N441 Care Plan

Lakeview College of Nursing

Tuan Nguyen

Demographics (3 points)

Date of Admission	Client Initials	Age	Gender
3/28/2022	J. F	85 years	Male
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
Caucasian	Retired	Married	Penicillin – Hives, skin rash
Code Status	**Height**	**Weight**	
Full	177.8 cm	86.5 kg	

Medical History (5 Points)

Past Medical History: The patient has a past medical history of chronic atrial fibrillation, chronic kidney disease, hypothyroidism, type 2 diabetes mellitus, congestive heart failure, bradyarrhythmia, gout, gastroesophageal reflux disease, hypertension, hyperlipidemia, pulmonary hypertension, and hypothyroidism.

Past Surgical History: The patient has undergone the following surgeries:

Cardiac catheterization of the left side of the heart (3/10/2019), carotid artery (9/7/2016), carpal tunnel release (unable to retrieve from family or chart), and coronary artery bypass graft (unable to retrieve from family or chart).

Family History: The patient's family history was not charted.

Social History (tobacco/alcohol/drugs including frequency, quantity, and duration of use): The patient quit smoking tobacco thirty-five years ago. His wife stated that he used to smoke two packs of cigarettes a day. She also stated that the patient does not use drugs or drink alcohol.

Assistive Devices: The patient wears glasses and has bilateral hearing aids. He uses a walker and a cane at home.

Living Situation: The patient lives at home with his spouse.

Education Level: The patient graduated from high school and has a high school diploma.

Admission Assessment

Chief Complaint (2 points): Sinus drainage, hard to cough, fatigue, low heart rate in the low 20s.

History of Present Illness – OLD CARTS (10 points): The patient is an 85-year-old male admitted for sympathetic bradycardia on admission on the 28th of March. The patient reported that the onset of symptoms started appearing on the 24th, four days before his admission. He stated that he experienced drainage from his nose, fatigue, excessive drowsiness, cough, abnormally low heart rate in the 20s, and O_2 levels collected from a walk-in clinic, indicating a body-wide response. He stated that the symptoms have been continuous and have gotten worse since onset, with physical activity getting more difficult to tolerate. He denies pain but stated that his fatigue makes it “difficult for him to get anything done ."Physical activity such as walking worsens his fatigue and shortness of breath. He stated that sitting and laying down helped relieve his fatigue, and he tried to rest more frequently throughout the day. He stated that he takes iron supplements and metoprolol to help control his atrial fibrillation at home. The patient's chart also stated that his wife may have accidentally given the patient a "double" dose of his metoprolol medication on the day of admission.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Sinus bradycardia

Secondary Diagnosis (if applicable): N/A

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

Sinus bradycardia is a heart arrhythmia characterized by a heart rate below 60 beats per minute (Capriotti, 2020). There are various causes and triggers for bradycardia, such as hypothyroidism, vagal stimulation, hypoxemia, medication effects, congenital heart defects,

valvular heart disease, and injury or inflammation of the heart (Hinkle & Cheever, 2018). The heart contains a natural pacemaker called the sinus node (SA node). It is made up of specific cells that can send impulses through the cardiac walls of the heart within the upper chambers of the atria (Capriotti, 2020). As the impulses travel down the heart walls to the atrioventricular (AV) node, it causes the heart muscles to contract and beat (Capriotti, 2020). The impulse then travels from the AV node down the AV bundle to the bundle branches and to the Purkinje fibers within the ventricle walls, which then causes the ventricles to contract after the atria (Capriotti, 2020). If something interrupts the sequence of impulses, the heart will not beat as smoothly or effectively. Medications such as beta-blockers block beta-1 adrenergic receptors, which are part of the sympathetic nervous system, preventing the body's organs from being "activated" (Capriotti, 2020). Events such as heart blocks, injuries, and low thyroid functions affect the sequence of impulses or even damage the AV nodes or heart tissues, significantly reducing or preventing the heart from beating above 60 beats per minute (Hinkle & Cheever, 2018). The patient has had a history of atrial fibrillation and myocardial infarction, damaging heart tissues and affecting the heart rhythm. He also took a double dose of metoprolol the day he was admitted, significantly reducing the heart's ability to pump in a steady pattern.

As bradycardia worsens, it may cause hemodynamic changes in the body that can cause various issues, from shortness of breath in the respiratory system, altered mental status in the neurological system, decreased renal perfusion, and angina and hypotension (Hinkle & Cheever, 2018). Other signs and symptoms include lack of energy, fatigue, especially on exertion, and dizziness (Capriotti, 2020). Other forms of manifestations of bradycardia may also manifest as a low heart rate and blood pressure, which may show up on vital signs. Unfortunately, there are no

specific labs that will indicate bradycardia. The patient experienced shortness of breath, hypotension, fatigue, and activity intolerance due to fatigue.

To diagnose bradycardia, a physical exam may be the first simple option to look at an individual's pulse to check for a low heart rate (Capriotti, 2020). Electrocardiograms are another critical method that may be used in conjunction with other forms of diagnoses to more effectively diagnose, including sleep studies and stress testing that detect suspected ineffective beating of the heart (Capriotti, 2020). Regarding the patient, he is undergoing continuous monitoring of his pulse rate and having both an electrocardiogram and echocardiogram done to examine the pattern of his heart further. The patient cannot undergo a stress test due to sedation and intubation.

In order to treat bradycardia, the underlying cause must be found. Some medications may cause the heart to slow down and require adjustments to treat the heart (Capriotti, 2020). Diseases and medical conditions such as hypothyroidism, heart defects, and damage to heart tissues require treatment of their own and need to be resolved to prevent bradycardia (Hinkle & Cheever, 2018). If all methods fail, an implanted pacemaker will help set the heart rate within a normal range (Hinkle & Cheever, 2018). The patient was given a continuous infusion of dopamine which helps improves his heart rate.

Pathophysiology References (2) (APA):

Capriotti, T. (2020). *Davis advantage for 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* (14th ed). Walters Kluwer

Laboratory Data (15 points)

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

Lab	Normal Range	Admission Value	Today's Value	Reason for Abnormal Value
RBC	3.80-5.41x10^6/mcL	**2.34**	**3.06**	**The patient has chronic kidney disease (Pagana et al., 2018).**
Hgb	11.3-15.2 g/dL	**7.6**	**10.1**	**The patient has chronic kidney disease and a low RBC count (Pagana et al., 2018).**
Hct	33.2-45.3%	**24.1**	**30.2**	**The patient has a low Hgb and RBC count (Pagana et al., 2018).**
Platelets	149-393 K/mcL	**106**	**142**	**The patient's body fights a potential bacterial infection due to a UTI (Pagana et al., 2018).**
WBC	4.0-11.7 K/mcL	**4.7**	**8.0**	**N/A**
Neutrophils	45.3-79.0%	**86.0**	**86.5**	**The patient's body is fighting a potential bacterial infection due to a UTI (Pagana et al., 2018).**
Lymphocytes	11.8-45.9%	**4.9**	**3.6**	**The patient's body is fighting a potential bacterial infection due to a UTI (Pagana et al., 2018).**
Monocytes	4.4-12.0%	**8.3**	**9.0**	**N/A**
Eosinophils	0.0-6.3%	**0.6**	**0.5**	**N/A**
Bands	0.0-10.0%	**N/A**	**N/A**	**N/A**

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

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	136-145 mmol/L	**132**	**132**	**The patient has a history of heart failure, decreasing urinary excretion, and increased blood sodium levels (Pagana et al., 2018).**
K+	3.5-5.1 mmol/L	**4.3**	**3.8**	**N/A**

Cl-	98-107 mmol/L	**102**	**101**	**N/A**
CO2	21-31 mmol/L	**20**	**20**	**The patient may be dehydrated and starved (Pagana et al., 2018).**
Glucose	74-109 mg/dL	**182**	**96**	**The patient has chronic kidney disease and type II diabetes mellitus (Pagana et al., 2018).**
BUN	7-25 mg/dL	**55**	**56**	**The patient has type II diabetes mellitus (Pagana et al., 2018).**
Creatinine	0.70-1.30 mg/dL	**3.55**	**3.56**	**The patient has chronic kidney disease (Pagana et al., 2018).**
Albumin	3.5-5.2 g/dL	2.4	**3.5**	**The patient may have had insufficient intake. His body is fighting off a potential bacterial infection from a UTI (Pagana et al., 2018).**
Calcium	8.6-10.3 mg/dL	**5.2**	**7.6**	**The patient has chronic kidney disease and insufficient intake (Pagana et al., 2018).**
Mag	1.5-2.5 mg/dL	**2.4**	**N/A**	**N/A**
Phosphate	2.4-4.5 units/L	**N/A**	**N/A**	**N/A**
Bilirubin	0.3-1.0 mg/dL	**0.3**	**0.7**	**N/A**
Alk Phos	34-104 units/L	**128**	**114**	**The patient has type II diabetes mellitus (Pagana et al., 2018)**
AST	13-39 U/L	**19**	**17**	**N/A**
ALT	7-52 U/L	**16**	**14**	**N/A**
Amylase	60-100 U/dL	**N/A**	**N/A**	**N/A**
Lipase	0-160 U/L	**N/A**	**N/A**	**N/A**
Lactic Acid	0.5-1.5 mEq/L venous	**N/A**	**N/A**	**N/A**
Troponin	<0.03	**0.026**	**N/A**	**N/A**
CK-MB	3-5	**N/A**	**N/A**	**N/A**
Total CK	55-170	**N/A**	**N/A**	**N/A**

	(Males) 30-135 (Females)			

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

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
INR	1-2	**N/A**	**1.49**	**N/A**
PT	10-12 seconds	**N/A**	**18.7**	**The patient is taking cefepime, a cephalosporin antibiotic (Pagana et al., 2018).**
PTT	30-45 seconds	**N/A**	**N/A**	**N/A**
D-Dimer	Negative, less than 250 mg/mL	**N/A**	**N/A**	**N/A**
BNP	Less than 100 pg/mL	**285**	**N/A**	**The patient has chronic kidney disease and a history of heart failure (Pagana et al., 2018).**
HDL	Less than 60 mg/dL	**N/A**	**N/A**	**N/A**
LDL	Less than 100 mg/dL	**N/A**	**N/A**	**N/A**
Cholesterol	Less than 200 mg/dL	**N/A**	**N/A**	**N/A**
Triglycerides	Less than 150 mg/dL	**N/A**	**N/A**	**N/A**
Hgb A1c	Less than 5.7%	**N/A**	**N/A**	**N/A**
TSH	0.5-5.0	**3.96**	**N/A**	**N/A**

Urinalysis Highlight All Abnormal Labs—Explanations must be 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	Yellow, clear	**Dark orange, clear**	**N/A**	**N/A**
pH	5.0 – 8.0	**5.5**	**N/A**	**N/A**

Specific Gravity	1.005 – 1.034	**1.027**	**N/A**	**N/A**
Glucose	Negative	**Negative**	**N/A**	**N/A**
Protein	Negative	**2+**	**N/A**	**The patient has a UTI (Pagana et al., 2018).**
Ketones	Negative	**Negative**	**N/A**	**N/A**
WBC	Negative	**>100**	**N/A**	**The patient has a UTI (Pagana et al., 2018).**
RBC	Negative	**>100**	**N/A**	**The patient has a UTI (Pagana et al., 2018).**
Leukoesterase	Negative	**4+**	**N/A**	**The patient has a UTI (Pagana et al., 2018)**

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

Test	**Normal Range**	**Value on Admission**	**Today's Value**	**Explanation of Findings**
pH	7.35 - 7.45	**7.21**	**N/A**	**Acidosis is due to chronic kidney disease and decreased excretion of H+ (Pagana et al., 2018).**
PaO2	35.0 - 45.0	**90.2**	**N/A**	**Elevated PaO2 levels indicate hyperoxemia to correct hypoxemia (Pagana et al., 2018).**
PaCO2	75.0 - 85.0	**47.8**	**N/A**	**The patient has chronic kidney disease, which decreases the secretion of H+, making it more**

				acidic (Pagana et al., 2018).
HCO3	22.0 - 26.0	**15.3**	**N/A**	**The patient has decreased HCO3 due to inadequate acid excretion, possibly due to chronic kidney disease (Pagana et al., 2018).**
SaO2	95.0 - 98.0	**86.7**	**N/A**	**The patient has decreased SaO2 due to inadequate tissue perfusion (Pagana et al., 2018).**

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

Test	**Normal Range**	**Value on Admission**	**Today's Value**	**Explanation of Findings**
Urine Culture	Negative	**N/A**	**N/A**	**N/A**
Blood Culture	Negative	**N/A**	**N/A**	**N/A**
Sputum Culture	Negative	**Negative**	**N/A**	**N/A**
Stool Culture	Negative	**N/A**	**N/A**	**N/A**

Lab Correlations Reference (1) (APA):

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2018). *Mosby's diagnostic and laboratory test reference* (6th ed.). Mosby.

Sarah Bush Lincoln Center Hospital System. Medical Values

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

- **Chest X-ray (3/28/2022 and 3/29/2022)**

  A chest x-ray produces images of the heart, lungs, and blood vessels using small amounts of radiation (Hinkle & Cheever, 2018). Chest x-rays provide a posteroanterior and lateral projection of the chest and are taken after the full inspiration of the lungs in order to provide the best image (Hinkle & Cheever, 2018).

- **Computed tomography of brain and head without contrast (3/28/2022)**

  Computed tomography (CT) uses narrow x-ray beams to scan body parts in layers (Hinkle & Cheever, 2018). The created images show cross-sectional views of organs such as the brain and distinguishing differences in densities in tissues of the skill, cortex, subcortical structures, and ventricles (Hinkle & Cheever, 2018). Contrast agents may be used to help further highlight differences (Hinkle & Cheever, 2018). The CT is usually done first without contrast. Contrast is used if needed (Hinkle & Cheever, 2018).

- **Electrocardiogram (3/28/2022)**

  An electrocardiogram is a test used to record the pattern of the electrical activity of the heart in the form of heartbeats and how regularly it beats (Hinkle & Cheever, 2018). The electrical activity is picked up using electrodes placed on the areas surrounding the desired location to monitor (Hinkle & Cheever, 2018).

- **Echocardiogram (3/29/2022)**

  An echocardiogram uses ultrasound to measure ejection fraction and examine cardiac structures' size, shape, and motion (Hinkle & Cheever, 2018). It is also used to diagnose pericardial effusions, determine chamber size and etiology of heart murmurs, and evaluate the function of heart valves and ventricular wall motion (Hinkle & Cheever, 2018).

Diagnostic Test Correlation (5 points):

- **Chest X-ray**

  The chest x-ray on 3/28/2022 shows bilateral pleural effusions, pulmonary vascular congestion, and mild edema. The chest x-ray done on 3/29/2022 was to check the correct placement of the PICC line. X-rays show mild pleural effusion and increased bibasilar opacities indicating worsening atelectasis.

- **Computed tomography of brain and head without contrast**

  The CT scan of the head examined shortness of breath, and altered mental status showed no signs of intracranial abnormalities but showed atrophy and chronic ischemic changes.

- **Electrocardiogram**

  The electrocardiogram was done on 3/28/2022 and showed sinus bradycardia.

- **Echocardiogram**

  An echocardiogram was done around 0930 hours on 3/29/2022 during clinical to examine the heart for the cause of fatigue and shortness of breath. He has a 35-45% ejection fraction, indicating a below-average ejection fraction.

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 different medications must be completed

Home Medications (5 required)

Brand/ Generic	**Acetaminophen TYLENOL**	**Allopurinol ZYLOPRIM**	**Atorvastatin LIPITOR**	**Metoprolol LOPRESSOR**	**Tamsulosin FLOMAX**
Dose	650 mg	200 mg	20 mg	12.5 mg	0.4 mg
Frequency	Q8H	Daily	Daily	Daily	Daily
Route	Oral	Oral	Oral	Oral	Oral
Classification	**Pharmacologic Class:** Nonsalicylate, paraminophenol derivative **Therapeutic Class:** Antipyretic, nonopioid analgesic (Jones, 2020)	**Pharmacologic Class:** Xanthine oxidase inhibitor **Therapeutic Class:** Antigout	**Pharmacologic Class:** HMG-CoA reductase inhibitor **Therapeutic Class:** Antihyperlipidemic	**Pharmacologic Class:** Beta$_1$-adrenergic blocker **Therapeutic Class:** Antianginal, antihypertensive (Jones, 2020)	**Pharmacologic Class:** Alpha adrenergic antagonist **Therapeutic Class:** Benign prostatic hyperplasia (BPH) agent (Jones, 2020)
Mechanism of Action	This medication reduces pain sensation by inhibiting the enzyme cyclooxygenase, blocking prostaglandin production, and hindering pain impulse generation in the peripheral nervous system.	This medication inhibits the production of uric acid by inhibiting xanthine oxidase. Allopurinol is also metabolized to oxypurinol, which inhibits xanthine	This medication reduces plasma cholesterol and lipoprotein levels by inhibiting HMG-CoA reductase and cholesterol synthesis in the liver and increasing the number of	This medication inhibits the stimulation of beta$_1$-receptor sites in the heart, resulting in decreased cardiac excitability, cardiac output, and myocardial oxygen demand.	This medication blocks alpha$_1$-adrenergic receptors in the prostate, which inhibits smooth muscle contraction in the bladder, neck, prostate,

	(Jones, 2020)	oxidase. (Jones, 2020)	LDL receptors on liver cells to enhance LDL uptake and breakdown. (Jones, 2020)	(Jones, 2020)	prostatic capsule, and prostatic urethra. Inhibited smooth muscle contractions result in an improved rate of urine flow and reduce symptoms of BPH. (Jones, 2020)
Reason Client Taking	The patient is taking this medication to relieve moderate pain. (Jones, 2020)	The patient is taking this medication to control gout. (Jones, 2020)	The patient is taking this medication to control lipid levels. (Jones, 2020)	The patient is taking this medication to manage hypertension and control heart rate. (Jones, 2020)	The patient is taking this medication to treat BPH. (Jones, 2020)
Contraindications (2)	Contraindications to this drug include hypersensitivity to acetaminophen and severe hepatic impairment. (Jones, 2020)	Contraindications include hypersensitivity to allopurinol or its components and bone marrow suppression. (Jones, 2020)	Contraindications include active hepatic disease and hypersensitivity to atorvastatin or its components. (Jones, 2020)	Contraindications for this drug include acute heart failure and hypersensitivity to metoprolol or its components. (Jones, 2020)	Contraindications include hypersensitivity to tamsulosin or its components and if taken with other similar medicines such as quinazolines. (Jones, 2020)

Side Effects/ Adverse Reactions (2)	Side effects and adverse reactions include anxiety and hypertension. (Jones, 2020)	Side effects and adverse reactions include elevated liver enzymes and renal failure. (Jones, 2020)	Side effects and adverse reactions include arrhythmias and orthostatic hypotension. (Jones, 2020)	Side effects include heart failure and arterial insufficiency. (Jones, 2020)	Side effects include arrhythmia and atrial fibrillation. (Jones, 2020)
Nursing Considerations (2)	1) Administer cautiously in patients with hepatic impairment or alcoholism. 2) Monitor patient's renal function on long-term therapy of acetaminophen. (Jones, 2020)	1) Maintain fluid intake to produce a daily urinary outpour of 2 L daily. 2) Monitor patients for developing a skin rash that may occur one week or more after allopurinol therapy is	3) Expect to use the medication in patients without apparent coronary artery disease but have a history of CAD, hypertension, low HDL, smoke, and are over the age of 55. 4) Monitor	5) Use cautiously in patients with angina or hypertension who have congestive heart failure because beta-blockers such as metoprolol can further depress myocardial	1) Therapy should resume at 0.4 mg/dose as prescribed after the patient has not taken tamsulosin for several days. 2) Monitor the client for orthostatic hypotension if

		initiated. Notify the prescriber immediately if a skin rash occurs. (Jones, 2020).	diabetic patients' blood glucose because therapy can affect blood glucose levels. (Jones, 2020)	contractility, worsening heart failure. 6) Decrease the metoprolol dosage if patients with heart failure develop symptomatic bradycardia. (Jones, 2020)	the client takes this medication on an empty stomach. (Jones, 2020)
Key Nursing Assessment(s) /Lab(s) Prior to Administration	Monitor the client's AST, ALT, and bilirubin levels and ensure they are within limits to prevent liver damage before administration.	Obtain and review baseline CBC, uric acid levels, and renal and liver function tests before administering allopurinol. (Jones, 2020)	Monitor the patient's blood glucose before and during medication therapy.	Monitor the patient’s heart rate and blood pressure. Do not administer if the patient’s heart rate is below 60 beats per minute or if blood pressure is below 100	Assess the client’s blood pressure and rule out prostate cancer before administering tamsulosin.

	(Jones, 2020)		(Jones, 2020)	mmHg. (Jones, 2020)	(Jones, 2020)
Client Teaching needs (2)	1) Tell the patient to adhere to the recommended dosages to prevent overdose. 2) Educate the patient on the signs and symptoms of liver toxicity, such as bruising, malaise, and bleeding. (Jones, 2020)	1) Advise patients to take allopurinol after meals and drink enough water to produce a daily output of at least 2 L. 2) Tell patients to notify their prescriber immediately if a rash develops and stop taking the drug	3) Instruct patients to notify the prescriber immediately if unexplained muscle pains, tenderness, or weakness. 4) Advise patients with diabetes to monitor blood glucose levels closely. (Jones, 2020)	5) Advise the patient to notify the prescriber if the pulse rate falls below 60 beats per minute or is significantly lower than usual. 6) Instruct the patient to take metoprolol with food at the same time each day.	1) Instruct patient to avoid potentially hazardous activities until drug's CNS effects are known. 2) Advise the client to notify the prescriber if he misses several days of therapy and caution

		until it is evaluated. (Jones, 2020)		(Jones, 2020)	him against restarting the drug at the previous dosage. (Jones, 2020)

Hospital Medications (5 required)

Brand/ Generic	**Fentanyl SUBLIMAZE**	**Dopamine INTROPIN**	**Vancomycin VANCOCIN**	**Cefepime MAXIPIME**	**Lansoprazole PREVACID**
Dose	20 mcg/hr	20 mcg/kg/min	750 mg/150 mL	1000 mg	30 mg/10 mL
Frequency	Continuous	Continuous	Q24H	Q24H	Daily
Route	IV drip	IV drip	IV piggyback	IV piggyback	Sub-oral
Classification	**Pharmacologic Class:** Opioid **Therapeut**	**Pharmacologic Class:** Adrenergic **Therapeutic Class:**	**Pharmacologic Class:** Glycopeptide **Therapeutic**	**Pharmacologic Class:** Fourth-generation cephalosporin	**Pharmacologic Class:** Proton pump inhibitor **Therapeutic**

	ic Class: Opioid analgesic **(Jones, 2020)**	Vasopressor (Jones, 2020)	**Class:** Antibiotic (Jones, 2020)	**Therapeutic Class:** Antibiotic **(Jones, 2020)**	**Class:** Antiulcer (Jones, 2020)
Mechanism of Action	This medication binds to opioid receptor sites in the CNS, altering perception of and emotional response to pain by inhibiting ascending pain pathways (Jones, 2020).	This medication stimulates dopamine (D1) and dopamine (D2) postsynaptic receptors. D1 receptors cause vasodilation in cerebral, coronary, mesenteric, and renal blood vessels. This medication also increases renal blood flow, improved GFR, and increased urine output. (Jones, 2020)	This medication inhibits bacterial RNA and cell wall synthesis, which alters permeability of bacterial membranes and causes cell wall lysis and cell death. (Jones, 2020)	This medication interferes with bacterial cell wall synthesis by inhibiting the final step in the cross-linking of peptidoglycan strands. (Jones, 2020)	This medication binds to and inactivates the hydrogen potassium adenosine triphosphate enzyme system in gastric parietal cells, which blocks the final step of gastric acid production. (Jones, 2020)
Reason Client Taking	This patient is taking this medication to induce and maintain anesthesia and to manage postoperati	The patient is taking this medication to treat low cardiac output and heart failure short term. (Jones, 2020)	The patient is taking this medication to treat the potential infection. (Jones, 2020)	The patient is taking this medication to treat mild to moderate UTIs. (Jones, 2020)	The patient is taking this medication to maintain healed GI bleed. (Jones, 2020)

	ve pain. (Jones, 2020)				
Contraindications (2)	Contraindications include hypersensitivity to fentanyl and significant respiratory depression. (Jones, 2020)	Contraindications include hypersensitivity to dopamine and its component and idiopathic hypertrophic subaortic stenosis. (Jones, 2020)	Contraindications include hypersensitivity to corn or corn products when given with dextrose solutions and hypersensitivity to vancomycin or its components. (Jones, 2020)	Contraindications include hypersensitivity to cefepime and other cephalosporins or penicillin. (Jones, 2020)	Contraindications include concurrent therapy with rilpivirine-containing products and hypersensitivity to lansoprazole or its components. (Jones, 2020)
Side Effects/ Adverse Reactions (2)	Side effects and adverse reactions include bradycardia and hypoventilation. (Jones, 2020)	Side effects and adverse reactions include bradycardia and hypertension. (Jones, 2020)	Side effects and adverse reactions include acute kidney injury and hypotension. (Jones, 2020)	Side effects and adverse reactions include hepatic failure and renal failure. (Jones, 2020)	Side effects and adverse reactions include acute renal failure and hyperkalemia. (Jones, 2020)
Nursing Considerations (2)	1) Administer the lowest possible dose to achieve optimu	1) Monitor blood pressure continuously during therapy. 2) Reduce dosage or	3) Infuse over at least 1 hr/g. Rapid delivery may cause hypotension or transient “red man syndrome,." 4) Observe	5) Use cefepime cautiously in a patient with impaired renal function or a history of GI disease	1) Monitor for cutaneous and systemic lupus erythematosus either as new onset or

	m pain control. 2) Use cautiously in elderly, cachectic, and debilitated patients since they are more sensitive to the drug's effects. (Jones, 2020)	discontinue drug if hypotension develops. (Jones, 2020)	IV infusion site for evidence of extravasation, tenderness, and thrombophlebitis; discontinue if present and notify the prescriber. (Jones, 2020)	or hypersensitivity to penicillin. 6) Monitor BUN and serum creatinine levels for early signs of nephrotoxicity. Monitor fluid intake and ouput. (Jones, 2020).	exacerbation of existing disorder. Discontinue lansoprazole if present. 2) Monitor patient for bone fracture due to increased risk for osteoporosis-related fracture. (Jones, 2020)
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Check and monitor the patient's respiratory rate before administeri	Check hemodynamic parameters such as cardiac output,	Check CBC, BUN, and serum creatinine levels before and during	Obtain culture and sensitivity test results before drug administration.	Review the patient's renal functions, serum magnesium

	ng this medication. (Jones, 2020)	serum potassium levels, and urine output before administration to obtain a baseline to determine the effectiveness of administration. (Jones, 2020)	therapy. (Jones, 2020)	(Jones, 2020)	levels, and bone marrow before administration. (Jones, 2020)
Client Teaching needs (2)	1) Inform patients to avoid hazardous activities until the drug's CNS effects are known. 2) Instruct patients to	1) Explain to patients the need for frequent hemodynamic monitoring. 2) Instruct the patients to avoid taking beta-blockers such as metoprolol as it reduc	3) Instruct patients to notify the prescriber if persistent or severe diarrhea develops. 4) Instruct patients to notify the prescriber to complete the entire course of vancomycin as prescribed.	5) Instruct patients and caregivers to seek emergency care for any change in mental status, seizure activity, difficulty speaking or understanding spoken or written words. Cefepi	1) Inform patients to take lansoprazole precisely as prescribed, usually before meals. 2) Inform patients to notify the prescriber and stop taking medic

	take the medication as prescribed and not take it longer than needed. (Jones, 2020)	es the effects of dopamine. (Jones, 2020)	(Jones, 2020)	me should be stopped until the patient is evaluated. 6) Inform patients to immediately report severe diarrhea to the prescriber even if it occurs late as 2 or more months after the last dose. (Jones, 2020)	ation if they experience blood in the urine, decreased urination, and joint pain. (Jones, 2020)

Medications Reference (1) (APA):

Jones & Bartlett Learning. (2020). *2020 Nurse's drug handbook*. (19th ed.). Jones & Bartlett Learning.

Assessment

Physical Exam (18 points) – HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	The patient appeared to be appropriately groomed and calm overall. Unable to assess the patient for alertness and orientation due to intubation and sedation. He is unresponsive to verbal stimuli but moves slightly when touched from time to time. He appeared to be briefly tensed in moments when he was awake during care.
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	The patient's skin color was pink, warm, dry, intact, and appropriate for ethnicity in the upper extremities bilaterally. The patient's feet experienced bilateral discoloration and appeared slightly reddened where his SCDs are present. Both feet were still blanchable upon palpation, with color return in less than three seconds. His skin was elastic with skin turgor in less than three seconds. The patient has no abrasions, wounds, or drains present. The patient has a Braden score of 11, which puts him at high risk for skin breakdown.
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	The patient's head is normocephalic and displayed symmetrical facial and skull features. His head is midline to his neck. No tracheal deviations, swollen lymph nodes, or thyroid were palpable. Unable to assess the movement of the neck upon swallowing due to intubation. The patient's ears were bilaterally intact, symmetrical, and exhibited no drainage. Upon inspection, his ear canal and tympanic membrane appeared to be intact and gray bilaterally. He has hearing aids but did not have them during clinical. The patient's eyes were symmetrical and exhibited a blank expression looking up towards the ceiling. Pupils were round, equal, and dilated but reacted slowly to light. Unable to test for accommodation due to sedation. His eyes exhibited bilateral white sclera and pink conjunctiva. He has glasses but did not have them on during clinical. His visual acuity was not charted. The patient's nose was intact, midline to face, clear and patent, with no signs of bloody

	discharge, polyps, deviated septum, or nasal drainage. Unable to inspect the patient's teeth due to placement of ET tube. The oral mucosa on the lips appeared pink.
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:**	The patient's S1 and S2 were audible, with no murmurs or gallops heard upon auscultation. He has an irregular heart rhythm due to atrial fibrillation, with 64 bpm recorded at 0900 hours and 71 bpm at 1100 hours. The client's carotid and radial pulses were +2 bilaterally and +2 bilaterally in his dorsalis pedis. His capillary refill was less than three seconds bilaterally in his fingernails and toenails. He has a peripherally inserted central catheter placed in his cephalic vein and a peripheral IV in his right hand. There was no neck vein distention observed, but the client does have +2 bilateral edema in his lower extremities.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character** **ET Tube:** **Size of tube:** **Placement (cm to lip):** **Respiration rate:** **FiO2:** **Total volume (TV):** **PEEP:** **VAP prevention measures:**	The client's breath sounds were coarse in all lobes anteriorly, with faint crackles heard in the inferior lobe of the right lung. Unable to listen to posterior lobes due to positioning and weight of the patient. The client did not use accessory muscles, and his breathing is unlabored. He experiences bilateral symmetrical rise and fall of his chest with no deformities with his chest observed. The patient is mechanically ventilated and has an ET tube size 7.5 placed 22 centimeters at the lips. His respiratory rate is 26 breaths per minute, and he receives 32% in FiO_2. His total volume is 310. His PEEP is 8. VAP preventative measures include adequate and proper oral care every two hours, about twelve times a day, suctioning secretions, and ensuring the ET tube is adequately cleaned.
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:**	The patient eats a regular diet at home but is currently NPO and not receiving adequate nutrients. His provider plans to start him on tube feedings to see how he will tolerate it at 1300

Weight: **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☒ N ☐** **Size:** 16 **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	hours. The patient's height is 177.8 cm. The patient's weight is 86.5 kg. The patient's bowel sounds are hypoactive in all four quadrants. The patient's wife stated that his last bowel movement was on the 27th of March, "sometime in the evening .". Unable to palpate or assess for pain due to an abdominal aortic aneurysm. No incisions, scars, drains, wounds, or distention were noted upon inspection. The patient does not have an ostomy, feeding tubes/or PEG tubes in place. He does have a 16-gauge NG tube in place.
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type: French indwelling** **Size: 16 Gauge** **CAUTI prevention measures:**	The patient's urine is dark orange and clear. He had an output of 790 mL during clinical. Unable to assess for pain during urination due to sedation of the patient. He has a 16-gauge French indwelling catheter upon inspection. Upon inspection, no erythema, odor, yeast, or drainage was present at the catheter site. CAUTI prevention measures include hand hygiene, proper execution of sterile technique, performing catheter care every 12 hours, and preventing backing up of content into the bladder by placing the collection pouch lower than the patient's bladder.
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** 70 **Activity/Mobility Status:** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk**☒	The patient's capillary refill was less than 3 seconds bilaterally in his fingernails and toenails. There were no signs of cyanotic or pallor pigmentation in his fingernails and toenails bilaterally. The patient exhibited slight resistance to passive range of motion but can perform passive range of motion of upper extremities bilaterally and lower extremities bilaterally. He wears glasses at home but does not have them on during clinical. His wife stated that he uses a walker and cane at home to walk. Due to sedation, he exhibits 1/5 strength in his upper extremities bilaterally and 0/5 strength in his lower extremities bilaterally. The patient needs ADL assistance, such as oral hygiene.

	The patient is a fall risk and has a fall score of 70, which puts him at a high fall risk. The patient is currently bedridden and will need assistance standing up and walking.
NEUROLOGICAL: **MAEW: Y ☐ N☒** **PERLA: Y ☐ N☒** **Strength Equal: Y ☐ N ☒ if no - Legs ☐ Arms ☐ Both ☒** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	Unable to assess the patient's orientation to person, place, time, and situation due to sedation. The patient cannot move or demonstrate strength in all extremities due to sedation. He exhibits round, reactive pupils equal in size but a slow pupil reaction to light. Unable to assess accommodation, speech, mental status, and level of consciousness due to sedation and intubation. The patient's wife stated that he speaks well and exhibits no problem with speech. The patient has a RASS score of -4.
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):**	The patient lives at home with his wife, who keeps him updated with his medications. She was present with their daughter at the time of the clinical. His wife and daughter are his most significant support. His daughter lives close by to support him should his wife not be able to. His wife stated that he graduated from high school but did not go beyond that for education. He and his family are Christians and participate in church every other Sunday. His wife stated that he enjoys watching TV and working on things in the yard. The patient's developmental level was unable to be assessed due to sedation.

Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0900	64 bpm	93/46 mmHg	26 respirations	37.4 C	97%
1100	71 bpm	110/52 mmHg	26 respirations	37.2 C	96%

Vital Sign Trends/Correlation:

The patient's vital signs initially appeared abnormal at 0900, with a lowered blood pressure of 93/46 mmHg and an elevated respiratory rate of 26. His vital signs stabilized to a pulse rate of 71 bpm and blood pressure of 110/52 mmHg by 1100 hours from his IV drip of dopamine. His respiratory rate was still elevated at 26 respirations at 1100 hours.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0900	Critical Care Pain Observation Tool	N/A	1/10	N/A	Administer fentanyl through drip infusion
1100	Critical Care Pain Observation Tool	N/A	1/10	N/A	Administer fentanyl through drip infusion

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:**	The patient has an 18-gauge IV, placed on 3/28/2022, in the right antecubital fossa of the patient's right upper extremity. IV was patent and did not exhibit erythema, drainage, phlebitis, or infiltration. His IV was saline-locked upon inspection. IV dressing appeared clear, dry, and intact upon inspection.
Other Lines (PICC, Port, central line, etc.)	PICC line
Type: **Size:** **Location:** **Date of insertion:** **Patency:** **Signs of erythema, drainage, etc.:** **Dressing assessment:** **Date on dressing:** **CUROS caps in place: Y ☒ N ☐**	The patient had a double 18-gauge lumen PICC line in his cephalic vein located on his right upper extremity. It was inserted on 3/28/2022 and did not exhibit erythema, drainage, phlebitis, or infiltration. PICC line was patent. His dressing appeared clear, dry, and intact and was placed on 3/28/2022. His PICC line had a CUROS secured at the top.

CLABSI prevention measures:	PICC line is infusing dopamine at 20 mcg/kg/min, and fentanyl at 20 mcg/hr CLABSI prevention measures include proper hand hygiene and donning of gloves, proper sterile technique when needed, utilizing CUROS caps to kill and prevent contamination, and alcohol swabbing ports before connecting with syringes and other lines.

Intake and output (2 points)

Intake (in mL)	**Output (in mL)**
Calcium gluconate – 50 mL Cefepime + 0.9% NaCl – 100 mL Magnesium sulfate – 50 mL Potassium chloride – 100 mL Vancomycin – 400 mL Fentanyl – 191.66 mL Dopamine – 1,319.7 mL **2211.36 mL – Total**	650 mL OG 140 mL urinary catheter **790 mL - Total**

Nursing Care

Summary of Care (2 points)

Overview of care: Care consisted of assessing the patient's body from head to toe, his IV sites, and response to pain and stimulus. The student nurse also collected blood through the patient's PICC line to be sent to the lab. The student nurse provided oral care and suctioning to clear the patient’s airways and oral cavity. Care then consisted of

continuous monitoring of the patient and switching pillow placements to relieve pressure off the bony surfaces of his coccyx every two hours.

Procedures/testing done: The patient had an echocardiogram done at around 0930 hours. His ejection fraction came back with 35-45%.

Complaints/Issues: The patient had no complaints due to sedation and intubation. His wife and daughter had no complaints or issues.

Vital signs (stable/unstable): The patient's vital signs initially started unstable at 0900 hours with an abnormal blood pressure of 93/46 mmHg and respiratory rate of 26. His vitals stabilized by 1100 hours, with his pulse rate at a safer 71 bpm and a blood pressure of 110/52 mmHg. His respiratory rate remained at 26 respirations per minute.

Tolerating diet, activity, etc.: The patient

Physician notifications: There were no notifications from the physician during clinical.

Future plans for client: The patient will remain intubated for the remainder of the day. Attempts at extubating will be made the following day on 3/30/2022 if he remains stable. He will continue to receive treatment for his UTI.

Discharge Planning (2 points)

Discharge location: The patient's discharge planning is determined and dependent on his condition the following day after attempts at extubating. No discharge location has been determined at this time.

Home health needs (if applicable): No specific home health needs to be determined at this time.

Equipment needs (if applicable): No specific equipment needs to be determined at this time. He will continue to use his cane and walker at home as needed.

Follow up plan: The patient is currently sedated and intubated. No specific follow-up plans currently.

Education needs: The patient is sedated and intubated. He is unable to receive education. His wife and daughter are present at the bedside. She stated that she thinks that she accidentally gave the patient a double dose of metoprolol on the morning of admission and thinks that it contributed to his condition. Proper education on handling and medication checks should be provided to her. She should be instructed never to take two doses of metoprolol simultaneously. Once the patient is awake and alert, he should be informed of what happened at taught how to manage his medications to prevent the situation from happening again.

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

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components • Listed in order by priority – highest priority to lowest priority pertinent to this client	**Rationale** • Explain why the nursing diagnosis was chosen	**Interventions (2 per dx)**	**Outcome Goal (1 per dx)**	**Evaluation** • How did the client/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Ineffective airway clearance related to excessive mucus as evidenced by crackles, increased bibasilar opacities,	**The patient has fluid buildup in his system, as indicated by the chest x-ray, which shows increased bibasilar opacities.**	**1. Assess respiratory status at least every 4 hours or according to established standards.** **2. Suction, as ordered, to**	**1. The patient will be suctioned at least once by the end of clinical rotation.**	**Goal Met: The student nurse participated in suctioning the patient with the instructor and with another student nurse. The patient continued to breathe well**

and the need for suctioning.	**Crackles also further back up fluid buildup upon auscultation of his lungs. Suctioning also indicated that he had a buildup of mucus in his throat.**	**stimulate cough and clear airways.**		**without displaying any signs of difficulty breathing.**
2. Imbalanced nutrition: Less than body requirements related to NPO status as evidenced by lack of food since admission date.	**The patient is intubated and sedated. He has had an NPO status since his admission on the 28th of March. His nurse stated that he has not received any nutrients since then and only has received medications as intake.**	**1. Monitor fluid intake and output.** **2. Monitor electrolyte levels and report abnormal values.**	**1. The patient will tolerate methods of feeding during clinical.**	**Goal unmet: The provider moved back the tube feedings later in the day to around 1300 hours. Unable to assess how the patient will tolerate the feeding.**
3. Risk for aspiration related to secretion buildup as evidenced by the need to suction, crackles, and increased bibasilar opacities.	**The patient is in a state of decreased level of consciousness, and he is immobile which are factors associated with aspiration. He has audible crackles in his lungs and demonstrates**	**1. Assess respiratory status at least every 4 hours.** **2. Provide oral care every 2 hours and suctioning of the oral cavity.**	**1. The patient will receive oral suctioning at least once during the clinical rotation and will not show signs of aspiration.**	**Goal Met: The patient received oral suctioning from the student nurses. Throughout the clinical rotation, assessments done on the patient showed no signs of aspiration. The patient continued to breathe without complications.**

	fluid buildup on the chest x-ray. Suctioning revealed that he has saliva buildup in his oral cavity, which he can aspirate.			
4. Risk for impaired skin integrity related to bedridden status as evidenced by Braden score of 11.	**The patient is immobile and remains in the same position. He cannot assess his pain levels or move due to sedation.**	**1. Inspect the patient's skin every 2 hours.** **2. Protect bony prominences with foam padding and pillows.**	**1. During clinical, the patient will not display signs of impaired skin integrity, such as erythema.**	**Goal Met: The patient was given a pillow to help relieve pressure off his coccyx. The pillow was repositioned and placed on opposite sides of the bed every two hours.**
5. Risk for impaired oral mucous membrane related to ET tube placement as evidenced by pressure on lips from ET tube.	**The patient has had an ET tube placed since admission. The tube remains on the lips for a prolonged time and will put pressure on his lips. His lips and oral cavity are also exposed to air due to the ET tube, which may dry his lips.**	**1. Reposition the ET tube and hang it on the hanger.** **2. Provide oral care with saline or tap water.**	**1. The patient will receive oral care at least once during the clinical rotation.**	**Goal Met: The patient received oral care from the student nurses. The student nurse also repositioned the ET tube and placed it on a hanger to relieve pressure off the patient's lips. No signs of skin breakdown were noted upon inspection of the lips.**

Other References (APA):

Phelps, L. L. (2020). *Spark's and Taylor's nursing diagnosis reference manual* (11th ed.). Wolters Kluwer.

Concept Map (20 Points):

Subjective Data

The patient stated that he experienced shortness of breath, drowsiness, nasal drainage, fatigue, a heart rate in the 20s, and a cough on the day of admission. The patient stated that his symptoms occurred on 3/24/2022 but got worse on the day of admission. The patient's wife stated that she gave him a double dose of metoprolol the day of admission.

Nursing Diagnosis/Outcomes

1. Ineffective airway clearance related to excessive mucus as evidenced by crackles, increased bibasilar opacities, and need for suctioning.
Outcome: The patient will be suctioned at least once by the end of clinical rotation.
2. Imbalanced nutrition: Less than body requirements related to NPO status as evidenced by lack of food since admission date.
Outcome: The patient will tolerate methods of feeding during clinical.
3. Risk for aspiration related to secretion buildup as evidenced by the need to suction, crackles, increased bibasilar opacities
Outcome: The patient will receive oral suctioning at least once during the clinical rotation and will not show signs of aspiration.
4. Risk for impaired skin integrity related to bedridden status as evidenced by Braden score of 11.
Outcome: The patient will not display signs of impaired skin integrity, such as erythema, during clinical.
5. Risk for impaired oral mucous membrane related to ET tube placement as evidenced by pressure on lips from ET tube.
Outcome: The patient will receive oral care at least once during the clinical rotation.

Objective Data

Elevated: Neutrophils, BUN, Cr
Reduced: RBCs, Hgb, Hct, Na+,
Chest x-ray: Bilateral pleural effusion, pulmonary vascular congestion, increased bibasilar opacities = worsening atelectasis
Vital Signs
Pulse: 64 bpm (0900), 71 (1100)
BP: 93/48 mmHg (0900)
Respiration: 26 respirations (0900 and 1100)

Client Information

The patient is an 85-year-old male who came in on 3/28/2022 with complaints of shortness of breath, cough, fatigue, and abnormally low heart rate in the 20s. He has a history of CHF, GERD, GI bleed, hyperlipidemia, type II diabetes mellitus, atrial fibrillation, chronic kidney disease, gout, and hypertension

Nursing Interventions

1. Assess respiratory status at least every 4 hours or according to established standards.
2. Suction, as ordered, to stimulate cough and clear airways.
3. Monitor fluid intake and output.
4. Monitor electrolyte levels and report abnormal values.
5. Assess respiratory status at least every 4 hours.
6. Provide oral care every 2 hours and suctioning of the oral cavity.
7. Inspect the patient's skin every 2 hours.
8. Protect bony prominences with foam padding and pillows.
9. Reposition the ET tube and hang it on the hanger.
10. Provide oral care with saline or tap water.