	**Inhibits the enzyme carbonic anhydrase which normally appears in the eyes' ciliary processes, brains choroid plexes and kidneys' proximal tubule cells.**	**Inhibits sodium and water reabsorption in the loop of Henle and increases urine formation.**	**Lowers blood glucose levels by stimulating peripheral glucose uptake by fat and skeletal muscle, and by inhibiting hepatic, glucose production.**	**Inhibits the enzyme cyclooxygenase, blocking prostaglandin production and interfering with pain impulse generation in the peripheral nervous system.**	**Acts as the major cation in intracellular fluid, activating many enzymatic reactions essential for physiologic processes, including nerve impulse transmission and cardiac and skeletal muscle contraction.**
Reason Client Taking	**Diuretic, for edema**	**Diuretic, for edema, CHF**	**Diabetes**	**Pain**	**HF/ Potassium**
Contraindications (2)	**Chronic no congestive closed-angle glaucoma; cirrhosis, hyperchloremic acidosis.**	**Anuria, hypersensitivity to furosemide or its components**	**Chronic lung disease (asthma, COPD), hypersensitivity to regular human insulin or any of its components**	**Hypersensitivity to acetaminophen or its components, severe hepatic impairment, with parenteral acetaminophen.**	**Acute dehydration, Addison's disease**
Side Effects/Adverse Reactions (2)	**Confusion, dizziness, drowsiness**	**Dizziness, drowsiness**	**Headache, Tachycardia**	**Hypotension, Stridor**	**Confusion, weakness**

Medications Reference (APA):

Jones & Bartlett Learning. (2020). ***2020 Nurses drug handbook*****. Burlington, MA.**

Assessment

Physical Exam (18 points)

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	 AOx3 No distress Appropriately groomed in hospital gown
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	 tan Dry/normal/pink warm +2 none large bruise on buttocks; bilateral, small bruise on right upper back. 16
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	 Head symmetrical, neck mild JVD, normal cephalic, patients' ears have some cerumen build-up, eyes symmetrical EOM, nose symmetry, no deviation, normal dentition of teeth
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☒ N ☐** **Edema Y ☒ N ☐** **Location of Edema:**	 Heart sounds abnormal. S1, S2 detected distant heart sounds. No gallop, S3 or S4. Capillary refill less than 2 seconds. Mild JVD present. +Orthopnea. Edema in bilateral extremities present
RESPIRATORY: **Accessory muscle use: Y☐ N ☒**	+Cough, SOB. No snoring. Increased effort, breath sounds diminished (bilateral bases). No

Breath Sounds: Location, character	stridor, no rales, no wheezes, conversations. Dyspnea while talking. Patient on 2L nasal cannula during the day as noted in her chart and Bipap with humidity at night.
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	 Regular diet at home Cardiac diet while at HSHS 1500mL fluid restriction 5'5" tall 275 lb. Bowel sounds are normoactive in all 4 quadrants Yesterday No CVA tenderness No abnormalities found upon inspection for distention, incision, scars, drains, wounds
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☐ N ☒** **Type:** **Size:**	 Straw/yellow Normal 400mL
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib)** ☐	 Equal Neuro status Normal ROM Walker/gait belt Upper body strength – equal bilaterally Up with 1 assist 16

Needs assistance with equipment ☒ **Needs support to stand and walk**☒	
NEUROLOGICAL: **MAEW: Y** ☒ **N**☐ **PERLA: Y** ☒ **N**☐ **Strength Equal: Y** ☒ **N** ☐ **if no -** **Legs** ☐ **Arms** ☐ **Both** ☒ **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	Alert mental status Normal speech AOx3
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	Patient is widowed. Has 1 daughter, 2 sons. Patient wears glasses. Unknown religion. Lives alone in a single-family home.

Vital Signs, 1 set (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
1130am	**89 BPM**	**136/89** **manual/** **left arm**	**16**	**97.9F oral**	**93% 2L** **Nasal** **cannula**

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
1130am	**0**	**None**	**None**	**None**	**None**

Intake and Output (2 points)

Intake (in mL)	Output (in mL)

320mL	**400mL**

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Ineffective Airway Clearance r/t Pleural Effusion as evidenced by "I'm having trouble breathing".	Patient states she was having trouble breathing for the past two weeks. She states her shortness of breath started to become increasingly worse, so she presented to the emergency room.	**1**.Patient presented to HSHS St. Anthony's due to trouble breathing **2.**Patient has XR Chest ordered and a guided ultrasound of the pleural cavity	Goal met. Patient placed on 2L of O2 on during the day. Bipap with humidity at night while asleep Goal met. Noted to have a pleural effusion. Goal met. Patient had a thoracentesis completed with 1200mL fluid drawn from pleural cavity.
2. Risk for imbalanced fluid volume r/t edema in bilateral extremities due to heart failure.	Patient noticed that her bilateral extremities were more swollen than they usually are. She also decided to mention this to her provider at the emergency room.	**1.** Patient placed on a cardiac diet with a 1500 mL fluid restriction daily. **2.**Patient had Echo ordered to check heart due to her history of heart failure. Also, XR of chest ordered.	Goal met. Patient placed on cardiac diet with a 1500mL fluid restriction. Fluid restriction as follows: 200mL days, 200mL evenings, 100mL nights, 1000mL dietary. Patient fluid restrictions placed on a clip outside her room, and diet alert placed on her door. Goal met. Echo completed which showed: Findings: Left ventricular normal size, left ventricular systolic function normal, Estimated left ventricular

			EF 50-55%. Right ventricular mildly depressed, trace of aortic regurgitation, trace mitral regurgitation, mild tricuspid regurgitation.

Other References (APA):

Concept Map (20 Points)

Subjective Data

Patient states she was having trouble breathing the past two weeks. She states her shortness of breath started to become increasingly worse, so she presented to the emergency room.

Patient noticed that her bilateral extremities were more swollen than they usually are. She also decided to mention this to her provider at the emergency room.

Nursing Diagnosis/Outcomes

Ineffective Airway Clearance r/t Pleural Effusion as evidenced by "I'm having trouble breathing". Risk for imbalanced fluid volume r/t edema in bilateral extremities due to heart failure

Objective Data

VS: BP: 136/89 mmHG –
Temp: 97.9f Axillary
Pulse: 89 BPM
RR: 16
O2: 93% on NC with 2L O2

Patient is noted to have shortness of breath and edema in bilateral extremities.

Patient Information

70-year-old Caucasian female who lives alone in her own home. History of AFib, hypertension, Diabetes, edema, obstructive sleep apnea, respiratory failure, diverticulitis, chronic kidney disease, systemic bradycardia, CAD, dyslipidemia, heart failure

Nursing Interventions

Goal met. Patient placed on 2L of O2 on during the day. Bipap with humidity at night while asleep

Goal met. Noted to have a pleural effusion. Goal met. Patient had a thoracentesis completed with 1200mL fluid drawn from pleural cavity

Goal met. Patient placed on cardiac diet with a 1500mL fluid restriction. Fluid restriction as follows: 200mL days, 200mL evenings, 100mL nights, 1000mL dietary. Patient fluid restrictions placed on a clip outside her room, and diet alert placed on her door.

Goal met. Echo completed which showed:
Findings: Left ventricular normal size, left ventricular systolic function normal, Estimated left ventricular EF 50-55%. Right ventricular mildly depressed, trace of aortic regurgitation, trace mitral regurgitation, mild tricuspid regurgitation.

/