N431 Care Plan #2

Lakeview College of Nursing

Kathleen Serrano

Demographics (3 points)

Date of Admission 11/26/2021	Patient Initials E.W.	Age 79 y.o.	Gender Female
Race/Ethnicity Caucasian	Occupation Retired	Marital Status Married	Allergies No Known Allergies
Code Status Full Code	Height 5'3"	Weight 234 lbs.	

Medical History (5 Points)

Past Medical History: The patient reports a past medical history of hypertension, recurrent urinary tract infections (UTIs), frequent falls, generalized weakness, chronic kidney disease (CKD), peripheral arterial disease (PAD), peripheral vascular disease (PVD), and hypercholesterolemia.

Past Surgical History: The patient denies any past surgical history.

Family History: The patient reports no known family history.

Social History (tobacco/alcohol/drugs): The patient denies any tobacco, alcohol, or drug use.

Assistive Devices: The patient reports having a wheelchair, top and bottom dentures, and glasses.

Living Situation: The patient resides in an independent home with her husband.

Education Level: The patient reports graduating high school and not attending college.

Admission Assessment

Chief Complaint (2 points): Increasing generalized weakness over the last two to three months and a fall

History of present Illness (10 points): O: On October 25, 2021, a 79-year-old female presented to Sarah Bush Lincoln upon admission for increasing generalized weakness and a fall shortly before admission. The patient states that she was getting off the wheelchair to use the bathroom

with her husband's assistance, felt very weak, and fell to the floor. L: The patient reports generalized weakness throughout the body, especially the left foot and left heel. D: The patient reports the generalized weakness and pain in the left foot and left heel as constant. C: Overall, the patient reports no characteristics for the generalized weakness other than feeling weak. However, the patient reports that left foot and heel pain are sharp and uncontrollable. A: The patient reports that any physical activity especially standing up, aggravates the generalized weakness. Putting any pressure on the left foot dramatically increases the patient's pain and discomfort in the left foot and heel. R: The patient reports that "just staying in my wheelchair all day and keeping my left leg up" are the only alleviating factors for the generalized weakness and pain in the left foot. T: The patient reports not taking any measures to treat the generalized weakness or pain in the left foot and heel.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Urinary Tract Infection (UTI)

Secondary Diagnosis (if applicable): Left foot ulcer

Pathophysiology of the Disease, APA format (20 points):

A urinary tract infection, or UTI, is an infection in any part of the urinary system, including the urethra, bladder, ureters, and kidneys (Hinkle & Cheever, 2018). However, most urinary tract infections occur in the bladder and urethra, which compromises the lower portion of the urinary tract (Hinkle & Cheever, 2018). For this patient, the bladder was the location of the UTI. UTIs occur when bacteria invade the urinary system, most commonly through the urethra or bladder (Hinkle & Cheever, 2018). E. coli is the most common bacteria to cause a urinary tract infection, which was present in the patient's urine culture (Hinkle & Cheever, 2018). The

bacteria invading the urinary system triggers white blood cells to travel to the specific area of the infection to attempt to fight off the bacteria (Hinkle & Cheever, 2018). Interestingly, women are at greater risk for developing urinary tract infections than men are (Hinkle & Cheever, 2018). The patient was also female, which placed her at increased risk of developing a UTI. Urinary tract infections can be painful, irritating, and become fatal if the infection travels to the kidneys (Hinkle & Cheever, 2018).

With urinary tract infections, the lining of the bladder and urethra become red and irritated, which may cause pain in the lower abdomen and back (Capriotti & Frizzell, 2020). Lower back pain is a significant symptom of a UTI, and the patient experienced some lower back pain due to the UTI. In addition, the patient has a past medical history of recurrent urinary tract infections, which again put her at increased risk for developing the current UTI (Capriotti & Frizzell, 2020). Other signs and symptoms of a urinary tract infection are urgencies, hesitancy, frequency, cloudy urine, dark urine, painful urination, foul-smelling urine, bloody urine, and pelvic pain (Capriotti & Frizzell, 2020). The patient experienced amber and cloudy urine, urgency, foul-smelling urine, painful urination, and blood in the urine. UTIs can alter vital signs and cause an abnormal rise in temperature, blood pressure, and heart rate (Capriotti & Frizzell, 2020). The UTI caused the patient's heart rate to increase to 101 bpm, blood pressure to 145/77 mm Hg, but the temperature was stable. Expected lab findings are an increase in white blood cell count, a positive urine culture, a decrease in red blood cells, leukoesterase in the urine, increase in erythrocyte sedimentation rate (ESR), a high creatinine level, a high blood urea nitrogen level, and an increase in albumin (Capriotti & Frizzell, 2020). The patient had a high white blood cell count of 40.7, a low red blood cell count of 3.12, a high creatinine level of 1.66, a high albumin level of 3.2, a high bilirubin level of 1.1, 4+ leukoesterase in the urine, and a positive urine

culture for E. coli. Most expected lab findings correlated with the patient's abnormal lab findings. Diagnostic tests to confirm a UTI are taking a urinalysis, obtaining a urine culture, CT scan, MRI, and a cystoscopy (Capriotti & Frizzell, 2020). The patient had a urinalysis and urine culture completed to confirm and diagnose the UTI.

Lastly, the treatment for a urinary tract infection includes antibiotics such as trimethoprim (Bactrim), cephalexin (Keflex), clindamycin (Cleocin), ampicillin-sulbactam (Unasyn), and other antibiotics (Hinkle & Cheever, 2018). The patient received 900 mg of clindamycin via intravenous piggyback every eight hours. The UTI was aggressive, which initiated the use of ampicillin-sulbactam, which the patient received 3 g of in 100 mL of 0.9% normal saline. The patient received ampicillin-sulbactam every six hours via intravenous piggyback. The combination of clindamycin and ampicillin-sulbactam relieved the lower back pain and overall UTI, which hindered the patient's need for pain medication.

Pathophysiology References (2) (APA):

Capriotti, Theresa M. and Frizzell, Joan Parker. (2020). *Pathophysiology: Introductory Concepts and Clinical Perspectives* (2nd ed.). F.A. Davis Company.

Hinkle, J.L., & Cheever, K. H. (2018). *Brunner & suddarth's textbook of medical-surgical Nursing* (14t:h ed.). Wolters Kluwer Health Lippincott Williams & Wilkins

Laboratory Data (15 points)

CBC 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 Value
RBC	**4.28-5.56**	**3.90**	**3.12**	**RBC levels may be low due to the patient's chronic kidney disease**

				because the kidneys are not functioning properly causing low red blood cell production (Hinkle & Cheever, 2018).
Hgb	**13.0-17.0**	**11.1**	**8.9**	**Since there are low levels in RBCs hemoglobin levels are also low; this may imply that the client is experiencing anemia (Hinkle & Cheever, 2018).**
Hct	**38.1-48.9%**	**34.2%**	**27.2%**	**Due to RBCs and hgb levels being low, hematocrit is also low related to chronic kidney disease and an insufficient supply of health RBCs (Hinkle & Cheever, 2018).**
Platelets	**149-393**	**399**	**336**	**Upon admission, the patient's platelets may have been elevated related to a potential cardiac issue such as a heart attack or a blood clot in the vessels (Hinkle & Cheever, 2018).**
WBC	**4.0-10.8**	**39.4**	**40.7**	**The patient's WBC level is extremely elevated due to the patient's left heel ulcer, cellulitis, UTI, and potential sepsis related to the left foot ulcer (Hinkle & Cheever, 2018).**
Neutrophils	**45.3-79.0%**	**N/A**	**93.8%**	**Since the WBC level is elevated, the neutrophil level is also elevated due to the patient's left heel ulcer, cellulitis, UTI, and potential sepsis (Hinkle & Cheever, 2018).**
Lymphocytes	**11.8-45.9%**	**N/A**	**2.4%**	**Lymphocyte levels may be extremely decreased related to the serious potential for sepsis in the patient caused by the left foot ulcer and potentially the patient's UTI (Hinkle & Cheever, 2018).**
Monocytes	**4.4-12.0%**	**N/A**	**4.4**	
Eosinophils	**0.0-6.3%**	**N/A**	**0.2%**	
Bands	**0-5%**	**5%**	**N/A**	

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	132	135	The patient's sodium level may be low due to the patient's chronic kidney disease, in which the kidneys are not filtering the blood efficiently (Hinkle & Cheever, 2018).
K+	3.5-5.1	4.6	4.0	
Cl-	98-107	99	102	
CO2	21-31	24	21	
Glucose	74-109	108	85	
BUN	7-35	20	34	
Creatinine	0.70-1.30	0.79	1.66	Creatinine is elevated due to the patient having chronic kidney disease as the kidneys are not filtering the blood properly (Hinkle & Cheever, 2018).
Albumin	3.5-5.2	3.2	N/A	Albumin is elevated due to the ulcer on the patient's left heel that may be gangrenous, and potentially due to the liver disease (Hinkle & Cheever, 2018).
Calcium	8.6-10.3	8.5	7.0	The patient's low level of calcium may be related to the patient's chronic kidney disease and decreased renal function (Hinkle & Cheever, 2018).
Mag	1.7-2.2	1.9	N/A	
Phosphate	2.5-4.5	N/A	N/A	
Bilirubin	0.3-1.0	1.1	N/A	Bilirubin levels may be elevated due to liver impairment or with disorders of red blood cells. (Hinkle & Cheever, 2018).

Alk Phos	**34-104**	**117**	**N/A**	**Alkaline phosphate is elevated due to the patient's chronic kidney disease and due to the stress of a UTI (Hinkle & Cheever, 2018).**
AST	**13-39**	**31**	**N/A**	
ALT	**7-52**	**15**	**N/A**	
Amylase	**30-110**	**N/A**	**N/A**	
Lipase	**11-82**	**N/A**	**N/A**	
Lactic Acid	**0.5-2.0**	**0.7**	**N/A**	
Troponin	**0-0.04**	**0.034**	**N/A**	
CK-MB	**3-5%**	**6.6%**	**N/A**	**CK-MB may be higher than normal due to inflammation of the heart muscle, and the patient does have a hypertrophic right ventricle (Hinkle & Cheever, 2018).**
Total CK	**22-198**	**N/A**	**N/A**	

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

****Today's values not taken.**

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
INR	**0.86-1.14**	**N/A**	**N/A**	
PT	**11.9-15.0**	**N/A**	**N/A**	
PTT	**25-35**	**N/A**	**N/A**	
D-Dimer	**<0.5**	**N/A**	**N/A**	
BNP	**100-400**	**327**	**N/A**	
HDL	**>40**	**29**	**N/A**	**The patient's lower level of HDL is most likely due to the patient's**

				hypertension (Hinkle & Cheever, 2018).
LDL	**<100**	**46**	**N/A**	
Cholesterol	**125-200**	**86**	**N/A**	**The patient's cholesterol levels are most likely elevated due to the patient's hypertension (Hinkle & Cheever, 2018).**
Triglycerides	**<150**	**51**	**N/A**	
Hgb A1c	**<5.7%**	**5.6%**	**N/A**	
TSH	**0.5-5.0**	**N/A**	**N/A**	

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

****Today's values not taken.**

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	**Yellow; clear**	**Amber; cloudy**	**N/A**	**The patient's urine is amber and cloudy most likely due to dehydration and the current urinary tract infection (Hinkle & Cheever, 2018).**
pH	**5.0-8.0**	**7.5**	**N/A**	
Specific Gravity	**1.005-1.034**	**1.026**	**N/A**	
Glucose	**Negative**	**Negative**	**N/A**	
Protein	**Negative**	**2+**	**N/A**	**The patient may have 2+ protein in the urine due to having chronic kidney disease and related to the current UTI (Hinkle & Cheever, 2018).**
Ketones	**Negative**	**Negative**	**N/A**	
WBC	**<5**	**>100**	**N/A**	**Due to the patient's elevated overall WBC count and the presence of UTI the patient has an elevated WBC count in the urine (Hinkle & Cheever, 2018).**
RBC	**0-3**	**43**	**N/A**	**The patient's RBC levels are elevated related to the UTI the**

				patient has (Hinkle & Cheever, 2018).
Leukoesterase	**Negative**	**4+**	**N/A**	**Leukoesterase is very elevated in the patient's urine due to the current UTI and the overall elevation of WBC found in the CBC (Hinkle & Cheever, 2018).**

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

****Today's values not taken.**

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
pH	**7.35-7.45**	**7.37**	**N/A**	
PaO2	**75-100**	**31.1**	**N/A**	**PaO2 may be severely decreased in the patient due to not receiving enough oxygen, which is related to the low count of red blood cells and hemoglobin (Hinkle & Cheever, 2018).**
PaCO2	**38-42**	**42**	**N/A**	
HCO3	**22-28**	**23.4**	**N/A**	
SaO2	**95-100%**	**N/A**	**N/A**	

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

****Today's values not taken.**

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
Urine Culture	**Negative**	**Positive**	**N/A**	**Urine culture is positive because**

				of the patient's acute urinary tract infection (UTI) (Hinkle & Cheever, 2018).
Blood Culture	**Negative**	**Positive**	**N/A**	**Blood culture is positive due to the patient's left foot ulcer, and the spread of the bacteria from the foot ulcer to the blood stream causing sepsis (Hinkle & Cheever, 2018).**
Sputum Culture	**Negative**	**N/A**	**N/A**	
Stool Culture	**Negative**	**N/A**	**N/A**	

Lab Correlations Reference (1) (APA):

Lakeview College of Nursing. *Tab: Diagnostics: Lab*. Paper.

Hinkle, J.L., & Cheever, K. H. (2018). *Brunner & suddarth's textbook of medical-surgical Nursing* (14th ed.). Wolters Kluwer Health Lippincott Williams & Wilkins

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

Chest X-ray: The chest X-ray revealed mild enlargement of the heart but no acute issues.

EKG: The EKG revealed sinus tachycardia and sinus arrhythmia.

Left foot X-ray: The left X-ray revealed soft tissue swelling and a small air density within the soft tissue. The air density may be related to the local soft-tissue wound or a gas-forming infection such as gangrene.

MRI of Left Foot with and without contrast: The MRI of the left foot revealed a large posterior heel wound of approximately 5.5 cm and soft tissue edema. The MRI also revealed increased and high signal thickening of the left foot tendons, putting the patient at risk for tendinopathy.

US ABI Doppler of the Lower Extremities: The US ABI Doppler revealed bilateral arterial insufficiency of the lower extremities.

EC Echo with contrast: The EC Echo revealed a normal left ventricle. However, the EC Echo revealed a mildly enlarged right ventricle exhibiting lower to normal systolic function, mild tricuspid regurgitation, mild pulmonary hypertension, and grade I diastolic dysfunction.

CT Angiogram of the Abdomen and Bilateral Lower Extremities: The CT Angiogram revealed peripheral vascular disease (PVD) more significant in the left lower extremity than the right lower extremity. Both lower extremities have calcified atherosclerosis. The CT angiogram also revealed left foot soft tissue defects, 70% right renal arterial stenosis, a left popliteal fossa cyst approximately 3.3 cm, mild left adrenal hyperplasia, sigmoid colon diverticulitis, bilateral pleural effusions associated with atelectasis or pneumonitis.

US Venous Duplex of the Bilateral Upper Extremities: The US venous duplex revealed no deep venous thrombi in either the left or right extremities.

Diagnostic Test Correlation (5 points): A chest X-ray was ordered for this patient due to potential cardiac issues noted in abnormal cardiac labs and due to the patient's generalized weakness. An EKG was ordered to observe any heart abnormalities or dysrhythmias (Hinkle & Cheever, 2018). The left foot X-ray and MRI were taken to assess the severity of the ulcer on the left heel and blood circulation in the left foot. The US ABI doppler was ordered to determine the arterial flow of the patient's lower extremities bilaterally. The EC Echo was taken to reveal any heart abnormalities in the patient, such as regurgitation, systolic or diastolic dysfunction, and heart hypertrophy (Hinkle & Cheever, 2018). A CT angiogram of the abdomen and lower extremities were taken to assess blood flow impairment or other irregularities related to the left foot ulcer and a proper heel ulcer formation. Lastly, the US venous duplex of the upper extremities was ordered to identify any thrombi in the patient's arms due to the severe swelling in the upper extremities bilaterally (Hinkle & Cheever, 2018). Overall, the diagnostic tests

revealed that the patient's poor blood flow to the lower extremities is most likely what caused the patient to form a large ulcer on the left heel (Hinkle & Cheever, 2018). In addition, the patient has a new ulcer forming on the right foot. The poor blood flow may result from the patient's hypertension and enlarged right ventricle, impairing proper blood flow to the lower extremities, which are furthest from the heart (Hinkle & Cheever, 2018). The diagnostic tests do not directly pertain to the primary diagnosis of a urinary tract infection (UTI).

Diagnostic Test Reference (1) (APA):

Hinkle, J.L., & Cheever, K. H. (2018). *Brunner & suddarth's textbook of medical-surgical Nursing* (14th ed.*)*. Wolters Kluwer Health Lippincott Williams & Wilkins

Current Medications (10 points, 1 point per completed med)
10 <u>different</u> medications must be completed

Home Medications (5 required)

Brand/Generic	**acetaminophen (Tylenol)**	**albuterol (Proair)**	**diphenhydramine (Benadryl)**	**docusate (Colace)**	**hydrocone-acetaminophen (Vantrela ER)**
Dose	**650 mg**	**2.5 mg**	**25 mg**	**100 mg**	**5 mg**
Frequency	**Every six hours as needed**	**Every four hours as needed**	**Every six hours as needed**	**Twice daily as needed**	**Every four hours as needed**
Route	**Oral**	**Nebulized inhalation**	**Oral**	**Oral**	**Oral**
Classification	**Pharmacological: nonsalicyate** **Therapeutic**	**Pharmacological: adrenergic** **Therapeutic**	**Pharmacological: antihistamine**	**Pharmacological: surfactant** **Therapeutic**	**Pharmacological: opioid** **Therapeutic: opioid**

	: antipyretic	**: bronchodilator**	**Therapeutic: antianaphylactic adjunct**	**: laxative, stool softener**	**analgesic**
Mechanism of Action	**Inhibits cyclooxygenase and interferes with the pain impulse of the peripheral nervous system.**	**Attaches to receptors on bronchial cell membranes, decreases intracellular calcium levels, and causes relaxation of the bronchial cells and inhibits histamine from being released.**	**Blocks histamine, which induces an antihistamine effect throughout the body especially in the respiratory and GI systems; reduces flares, itching, and wheals.**	**Acts as a surfactant to soften stool through lowering the surface tension between water and oil in stool; this causes a softer fecal mass to form.**	**Binds and activates opioid receptors causing the spinal cord to produce pain relief.**
Reason Client Taking	**For mild pain related to arthritis**	**For wheezing and difficulty breathing**	**For allergies and itching**	**For constipation**	**For pain in the left foot**
Contraindications (2)	**Hypersensitivity to acetaminophen, diazepam use**	**Hypersensitivity to albuterol or its components**	**Hypersensitivity to diphenhydramine, breastfeeding**	**Fecal impaction, intestinal obstruction**	**Acute or severe bronchial asthma or hypercarbia, hypersensitivity to hydrocodone**
Side Effects/Adverse Reactions (2)	**Hypotension, stridor**	**Angina, bronchospasm**	**Arrhythmias, thrombocytopenia**	**Syncope, muscle weakness**	**Respiratory depression, hypotension**
Nursing Considerations (2)	**Use acetaminophen cautiously with liver impairment.**	**Use cautiously in patients with cardiac disorders, hypertensio**	**Give parenteral form only when oral intake is not possible.**	**Expect long-term docusate use to cause dependence on laxatives**	**Be aware that hydrocodone increases the risk of abuse and**

	Confirm that dose is based on patient's weight.	**n, and history of seizures.** **Monitor serum potassium levels because albuterol may cause hypokalemia**	**Keep diphenhydramine elixir tightly closed and away from light.**	**for bowel movements.** **Assess patient for laxative abuse syndrome, especially in female patients.**	**addiction.** **Monitor patient for respiratory depression especially when beginning hydrocodone therapy.**
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	**Monitor liver enzymes to observe for hepatic impairment.**	**Auscultate both lungs bilaterally, anteriorly, and posteriorly before albuterol administration.** **Monitor for wheezing or difficulty breathing.** **Monitor SpO2, respirations, and arterial blood gases before albuterol administration.** **Monitor serum potassium levels before administrati**	**Monitor signs and symptoms of allergies or allergic reaction before administration.**	**Assess the abdomen to determine signs and symptoms of constipation before administration.** **Assess for fecal impaction or obstruction before administration.** **Assess patient for abuse of laxatives prior to administration.**	**Monitor the patient's respirations and auscultate both lungs anteriorly and posteriorly.** **Monitor patient for alterations in level of consciousness before administration.** **Assess pain before administration**

		on.			
Client Teaching needs (2)	**Inform patient that acetaminophen may cause reduced fertility,** **Caution patient to not exceed prescribed dose.**	**Advise patient to wait at least 1 minute in between puffs if the dosage requires more than one inhale.** **Warn the patient to follow the prescribed dose, and to not exceed it.**	**Advise patient to take drug with food to prevent GI upset.** **Instruct patient to use sunscreen when taking diphenhydramine.**	**Inform patient to not take docusate is abdominal pain is present.** **Instruct patient to notify provider about any rectal bleeding during drug therapy.**	**Instruct patient to take drug exactly as prescribed.** **Educate patient on the potential of addiction and abuse when using hydrocodone.**

Hospital Medications (5 required)

Brand/Generic	**ampicillin-sulbactam (Unasyn)**	**atorvastatin (Lipitor)**	**clindamycin (Cleocin)**	**morphine (Arymo ER)**	**tramadol (Ultram)**
Dose	**3 g/ 100 mL 0.9% NS**	**40 mg**	**900 mg**	**2 mg**	**50 mg**
Frequency	**Every six hours**	**Once daily**	**Every eight hours**	**Every two hours as needed**	**Every six hours as needed**
Route	**IV piggyback**	**Oral**	**IV piggyback**	**IV push**	**Oral**
Classification	**Pharmacological: aminopenicillin** **Therapeutic: antibiotic**	**Pharmacological: HMG-CoA reductase inhibitor** **Therapeutic:**	**Pharmacological: lincosamide** **Therapeutic: antibiotic**	**Pharmacological: opioid** **Therapeutic: opioid analgesic**	**Pharmacological: opioid agonist** **Therapeutic: opioid analgesic**

		antihyperlipidemic			
Mechanism of Action	**Inhibits bacterial cell wall synthesis, which causes bacterial cell lysis and death**	**Reduces cholesterol and lipoprotein via cholesterol synthesis in the liver and increasing LDL receptors to further uptake and breakdown LDL**	**Inhibits bacterial protein synthesis, which causes bacterial cell death**	**Binds with and activates opioid receptors to produce analgesia and euphoria from the spinal cord.**	**Binds with receptors and inhibits reuptake of serotonin and norepinephrine which produces an analgesic effect.**
Reason Client Taking	**For cellulitis, UTI, and left heel ulcer**	**For hypertension**	**For cellulitis, acute UTI, and left heel ulcer**	**For pain related to left heel ulcer**	**For pain related to left heel ulcer**
Contraindications (2)	**Hypersensitivity to ampicillin, infection caused by penicillinase-producing organism**	**Active hepatic disease, hypersensitivity to atorvastatin**	**Hypersensitivity to clindamycin, hypersensitivity to lincomycin**	**Acute or severe bronchial asthma, hypersensitivity to montelukast sodium**	**Acute or severe bronchial asthma, Hypersensitivity to tramadol**
Side Effects/Adverse Reactions (2)	**Throat tightness, leukopenia**	**Arrhythmias, hepatitis**	**Hypotension, neutropenia**	**Cardiac arrest, toxic megacolon**	**Seizures, severe respiratory depression**
Nursing Considerations (2)	**Stop drug if sings of anaphylaxis occur and notify the provider.** **Closely monitor renal and liver function**	**Monitor liver function before therapy and during therapy of atorvastatin.** **Expect lipid levels to be taken every 2 to 4 weeks**	**Expect to obtain a culture specimen and sensitivity before administration of first dose.**	**Be aware that morphine can lead to abuse, addiction, and misuse.** **Assess patient's drug use-prescription**	**Observe for allergic reactions after administering the first dose of tramadol.** **Monitor patient for signs of**

	during therapy.	**after therapy begins.**		**and OTC drugs before therapy.**	**decrease in consciousness and significant respiratory depression.**
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	**Monitor renal and liver function before administration.** **Monitor for signs and symptoms of infection prior to administration.** **Monitor CBC especially WBCs before administration.**	**Monitor liver enzymes for indications of liver impairment or disease before administration.** **Monitor lipid levels and cholesterol before administration.**	**Monitor renal function because antibiotics are nephrotoxic.** **Obtain and document signs and symptoms of infection before administration.**	**Assess pain before administration.** **Assess respirations and signs of respiratory depression before administration.** **Monitor patient for changes in level of consciousness.**	**Assess pain before administration.** **Assess respirations and signs of respiratory depression before administration.** **Monitor patient for changes in level of consciousness.**
Client Teaching needs (2)	**Review signs of allergic reactions, so the patient can stop drug therapy and notify their provider.** **Advise patient to report severe or**	**Inform patient to take atorvastatin at the same time each day.** **Advise patient to take a missed dose as soon as possible, but do not double the**	**Teach client to complete full course of antibiotic.** **Educate patient to correctly pay attention to dosage.**	**Tell patient to change positions slowly to minimize orthostatic hypotension.** **Instruct patient to notify prescriber about worsening**	**Caution patient to not abruptly stop tramadol therapy.** **Instruct patient to dispose of unused tramadol according to state**

	long-term diarrhea to provider.	**dose.**		**or breakthrough pain.**	**guidelines and regulations.**

Medications Reference (1) (APA):

Jones & Bartlett Learning, LLC. (2020). *2020 Nurse's Drug Handbook* (19th ed.).

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	 **Alert, responsive, and oriented to time, place, and person; oriented to person, place, situation, and time, x4** **Patient is in pain and distress due to the ulcer located on the left ulcer** **Well-groomed and appropriately dressed**
INTEGUMENTARY (2 points): **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:**	 **Appropriate and normal for ethnicity.** **Skin character is dry** **Skin temperature is warm** **Skin turgor is edematous throughout the body, with the skin turgor of greater than 1.5 seconds** **Rash present on the coccyx and buttocks, bruises present on the left breast and the**

Drains present: Y☐ N ☒ **Type:**	**coccyx and buttocks. Left heel ulcer and formation of right heel ulcer present. No recent abrasions identified.** **Braden score is 13**
HEENT (1 point): **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	**Head is normocephalic; head and neck are symmetrical; neck is symmetrical, active, and equal movement, and no abnormalities detected in the trachea, thyroid, vessels, or lymph nodes. Ears free of any discharge and hearing appropriate and equal in both ears. Eyes symmetrical and good extra ocular movement; nose symmetry, no deviation, and no nasal drainage or discharge present. No teeth present, and top and bottom dentures are well-maintained**
CARDIOVASCULAR (2 points): **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:**	**Normal S1 and S2 auscultated, no murmurs, no gallops or rubs detected** **Cardiac rhythm is sinus tachycardia** **Radial, brachial, carotid, femoral, popliteal, and abdominal aorta pulses are 3+ bilaterally; dorsalis pedis and tibialis posterior pulses are 1+ in the left lower extremity and 2+ in the right lower extremity** **Non-pitting edema located throughout the body**
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	**Diminished but unlabored respirations, and clear breath sounds auscultated in both lungs bilaterally, in upper and lower lobes both anteriorly and posteriorly.** **Lung aeration is equal in both lungs bilaterally, in both upper and lower lobes, and anteriorly and posteriorly.**
GASTROINTESTINAL (2 points): **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:**	**Regular diet at home.** **NPO** **Height is 5'3"** **Weight is 234 lbs.** **Normoactive bowel sounds auscultated in all four quadrants of the abdomen; last bowel movement was today, 11/03/2021. Palpation of the stomach revealed soft, non-tender abdomen, no guarding present, and no masses found. Some non-pitting edema present in abdomen. Upon inspection no abnormalities**

Drains: **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	**such as distention, incisions, scars, drains, and wounds were found.**
GENITOURINARY (2 Points): **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☒ N ☐** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type:** **Size:**	**Amber** **Cloudy** **Not able to measure miniscule urine output** **External catheter** **16**
MUSCULOSKELETAL (2 points): **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib) ☐** **Needs assistance with equipment ☒** **Needs support to stand and walk☒**	**Nail bed is pink, clean, and well-maintained, upper extremities are well-groomed, maintained, and skin is appropriate for ethnicity; lower left extremity has an ulcer on the left heel, and lower right extremity has the beginning of an ulcer formation on the right heel; temperature is warm** **Patient has passive and equal range of motion in the upper extremities; Patient has passive and unequal range of motion in the lower extremities, ROM in left lower extremity more limited than the right lower extremity** **Patient has a wheelchair, glasses, and top and bottom dentures. Patient does not have adequate strength in left lower extremity. However, strength is adequate in right lower extremity, and both upper extremities bilaterally.** **Morse fall risk score is 80.** **Patient is unable to turn without assistance and is unable to stand or walk with equipment or support due to the left heel ulcer.**
NEUROLOGICAL (2 points): **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no -** **Legs ☒ Arms ☐ Both ☐**	

Orientation: **Mental Status:** **Speech:** **Sensory:** **LOC:**	**Cognitive and oriented to person, place, situation, and time, x4; Patient is adequately cognitive and mature** **Articulative and clear speech** **Alert** **No gross focal neurological deficits. Patient is alert, awake and able to answer questions appropriately**
PSYCHOSOCIAL/CULTURAL (2 points): **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 copes through the support of her husband, who is the only supporter the patient has. The patient reports having children but does not speak to them often. Mature for developmental age. Patient can read, write, and form full structured sentences according to developmental age. Patient reports religious affiliation to the Christian faith. Patient lives alone with husband in their independent home and will be discharged back home with her husband.**

Vital Signs, 2 sets (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
1050	**71**	**136/65**	**18**	**36.2 C**	**97%**
1330	**101**	**145/77**	**18**	**37.0 C**	**96%**

Vital Sign Trends: Vital sign trends are consistent and within normal range minus high systolic pressures of 136 and 145. The patient's pulse of 101 is also abnormally high but close to being within normal range. Vital signs will need continuous monitoring.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions

0930	**Numeric**	**Left heel**	**8/10**	**Sharp, constant pain**	**Morphine administered**
1330	**Numeric**	**Left heel**	**6/10**	**Sharp, constant pain**	**Nurse notified**

IV Assessment (2 Points)

IV Assessment	**Fluid Type/Rate or Saline Lock**
Size of IV: **Location of IV:** **Date on IV:** **Patency of IV:** **Signs of erythema, drainage, etc.:** **IV dressing assessment:**	18 gauge Right upper arm midline IV 11/27/2021 Flushes easily, patent, but no blood return. No abnormal signs of erythema, drainage, etc. present. Dressing is clean, dry, and intact.

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
250 mL of vancomycin **50 mL of clindamycin** **100 mL of normal saline with ampicillin-sulbactam** **In total, the patient's intake is 400 mL.**	**0 mL of urine** **1 small stool**

Nursing Care

Summary of Care (2 points)

Overview of care: The patient had a comprehensive list of diagnostic tests, including a Chest X-ray, EKG, left foot X-ray, left foot MRI, lower extremity US ABI doppler, EC echo with contrast, CT angiogram of the abdomen, and lower extremities, and a US venous duplex of the upper extremities. The EKG revealed sinus tachycardia and sinus arrhythmia. The left foot

X-ray and MRI revealed the large wound healed with soft tissue swelling and possible signs of gangrene. The other diagnostic tests revealed no deep vein thrombi in the upper extremities bilaterally but bilateral arterial insufficiency in the lower extremities bilaterally. In addition, the CT angiogram revealed peripheral vascular disease (PVD) in the extremities with 70% stenosis; the PVD was more significant in the left lower extremity than the right lower extremity. Another testing that the patient had was a complete blood count, complete metabolic panel, urinalysis, arterial blood gases, and two cultures taken through the urine and the blood. The patient complained about pain in the left heel due to the ulcer and generalized weakness. The patient had a pain rating of 8/10 at 0930 and received a dose of morphine to help with the pain. The pain did not subside as the pain rating at 1330 was still high at 6/10. However, the patient did not complain about the UTI. Vital signs are stable except for elevated blood pressure and heart rate. Currently, the patient is NPO, or nothing by mouth, due to a scheduled left below-the-knee amputation in the late afternoon. The patient cannot ambulate due to generalized weakness and pain in the left heel, so the patient tolerates turning every two hours. The physician notes included consulting the patient about the left below-the-knee amputation, ordering the patient to be NPO, and holding the morning medications to prevent the scheduled surgery. After the left below the knee amputation, the patient will need to recover at Sarah Bush Lincoln for potentially a week or longer depending upon healing and progress.

Procedures/testing done:

Complaints/Issues:

Vital signs (stable/unstable):

Tolerating diet, activity, etc.:

Physician notifications:

Future plans for patient:

Discharge Planning (2 points)

Discharge location: The patient plans to discharge back home with her husband once she recovered from the below-the-knee amputation. The patient will need to continue using her wheelchair and will need a home health personnel to help with her amputated left leg. Case management will consult the patient and contact a home health nurse. The patient, when at home, will need to have a follow-up with her primary care physician within a week of being home. Lastly, the patient will need a complete and thorough education about the left amputated leg, such as how to care for the leg, support groups, and how walking and other physical activity will be different.

Home health needs (if applicable):

Equipment needs (if applicable):

Follow up plan:

Education needs:

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority

Nursing Diagnosis • Include complete 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. At risk for sepsis related to UTI, cellulitis, and left foot ulcer as evidenced	**Sepsis is dangerous as bacteria can travel from an infection to the bloodstream**	**1. Strict hand washing and using aseptic technique when caring for the patient.**	**1. The patient and husband responded well to the infection control of handwashing and wiping down equipment with bleach wipes after**

by dangerously high WBC count, high WBC level in the urine, a positive blood culture, and high blood pressure and heart rate, which are major signs of sepsis.	**causing impaired blood flow throughout the body due to the inflammatory response resulting in organ failure and major tissue damage. Sepsis can affect the kidneys, brain, and heart causing potentially fatal consequences if left untreated.**	**2. Administer clindamycin 900 mg every eight hours via IV piggyback.**	**use. The patient and husband also began washing their hands more frequently and making sure to wipe down surfaces with alcohol wipes in the patient's room. Goal met. No modifications met.** **2. The nurse administered the clindamycin every eight hours as ordered. The patient felt relief and responded well to clindamycin therapy. Goal met. No modifications needed.**
2. At risk for impaired urinary elimination related to UTI and urinary retention as evidenced by little to no urine output, amber,, and cloudy urine, and use of a catheter.	**Urinary elimination is imperative for to rid the body of unnecessary waste products. Urinary elimination also helps prevent bladder distention and infection in the urinary system. When urinary elimination is impaired, this may cause serious issues such as a UTI, retention, and a more serious infection in the kidneys.**	**1. Palpate the bladder for distention and overflow.** **2. Insert an external catheter to help the patient with urinary elimination.**	**1. The nurse palpated the bladder and found both distention and overflow. The patient responded well and mentioned feeling like her bladder is full. Goal met. No modifications needed.** **2. The nurse inserted an external catheter, and the patient immediately began urinating freely. The patient was happy to urinate even a small amount. Goal met. No modifications needed.**
3. At risk for pressure ulcers related	**Pressure ulcers are dangerous and commonly**	**1. Turn the patient every two hours.**	**1. The nurse actively turned the patient every two hours. The patient**

to inability to ambulate as evidenced by pain caused by left heel, generalized weakness, urinary incontinence, and patient refusal to ambulate.	**results of patient immobility and patient skin breakdown. Incontinence and patient noncompliance with ambulation are two main causes of the formation of pressure ulcers. Pressure ulcers also occur due to going unnoticed, or patients not being thoroughly assessed by health care workers.**	**2. Keep the the patient's skin clean and dry through bathing and providing towels when the patient sweats.**	**responded well to the repositioning and felt some relief from turning. Goal met. No modifications needed.** **2. The nurse appropriately utilized antimicrobial soap and clean wash cloths to cleanse the skin, and clean towels to keep the skin dry. The nurse left several clean towels at the patient's bedside for use. The patient responsed well to the treatment and used the clean towels to wipe sweat off her body. Goal met. No modifications needed.**
4. At risk for deficient knowledge related to recurring UTIs as evidenced by past medical history of UTIs, patient confusion, and patient asking multiple questions.	**It is vital to have knowledge about UTIs especially when UTIs are frequently recurring. UTIs can become fatal if left untreated because the infection may spread to the kidneys and then throughout the body, which is known as sepsis.**	**1. Educate the patient about frequently emptying the bladder.** **2. Teach and educate the client to wipe from front to back when cleaning the perineal area.**	**1. Patient thoroughly educated about urinating frequently and to empty the bladder completely. Patient verbalizes understanding, has no further questions, and responds well to the education. Goal met. No modifications needed.** **2. The nurse thoroughly teaches and educates the patient to wipe from front to back when cleansing the perineal area. The patient teaches back proper wiping technique, and responds well to the education. Goal met. No modifications needed.**

Other References (APA):

Concept Map (20 Points):

Subjective Data

Patient states that she was getting up to go to the bathroom, felt weak, and fell even with the husband's assistance. Patient reports "just staying in my wheelchair all day and keeping my leg up" as alleviating the weakness and pain.

Nursing Diagnosis/Outcomes

At risk for sepsis related to UTI, cellulitis, and left foot ulcer as evidenced by dangerously high WBC count, high WBC level in the urine, a [illegible] blood culture, and high blood pressure and heart rate, which are major signs of sepsis.
The patient and husband responded well to the infection control of handwashing and wiping down equipment with bleach wipes after use. The patient and husband also began washing their hands more frequently and making sure to wipe down surfaces with alcohol wipes in the patient's room. Goal met. No modifications met.
The nurse administered the clindamycin every eight hours as ordered. The patient felt relief and responded well to clindamycin therapy. Goal met. No modifications needed.
At risk for impaired urinary elimination related to UTI and urinary retention as evidenced by little to no urine output, amber,, and cloudy urine, and use of a catheter.
The nurse palpated the bladder and found both distention and overflow. The patient responded well and mentioned feeling like her bladder is full. Goal met. No modifications needed.
The nurse inserted an external catheter, and the patient immediately began urinating freely. The patient was happy to urinate even a small amount. Goal met. No modifications needed
At risk for pressure ulcers related to inability to ambulate as evidenced by pain caused by left heel, generalized weakness, urinary incontinence, and patient refusal to ambulate.
The nurse actively turned the patient every two hours. The patient responded well to the repositioning and felt some relief from turning. Goal met. No modifications needed.
The nurse appropriately utilized antimicrobial soap and clean wash cloths to cleanse the skin, and clean towels to keep the skin dry. The nurse left several clean towels at the patient's bedside for use. The patient responsed well to the treatment and used the clean towels to wipe sweat off her body. Goal met. No modifications needed.
At risk for deficient knowledge related to recurring UTIs as evidenced by past medical history, patient confusion, and patient asking multiple questions.
Patient thoroughly educated about urinating frequently and to empty the bladder completely. Patient verbalizes understanding, has no further questions, and responds well to the education. Goal met. No modifications needed.
The nurse thoroughly teaches and educates the patient to wipe from front to back when cleansing the perineal area. The patient teaches back proper wiping technique, and responds well to the education. Goal met. No modifications needed.

Objective Data

Blood pressure is 145/77, and heart rate is 101. White blood cells and neutrophils are elevated. Red blood cells, hematocrit, and hemoglobin are decreased. Test results revealed peripheral vascular disease found in both lower extremities, and soft tissue swelling, and air density related to gangrene in the left foot. Unequal strength in the legs due to the patient's left foot ulcer.

Patient Information

79-year-old female was admitted for generalized weakness and a fall the same day of admission.

Nursing Interventions

1. Strict hand washing and using aseptic technique when caring for the patient.
2. Administer clindamycin 900 mg every eight hours via IV piggyback.
1. Palpate the bladder for distention and overflow.
2. Insert an external catheter to help the patient with urinary elimination.
1. Turn the patient every two hours.
2. Keep the the patient's skin clean and dry through bathing and providing towels when the patient sweats.
1. Educate the patient about frequently emptying the bladder.
2. Teach and educate the client to wipe from front to back when cleaning the perineal area.