N441 Care Plan

Lakeview College of Nursing

Tresne McCarty

Demographics (3 points)

Date of Admission 02/03/2022	Client Initials SC	Age 71	Gender Male
Race/Ethnicity White	Occupation Retired (Former truck driver & steel factory worker)	Marital Status Widowed	Allergies No known
Code Status DNR (Do Not Resuscitate)	Height 154.9 cm	Weight 70.5 kg	

Medical History (5 Points)

Past Medical History: Degenerative joint disease, shoulder pain, anxiety, depression, back pain, dyspnea, hypertension (HTN), left ear impaction, prostate cancer (metastasized to bone)

Past Surgical History: Vasectomy (date unknown)

Family History: Father (deceased) → HTN

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): Former smoker for 19 yrs from age 16 to 35 (1/2 pack per day x 19 yrs = 8 pack yrs), no drug use, former alcohol user (daily beer consumption as noted in the chart) but stopped at the age of 70, onset of alcohol use unknown. Unable to assess exact consumption due to the patient being sedated and on a paralytic.

Assistive Devices: None

Living Situation: The pt lives alone, expresses financial concern as charted in the EHR but denied abuse or neglect in the home

Education Level: Unable to assess from pt due to pt being sedated on paralytics. Information was not available in the EHR.

Admission Assessment

Chief Complaint (2 points): The patient complained of shortness of breath and weakness.

History of Present Illness – OLD CARTS (10 points): SC is a 71 yr old white male who presented to the ED on 02/03/2022 complaining of shortness of breath and weakness. The patient described the onset of symptoms began on 01/27/2022, location of symptoms was his chest, and duration of symptoms in total was 8 days. He described his pain as a 3 out of 10 on a numeric scale at the time of admission. Symptoms included feeling pressure on his chest and not being able to catch his breath. Associating factors were weakness and malaise. Symptoms were aggravated upon exertion and while laying down. The patient denied any relieving factors and treatment at home. History of present illness data was collected via nurse report. Unable to obtain verbal information due to patient being sedated and on a paralytic.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Pneumonia

Secondary Diagnosis (if applicable): COVID-19, Shortness of breath, hypoxia, acute kidney injury

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

Pneumonia is the inflammation of the lung parenchyma that can be caused by bacteria, viruses, or fungi (Hinkle & Cheever, 2018). In the patient's case, E.coli and Staph aureus were the causes of the patient's pneumonia. This results from the patient's prior diagnosis of COVID-19 prior to admission, which causes increased mucus production and decreased lung expansion, leading to the normal flora of staph aureus and E.coli overpopulating and infecting the patient. At the cellular level, inflammation in the alveoli produces an exudate that interferes with diffusion and perfusion, which attracts white blood cells that fill the alveolar spaces resulting in secretions and mucosal edema that eventually occlude the bronchi (Hinkle & Cheever, 2018). Inadequate perfusion causes reduced oxygen levels in the lungs and circulatory system. Once oxygen levels decrease, cardiac output will also decrease because the heart will not have enough oxygenated blood to circulate to the lungs and other organs. At this point, it becomes a ripple effect that eventually involves other significant organs. Clinical manifestations include orthopnea, fever, respiratory distress, pleuritic pain, mucopurulent sputum may be present and coughing (Hinkle & Cheever, 2018). They also may experience weakness, general malaise, and lethargy. While accessing their vitals, the patient may be tachycardic, tachypneic, and hypertensive. Their skin may be flushed, yet they may complain of feeling cold with the chills. Upon auscultation, adventitious lung sounds will be present, including crackles or diminished sounds. The patient can experience central cyanosis in severe cases, which is a late sign of hypoxemia (Hinkle & Cheever, 2018). For this patient, he was experiencing shortness of breath and a cough. Although he had a previous positive result for COVID, complications from having COVID could also mimic the same symptoms experienced with pneumonia. With pneumonia, a patient may experience a temperature of 38.5C to 40.5C (101 – 105 F), and their respirations can range from 25 to 45 breaths/min (Hinkle & Cheever, 2018).

Diagnostics for pneumonia are determined through a chest x-ray, blood culture, and a sputum culture (Hinkle & Cheever, 2018). For this patient, a blood culture, sputum culture, chest x-ray, and CT of the chest were completed to verify the diagnosis of pneumonia. The blood culture results were negative, but the sputum culture showed a positive result for E. coli and Staph aureus growth. The chest x-ray and CT of the chest showed patchy bilateral pulmonary opacities. A bronchoscopy can also be performed to confirm the diagnosis, but this test was not used for this patient. Assessment of the patient's complete blood count (CBC) is also essential. The CBC will show elevated white blood cells (WBC), which indicates infection but will not show the pathogen responsible for the infection.

Treatment for pneumonia includes administering the appropriate antibiotics, oxygen therapy, antipyretics, endotracheal intubation, or different modes of mechanical ventilation (Hinkle & Cheever, 2018). Antibiotics such as vancomycin, piperacillin, ceftazidime, or levofloxacin can be administered via intravenous (IV) infusion (Jones & Bartlett Learning, 2021). Antipyretics, such as acetaminophen (Tylenol), will reduce the patient's fever (Jones & Bartlett Learning, 2021). For this patient, his treatment regimen included vancomycin to treat the diagnosis of pneumonia. He also had an endotracheal tube and required mechanical ventilation on 02/07/2022 to support his oxygen needs.

Pathophysiology References (2) (APA):

2020 Nurse's drug handbook (2021). Jones & Bartlett Learning.

Hinkle, J.L. & Cheever, K.H. (2018). *Brunner & Suddarth's textbook of medical-surgical nursing* (14th ed.). Wolters Kluwer Health.

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	**3.80 – 5.41**	5.06	3.4	A decreased RBC count can indicate dietary deficiencies (Pagana et al., 2021). This patient has a dietary deficiency due to his reduced digestion of tube feedings and an abundant amount of residual volume.
Hgb	**11.3 – 15.2**	14.0	9.6	A decreased Hgb count can also indicate nutritional deficiencies (Pagana et al., 2021). This patient has a dietary deficiency due to his reduced digestion of tube feedings and an abundant amount of residual volume.
Hct	**33.2 – 45.3**	42.7	28.6	A decreased Hct count can also indicate nutritional deficiencies (Pagana et al., 2021). This patient has a dietary deficiency due to his reduced digestion of tube feedings and an abundant amount of residual volume.
Platelets	**149 – 393**	176	170	N/A
WBC	**4.0 – 11.7**	7.3	13.3	The increased WBC count indicates an infection (Pagana et al., 2021). The patient tested positive for pneumonia.

Neutrophils	**45.3 – 79.0**	88.2	N/A	N/A
Lymphocytes	**11.8 – 45.9**	6.2	N/A	N/A
Monocytes	**4.4 – 12.0**	4.8	3.0	Decreased monocyte count could be a result of his prostate cancer that has now metastasized to the bone.
Eosinophils	**0 – 6.3**	0.3	N/A	N/A
Bands	**3 – 5**	N/A	N/A	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-	**136 – 145**	132	136	Decreased sodium levels could indicate renal failure or pulmonary emphysema which could be a complication of COVID and pneumonia (Pagana et al., 2021).
K+	**3.5 – 5.1**	3.6	3.0	The patient's reduced potassium levels is a result of the patient taking furosemide which is a potassium wasting medication (Pagana et al., 2021).
Cl-	**98 – 107**	99	86	Decreased chloride levels indicate respiratory acidosis and hypokalemia (Pagana et al., 2021). This is evidenced by the patient's CO2 levels being 57.2 and his potassium level being 3.0.
CO2	**21 – 31**	22	39	Elevated blood levels indicate

				metabolic alkalosis (Pagana et al., 2021). This is evident by the patient's bicarbonate level being 39.7. The patient's kidneys are working to compensate for the respiratory acidosis.
Glucose	**74 – 109**	122	83	Elevated glucose levels indicate stress or if a patient has recently eaten (Pagana et al., 2021). This is evident by the patient having a continuous infusion of Jevity 1.2 kcal/mL at 20 mL/hr.
BUN	**7 – 25**	38	58	Increased BUN levels indicate kidney injury or dehydration (Pagana et al., 2021). The patient was taking acetaminophen as a home medication which is nephrotoxic. The patient is also taking doxepin, vancomycin, and furosemide which are all nephrotoxic (Jones & Bartlett Learning, 2021).
Creatinine	**0.6 – 1.2**	1.45	1.08	Increased creatinine indicates stress on the kidneys due to nephrotoxic drugs such as acetaminophen, doxepin, vancomycin, and furosemide (Pagana et al., 2021).
Albumin	**3.5 – 5.2**	3.5	2.4	Decreased levels indicate malnourishment (Pagana et al., 2021). This is evident by the patient not effectively digesting his tube feedings.
Calcium	**8.6 – 10.3**	8.6	7.1	Decreased calcium levels indicate

				renal failure, alkalosis, and malabsorption (Pagana et al., 2021). This is evident by the patient being in a metabolic alkalosis state in compensation along with increased BUN levels. The patient also is not getting adequate nutrition.
Mag	**1.6 – 2.4**	1.9	1.7	N/A
Phosphate	**2.5 – 4.5**	N/A	N/A	N/A
Bilirubin	**0.3 – 1.0**	0.7	0.5	N/A
Alk Phos	**34 – 104**	63	64	N/A
AST	**13 – 39**	64	26	Increased liver panel indicates possible drug induced liver injury (Pagana et al., 2021). This can be caused by acetaminophen (Pagana et al., 2021). Elevated liver panels can also indicate metastasis of cancer to the liver (Pagana et al., 2021).
ALT	**7 – 52**	60	16	Increased liver panel indicates possible drug induced liver injury (Pagana et al., 2021). This can be caused by acetaminophen (Pagana et al., 2021). Elevated liver panels can also indicate metastasis of cancer to the liver (Pagana et al., 2021).
Amylase	**30 – 220**	N/A	N/A	N/A

Lipase	**0 – 160**	N/A	N/A	N/A
Lactic Acid	**5 – 20**	N/A	N/A	N/A
Troponin	**< 0.1 ng/mL**	0.01	N/A	N/A
CK-MB	**3 - 5**	2.47	N/A	N/A
Total CK	**20 – 200**	246	N/A	Elevated levels indicate injury affecting the heart, skeletal, or brain (Pagana et al., 2021).

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

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
INR	**1.5 – 3.0**	N/A	1.32	Cerner charting system flagged this result as being elevated. If this result is elevated this indicates the patient's blood is taking longer than normal to clot (Pagana et al., 2021). This is due to current heparin therapy.
PT	**11 – 13 seconds**	N/A	16.8	Increased PT indicates extended bleeding times which was induced by the infusion of heparin due to a previous diagnosis of a deep vein thrombosis (DVT) (Pagana et al., 2021).
PTT	**25 – 36**	N/A	74.4	Increased PTT indicates an

	seconds			increased time to for the blood to clot which is a result of heparin therapy received by the patient (Pagana et al., 2021).
D-Dimer	**< 0.05**	N/A	N/A	N/A
BNP	**< 100 pg/mL**	31	N/A	N/A
HDL	**> 55 mg/dL**	N/A	N/A	N/A
LDL	**< 130 mg/dL**	N/A	N/A	N/A
Cholesterol	**<200 mg/dL**	N/A	N/A	N/A
Triglycerides	**33 – 135**	N/A	N/A	N/A
Hgb A1c	**≤ 6.4**	N/A	N/A	N/A
TSH	**2 – 10**	0.83	N/A	N/A

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

Lab Test	**Normal Range**	**Value on Admission**	**Today's Value**	**Reason for Abnormal**
Color & Clarity	**Yellow Clear**	N/A	Cloudy	Cloudy urine indicates possible infection (Pagana et al., 2021).
pH	**4.8 – 6.0**	N/A	5.5	N/A
Specific Gravity	**1.005 – 1.03**	N/A	1.027	N/A
Glucose	**Negative**	N/A	Normal	N/A

Protein	**0 – 8 mg/dL**	N/A	1+	Protein present in the urine can indicate possible kidney injury (Pagana et al., 2021).
Ketones	**Negative**	N/A	Negative	N/A
WBC	**0 – 4**	N/A	58	Increased WBC indicate infection (Pagana et al., 2021).
RBC	**≤ 2**	N/A	>100	N/A
Leukoesterase	**Negative**	N/A	Negative	N/A

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

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
pH	**7.31 – 7.41**	7.36	7.47	Elevated levels indicate a state of alkalosis as the kidneys compensate for respiratory acidosis.
PaO2	**40 – 50**	27.9	52.8	The patient's fluctuation in oxygen levels exhibit the lungs & kidneys trying to put the body back into acid-base balance.
PaCO2	**40 – 50**	41.5	57.2	The patient's respiratory system was in acidosis.
HCO3	**22 – 26**	21.7	39.7	Elevated bicarbonate levels show

				the body's attempt to compensate for the lung's acidotic state.
SaO2	**60 -75**	48.5	86.7	Decreased oxygen levels indicate low perfusion of oxygen in the blood (Pagana et al., 2021).

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

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
Urine Culture	No growth	N/A	Negative (02/13/22)	N/A
Blood Culture	No Growth	Negative (02/06/22)	N/A	N/A
Sputum Culture	No Growth	Negative (02/06/22)	Positive for E. coli & Staph. aureus (02/13/22)	This confirmed the diagnosis of pneumonia.
Stool Culture	No Growth	N/A	N/A	N/A

Lab Correlations Reference (1) (APA):

Pagana K., Pagana, T., Pagana T. (2021). *Mosby's diagnostic & laboratory test reference* (15TH ed.). ELSEVIER.

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

Test Performed	Date Performed	Results
Procalcitonin Normal range =	02/03/22	0.34
SARS COVID-19	02/03/22	Positive
MRSA PCR	02/11/22	Negative
Chest x-ray	02/03/22 & 02/15/22	02/03/22 → no pneumothorax, patchy bilateral pulmonary opacities present 02/15/22 → stable pulmonary infiltrates, no pleural effusions, no pneumothorax present
CT Chest	02/03/22	Hazy bilateral pulmonary opacities
EKG	02/03/22	Sinus tachycardia with inferior ischemia & premature atrial complexes
US Venous Duplex	02/03/22	Normal extremity flow, slow sluggish flow/stasis in the bilateral popliteal veins
US Thyroid	02/03/22	Normal gland size

Diagnostic Test Correlation (5 points):

Chest x-ray: This test was performed to verify the diagnosis of pneumonia and to determine the extent of fluid accumulation and damage to the lungs (Hinkle & Cheever, 2018). The patient's results showed pulmonary opacities in the lungs.

Chest CT: This test was also performed to confirm the diagnosis of pneumonia and can view the lungs at the cell level (Hinkle & Cheever, 2018). A CT scan is often used to investigate signs and symptoms such as shortness of breath, coughing, or fever (Hinkle & Cheever, 2018). The patient's CT scan showed hazy pulmonary opacities bilaterally in the lungs.

US Venous Duplex: This test is used to view the blood flow in the lower extremities (Hinkle & Cheever, 2018). Particularly for this patient, this test was used to rule out a previous diagnosis of a DVT. This test result showed normal flow in the extremities.

EKG: This test was performed to rule out any cardiac issues related to the patient's complaint of shortness of breath (Hinkle & Cheever, 2018). The patient's EKG showed normal sinus rhythm and random sinus tachycardia.

US Thyroid: The ultrasound of the thyroid was performed to investigate the patient's cough he presented with in the ED. The ultrasound showed no nodules or masses.

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.

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

Home Medications (5 required)

Brand/Generic	Doxepin Silenor	Tamulosin Flomax	Lisinopril Prinivil Zestril	Lorazepam (Ativan)	Hydrocodone-Acetaminophen (NORCO)
Dose	3mg	0.4mg	30mg	1mg	7.5mg
Frequency	Every night	Daily	Daily	TID PRN	Q4H PRN
Route	Oral	Oral	Oral	Oral	Oral
Classification	Tricyclic Antidepressant / Antidepressant	Alpha adrenergic antagonist Benign prostatic hyperplasia agent Pregnancy category B	Angiotensin-converting enzyme inhibitor Antihypertensive	Benzodiazepine Anxiolytic Controlled substance schedule IV	Opioid Opioid Analgesic Controlled substance schedule II
Mechanism of Action	Blocks norepinephrine & serotonin reuptake to elevate mood & reduce depression (Jones & Bartlett Learning, 2021).	Block alpha-adrenergic receptors in the prostate by inhibiting smooth-muscle contraction in the bladder & prostate (Jones & Bartlett Learning, 2021).	Reduces blood pressure by inhibiting conversion on angiotensin I to angiotensin II. It also reduces sodium & water reabsorption & increases their excretion (Jones & Bartlett Learning, 2021).	Binds to specific benzodiazepine receptors to inhibit excitatory stimulation to help control emotional behavior (Jones & Bartlett Learning, 2021).	Bind to & activates opioid receptors to produce pain relief (Jones & Bartlett Learning, 2021).

Reason Client Taking	This patient has a history of depression.	The patient has a history of prostate cancer.	The patient has a history of hypertension.	The patient has a history of anxiety & this medication is also used to help calm the pt down while they are on the ventilator.	The patient is taking for pain control.
Contraindications (2)	Hypersensitivity & severe urinary retention (Jones & Bartlett Learning, 2021).	Hypersensitivity to this medication or its components (Jones & Bartlett Learning, 2021).	History of angioedema with ACE inhibitors or hypersensitivity (Jones & Bartlett Learning, 2021).	Acute angle-closure glaucoma, hypersensitivity, or sleep apnea syndrome (Jones & Bartlett Learning, 2021).	Acute or severe bronchospasm, GI obstruction, or significant respiratory depression (Jones & Bartlett Learning, 2021).
Side Effects/Adverse Reactions (2)	ECG changes, seizures, and hypoglycemia (Jones & Bartlett Learning, 2021).	Arrhythmia, atrial fibrillation, or respiratory impairment (Jones & Bartlett Learning, 2021).	Cerebrovascular accident, hypotension, myocardial infarction, & arrythmias (Jones & Bartlett Learning, 2021).	Coma, seizures, suicidal ideation, apnea, or respiratory depression (Jones & Bartlett Learning, 2021).	CNS depression, coma, hypotension, or respiratory depression (Jones & Bartlett Learning, 2021).
Nursing Considerations (2)	Mix oral solution with juice, milk, or water. Monitor	Prostate cancer should be ruled out before therapy begins	Lisinopril should not be given to a pt that is hemodynamically	Ensure the pt already takes an antidepressant in conjunction	This medication increases the risk of abuse,

	patient closely for signs of suicidal thinking (Jones & Bartlett Learning, 2021).	& monitor the pt for orthostatic hypotension after administration (Jones & Bartlett Learning, 2021).	unstable. Use cautiously in pts with volume deficit, heart failure, or sodium depletion (Jones & Bartlett Learning, 2021).	of this medication. Use with extreme caution in elderly pts (Jones & Bartlett Learning, 2021).	misuse, & addiction. Use in extreme caution when administering to pts with COPD, hypoxia, or existing respiratory depression (Jones & Bartlett Learning, 2021).
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Complete a depression screening prior to administration & assess the pt's risk for suicide prior to administration (Jones & Bartlett Learning, 2021).	Assess the pt's vitals prior to administration. Obtain a thorough health history prior to therapy.	Assess the pt's CMP for sodium values prior to administration. Assess the pt's hemodynamic status prior to administration. Measure the pt's vital signs, specifically blood pressure, prior to administration.	Assess the pt's anxiety level, vitals, and A&O status prior to administration.	Assess the pt's A&O status, respiratory status, lung sounds, & vitals prior to administration.
Client Teaching needs (2)	Advise pt to avoid alcohol consumption with this medication &	Instruct the pt not to chew, crush, or open this medication. Avoid	Advise the pt this medication helps to control hypertension, not cure it. Advise	Instruct the pt to take this medication as prescribed. Advise the pt to	Instruct the pt to take the drug as prescribed & advise the pt to avoid alcohol

	advise diabetic pts to check their blood glucose prior to administration (Jones & Bartlett Learning, 2021).	potentially hazardous activities while taking this medication. (Jones & Bartlett Learning, 2021).	the pt to notify their provider if they experience a non-productive cough. Also advise the pt to change positions slowly. (Jones & Bartlett Learning, 2021).	avoid alcohol consumption with this medication. (Jones & Bartlett Learning, 2021).	consumption while taking this medication (Jones & Bartlett Learning, 2021).

Hospital Medications (5 required)

Brand/Generic	Furosemide (Lasix)	Vancomycin Vancocin	Diprovan Propofol	Cisatracurium Nimbex	Heparin
Dose	60mg	1000mg	60 mcg/kg/min	4 mcg/kg/min	14 mL/hr 1400 units/hr
Frequency	Q6H	Q12H	60 mcg/kg/min Titrate up or down by 5-10 mcg/kg/min until RASS score of -3 is reached	3mg/hr Titrate by 1mg until RASS score of -3 is reached	Continuous infusion
Route	IV push	IV piggyback	Continuous infusion	Continuous infusion	Continuous infusion

Classification	Loop diuretic Antihypertensive Diuretic	Glycopeptide Antibiotic	Phenol derivative Sedative-hypnotic	Neuromuscular blocking agent Non-depolarizing neuromuscular blocker	Anticoagulant
Mechanism of Action	This medication inhibits sodium and water reabsorption in the loop of Henle and increases urine formation (Jones & Bartlett, 2020).	Disrupts RNA synthesis and cell wall production leading to cell death (Jones & Bartlett Learning, 2021).	Decreases cerebral blood flow & metabolic oxygen consumption causing the medication's hypnotic effects (Jones & Bartlett, 2021).	Binds to the nicotinic cholinergic receptor at the muscle motor end-plate & acts as a competitive antagonist to acetylcholine (Strawbridge et al., 2021).	Binds with antithrombin to inactivate coagulation enzymes (Jones & Bartlett, 2021).
Reason Client Taking	This pt has a medical history of HTN.	The pt had a diagnosis of pneumonia.	Used as a sedative while the pt is intubated.	This is used as a paralytic while the pt is on the ventilator	Prophylaxis for prevention of blood clots.
Contraindications (2)	Contraindications include anuria and hypersensitivity (Jones & Bartlett, 2020).	Allergy to corn, hypersensitivity to vancomycin (Jones & Bartlett Learning, 2021).	Hypersensitivity & an allergy to eggs or egg products (Jones & Bartlett Learning, 2021).	Hypersensitivity & pts with myasthenia gravis syndrome (Strawbridge et al., 2021).	Pregnancy or history of drug-induced thrombocytopenia (Jones & Bartlett Learning, 2021).
Side Effects/Adverse Reactions (2)	Side effects include arrhythmias,	Acute kidney injury or hypotension	Bradycardia, apnea, & hypotension	Bradycardia, hypotension, & possible	Thrombosis, hematemesis, & melena (Jones &

	azotemia, hypocalcemia, hypokalemia, hypomagnesemia, and hyponatremia (Jones & Bartlett, 2020).	(Jones & Bartlett Learning, 2021).	(Jones & Bartlett Learning, 2021).	myopathy (Strawbridge et al., 2021).	Bartlett Learning, 2021).
Nursing Considerations (2)	Use cautiously in pts with advanced hepatic cirrhosis. Prepare drug for infusion with normal saline solution. Obtain pts weight before and during furosemide therapy. (Jones & Bartlett, 2020).	This medication should be administered slowly no less than 1 hour. Monitor for adverse effects such as fever, chills, & nausea. (Jones & Bartlett Learning, 2021).	Repeated or lengthy use of a sedative should be avoided. Use cautiously in pt's with cardiac disease, or impaired cerebral circulation (Jones & Bartlett Learning, 2021).	Maintain the pt between 1-3 mcg/kg/min & ensure resuscitation measures are available at all times such as suctioning, ambu bag, & oxygen (Strawbridge et al., 2021).	Give heparin only via IM or IV route. Alternate injection sites & look for signs of bleeding and hematoma (Jones & Bartlett Learning, 2021).
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Obtain pt's weight prior to administration. Obtain pt's blood pressure prior to administration. Assess pt's electrolyte status prior to administration. (Jones & Bartlett,	Assess pt's allergies prior to administration. Monitor pt's BUN & creatinine before & after administration. Monitor pt's WBCs before	Assess the pt's RASS score, lung sounds, respirations, & LOC before & after administration (Jones & Bartlett Learning, 2021).	Assess the pt's train of four frequently during the shift. Assess the pt's pupils for PERLA responses prior to administration. Verify the pt's	Assess the pt's aPTT times prior to administration. Assess the pt for signs of bleeding prior to administration (Jones & Bartlett Learning, 2021).

	2020).	& after therapy. (Jones & Bartlett Learning, 2021).		prescription (RASS score) & adjust accordingly.	
Client Teaching needs (2)	Advise the pt to take this medication at the same time each day. Also instruct the pt to take the last dose several hours before bedtime to prevent sleep interruption (Jones & Bartlett, 2020).	If no improvement is noted contact the provider, completing the whole prescription is necessary (Jones, 2021).	Assure pt they will be monitored during medication administration. Do not perform activities requiring alertness (Jones & Bartlett Learning, 2021).	Since the pt will be paralyzed, speak to them & ensure them to remain calm as much as possible while on this medication. Also advise the pt of what's happening during their care.	Explain to the pt this medication cannot be taken orally & advise the pt to avoid drugs that interact with heparin such as aspirin & ibuprofen (Jones & Bartlett Learning, 2021).

Medications Reference (1) (APA):

2020 Nurse's drug handbook (2021). Jones & Bartlett Learning.

PDR Search. PDR.Net. (n.d.). Retrieved November 11, 2021, from https://www.pdr.net/.

Strawbridge, A.D., Khanna, N.R., & Hauser, J.M. (2021). Cisatracurium. *StatPearls.*

Assessment

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

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	Student could not assess the pt's alertness & orientation due to the pt being sedated & on a paralytic. The paralytic was d/c at 1000 but pt was still unable to be assessed for alertness & orientation at 1148 because of the paralytic still circulating throughout his system. Pt's appeared comfortable & lightly groomed.
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score: 9** **Drains present: Y☐ N ☒** **Type:**	The patient's skin color was appropriate for his ethnicity. His skin was warm to the touch, intact, & dry but appeared to have a first stage non-blanchable pressure ulcer forming on the great toe and second digit of the right foot. Foot care was performed at 1045. Skin turgor was loose on the clavicle. No rashes or bruises noted, but the patient had an abrasion on the left cheek as a result from proning. Patient's braden score was 10 indicating a high for impaired skin integrity.
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	Patient's head & neck symmetrical with no signs of tracheal deviation. The right ear was clear of debris, but patient had a left ear impaction of cerumen. His eyes were PERLA & symmetrical. Although his pupils were 3mm, they responded to light with the penlight. His eyes were moist, sclera was white, and conjunctiva pink. The patient was sedated & on a paralytic, so the nursing student was unable to assess visual acuity. Patient has a size 16 nasogastric tube (NG) with no signs of septal deviation. The patient also has a triple lumen central line located in

	the right jugular vein. Student performed oral care & found scant amount of dried blood on the gums. No other oral findings noted.
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:**	S1 & S2 audible upon auscultation. Patient was in sinus rhythm during assessment. Dorsal pedalis & brachial peripheral pulses were palpated bilaterally with a capillary refill of 2 seconds. Patient's fingers appeared to be in the starting stages of clubbing, but his SaO2 remained within normal levels ranging from 94-96%. No edema was present bilaterally in the extremities.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character** **ET Tube:** **Size of tube:** 7.5 **Placement (cm to lip):** 23cm **Respiration rate:** 26 **FiO2:** 100 **Total volume (TV):** 300 **PEEP:** 10 **VAP prevention measures:**	Patient was sedated & on a paralytic. His lung sounds were coarse bilaterally, anteriorly, & posteriorly in all lobes. However, his breathing was not labored & his chest rose & fell symmetrically. The patient had an endotracheal (ET) tube size 7.5 placed 23 cm to the lip inserted on 02/07/22 to begin mechanical ventilation. At the time of assessment, the ventilator was set to 26 respirations, an FiO2 of 100%, total volume of 300, and PEEP of 10. The tube remained intact, was suctioned, & repositioned by the student at 1030. The patient's saturation of oxygen remained between 94-96%. VAP prevention measures taken by the nursing student included oral hygiene every 2 hours to remove any dried blood or mucous buildup in the mouth. The student also suctioned the patient's ET tube to reduce possible growth of pathogens. Lastly, the student & clinical

	instructor ensured hand hygiene was completed & proper PPE donned before providing care.
GASTROINTESTINAL: **Diet at home:** Regular **Current Diet:** NG tube → Jevity 1.2 kcal/mL **Height:** 154.9 cm **Weight:** 70.5 kg **Auscultation Bowel sounds:** **Last BM:** Dignishield **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** NONE **Incisions:** NONE **Scars:** NONE **Drains:** NONE **Wounds:** NONE **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☒ N ☐** **Size:** 16 **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	The patient's diet at home was regular. He currently weighs 70.5 kg and is 154.9 cm in height. His current diet in the critical care unit (CCU) was NPO with a size 16 NG tube for feedings using Jevity 1.2 kcal/mL infusing originally at 10mL/hr due to residual volumes being over 500mL. During the student's clinical experience, the patient's residual volume was <100mL, so his feeding infusion was increased to 20mL/hr on 02/15/22. His bowel sounds were active in all 4 quadrants with no presence of distention, incisions, scars, drains, or wounds. The patient's last bowel movement could not be assessed by the student because he had a Dignishield rectal tube placed 02/14/22 for stool collection. No stool was present in collection bag for the duration of clinical.
GENITOURINARY: **Color:** yellow **Character:** clear **Quantity of urine:** 500mL **Pain with urination: Y ☐ N ☐** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type:** Indwelling **Size:** 16	The patient had a size 16 indwelling catheter placed 02/07/22. Upon assessment his urine in the collection bag was yellow & clear. Total urine output was 500 mL. The patient could not be assessed for painful urination or other associated complications of an indwelling catheter due to the patient being sedated & on a paralytic. This patient is not on dialysis. His genitals were the appropriate color for his ethnicity. There were no signs of external

CAUTI prevention measures:	infection, redness, swelling, or wounds to the genitals. CAUTI prevention measures taken by the student includes emptying the catheter collection bag, cleaning the catheter tubing from the patient to the collection bag, & ensuring the bag is always positioned below the patient. During insertion, sterile technique should be priority as well as performing hand hygiene before caring for the catheter or pericare. Also, placing the patient in reverse Trendelenburg position will allow urine to flow downwards using gravity to prevent stasis of urine in the bladder.
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** 50 **Activity/Mobility Status:** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk** ☐	Student unable to assess the patient's reflex status due to the patient being sedated & on a paralytic. His capillary refill was 2 seconds in his hands bilaterally & feet bilaterally. Passive range of motion was completed during repositioning of the patient. He was placed supine on his left side with the HOB 30-45 degrees. This patient required full support & ADL assistance because of sedation & medical paralysis. The patient was a fall risk with a score of 50 indicating a high risk for falls. He remained bedfast during the entirety of clinical.
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no - Legs ☐ Arms ☐ Both ☒** **Orientation:** **Mental Status:**	.Using the peripheral nerve stimulator (train of four monitor), the patient had 1-2 facial nerve responses out of 4 during initial assessment at 0830. For this reason, the paralytic was titrated from 4 mcg/kg/min to 3 mcg/kg/min. After 15 mins, his nerve responses were reassessed & resulted still with 1-2 responses from his facial

Speech: **Sensory:** **LOC:**	nerve. At 1000, the paralytic was discontinued to prepare for a sedation vacation. His alertness, orientation, speech, sensory status, & mental status were unable to be assessed due to the patient being sedated & on a paralytic. The patient's LOC score was a 3 on the Glasgow scale due to sedation & paralytics. The patient's RASS score was -3 & would remain at that score until his sedation was discontinued. A RASS score of -3 indicates moderate sedation, however, the patient remained unarousable, unresponsive, & had no eye movement. At 1148, the patient's neurological status was reassessed, and he still did not respond to touch, verbal, or painful stimuli.
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 did not have any known family members who were present as support. The patient designated a priest (Joseph Brandon) to be his surrogate. This indicated a religious significance & affiliation for support. The patient attended the same church as the priest. No other information was provided due to the patient being sedated and on a paralytic.

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

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0816	82 Rt thumb	114/56 Lt arm	26 Ventilator	36.5 C	94 Ventilator
1155	61 Right finger	113/33 Lt arm	26 Ventilator	36.4 C	96 Ventilator

1157	84 Right finger				

Vital Sign Trends/Correlation:

The patient's vital signs remained stable during the duration of clinical. Upon gathering the second set of vitals, the patient's pulse dropped to 61 bpm, but was not significant enough to report to the provider. The pulse was reassessed at 1157 and was within normal range. His respiratory rate is elevated at 26 breaths/min, but this setting was established by the pulmonary doctor. The patient remained at 26 breaths/min exactly for the duration of clinical. This is due to the patient being on a paralytic and unable to breath on his own. The paralytic was discontinued at 1000 to prepare the patient for sedation vacation later in the day.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0851	FLACC	N/A	N/A	N/A	N/A
1200	FLACC	N/A	N/A	N/A	N/A

Patient's pain scale & severity could not be determined due to paralytic & sedation.

IV Assessment (2 Points)

IV Assessment	**Fluid Type/Rate or Saline Lock**
Size of IV: 20 gauge **Location of IV:** Right forearm **Date on IV:** 02/07/22 **Patency of IV:** flushed & aspirated without difficulty **Signs of erythema, drainage, etc.:** no signs of phlebitis, erythema, drainage, or infiltration **IV dressing assessment:** dry & intact	The patient had a 20-gauge IV located in the right forearm that was inserted on 02/07/22 for infusions of vancomycin 1000mg Q12H. If vancomycin was not infusing the IV was saline locked. The IV was flushed & aspirated without difficulty at 0900. There were no signs of phlebitis, erythema, drainage, or infiltration around the IV site. The dressing was dry & intact.
Other Lines (PICC, Port, central line, etc.)	
Type: Central Line **Size:** Triple lumen **Location:** Rt jugular vein **Date of insertion:** 02/07/22 **Patency:** Good blood return, aspirated & infused without difficulty **Signs of erythema, drainage, etc.:** no signs of erythema, infiltration, or phlebitis **Dressing assessment:** dry & intact **Date on dressing:** 02/07/22 **CUROS caps in place: Y ☒ N ☐** **Type:** Arterial line **Location:** Rt radial artery **Date of insertion:** 02/07/22 **Patency:** aspirated & flushed without difficulty **Signs of erythema, drainage, etc.:** no signs	The patient had a triple lumen central line located in the right jugular vein that was inserted on 02/07/2022. Heparin was infused at 14 mL/hr, Fentanyl was infused at 25 mcg/ hr, Dextrose 5% / 0.45% NS was infused at 75 mL/hr, and Propofol was infused at 60mcg/kg/min for the duration of clinical. Cisatracurium was infused at 4mcg/kg/min until 0930, then reduced to 3mcg/kg/min. At 1000 cisatracurium was discontinued. The central line was aspirated & infused without difficulty. There were no signs of erythema, infiltration, or phlebitis on the site. The dressing was dry & intact with a dressing date of 02/07/2022. There were CUROS caps present on each unused port on the tubing. The patient also had an arterial line located in the right radial artery with an insertion date of

of erythema, infiltration, or phlebitis **Dressing assessment:** dressing changed per facility policy. Dressing was clean, dry, & intact. **Date on dressing:** 02/15/22 **CUROS caps in place:** YES **CLABSI prevention measures:** flush & aspirate during every assessment, change tubing Q72H, assess for redness, swelling, hardness, or warmth.	02/07/2022. The line was aspirated & flushed without difficulty. There were no signs of erythema, infiltration, swelling, or phlebitis. The dressing was changed per facility policy on 02/15/2022 during nursing student assessment. After the dressing change the IV site was dry & intact with CUROS caps in place on unused ports on the tubing. CLABSI prevention measures includes flushing & aspirating the line during each assessment, changing the tubing Q72H, and assessing for redness, swelling, hardness, or warmth. Other prevention measures include using alcohol impregnated caps, using sterile technique during dressing changes, performing hand hygiene prior to care, and wearing gloves.

Intake and Output (2 points)

Intake (in mL)	**Output (in mL)**
1039 mL (949 mL IV drip medications, 30 mL NG flush + medications, 20mL x 3hr = 60 mL of NG tube feeding)	500 mL @ 0930 – indwelling catheter 150 mL @ 1200 – indwelling catheter

Nursing Care

Summary of Care (2 points)

Overview of care: The nursing student provided ET tube suctioning and care, oral care, skin care, and catheter care. The student also assessed the patient from head-to-toe noting any abnormalities or changes to the patient's status. With the assistance of the preceptor, the student nursing changed all IV tubing, arterial line dressing, and administered medications via continuous infusion. The patient's intake and output were documented and charted. With the assistance of the clinical instructor, the nursing student assessed the patient's skin integrity, suctioned the ET tube, and assessed the patient's ventilator settings.

Procedures/testing done: The patient had an EKG, US of the thyroid and venous duplex, CT, and chest x-ray performed to confirm the diagnosis of pneumonia. The patient also had a CMP, blood coagulation studies, sputum culture, blood culture, and urine culture performed to further confirm the diagnosis of pneumonia. For the patient's RASS score, the train of four completed to assess the patient's neurological responses and paralytic status.

Complaints/Issues: Due to the patient's sedation and paralysis, the patient was unable to verbalize any complaints or issues.

Vital signs (stable/unstable): The patient's vitals remained stable for the duration of clinical.

Tolerating diet, activity, etc.: Upon assessment, the patient's residual contents measured at 10 mL. Prior to clinical, the patient's residual volume stayed at a consistent number > 500 mL. The patient's feedings were increased from 10 mL/hr to 20 mL/hr of Jevity 1.2 kcal/mL. The patient tolerated feedings for the duration of clinical.

Physician notifications: There were no physician notifications.

Future plans for client: Future plans for the patient included sedation vacation with hopes to remove the patient from the ventilator. No other future plans were made for the patient until possible ventilator weaning was completed.

Discharge Planning (2 points)

Discharge location: The patient's discharge location was unknown at the time of clinical, but the goal is to stabilize the patient's breathing on his own to move him to the step down or medical unit. From there, the patient may possibly go to a rehabilitation facility or home with home healthcare depending on his condition.

Home health needs (if applicable): Depending on the patient's status upon discharge, home health care may be ordered.

Equipment needs (if applicable): Depending on the patient's status upon discharge, equipment may be ordered.

Follow up plan: Upon discharge the patient will follow up with his primary provider as scheduled.

Education needs: The patient needs educated on the importance of handwashing to reduce the risk of future infections. He also needs educated on the importance of wearing a face mask while in public or within 6 feet of others. This will also reduce the risk of infection.

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 protection related to neurosensory impairment as evidenced by the patient	Due to the sedative & paralytic, the patient's natural defenses are depressed such as the cough & gag	1. Assess the patient's RASS score to ensure proper paralytic parameters are safe for the patient.	The patient will have a 4 out of 4 on the peripheral nerve monitor by 1200 on 02/15/2022.	Goal not met – The patient remained a 1 out of four on the facial nerve stimulator. After discontinuation of the paralytic at 1148, his score remained between 1-2.

being sedated and on a paralytic.	reflex.	2.Perform ET tube care & suctioning to compensate for patient's decreased cough & gag reflex.		Goal met – the nursing student & preceptor completed oral care during assessment. The nursing student & clinical instructor performed ET tube suctioning.
2. Impaired spontaneous ventilation related to decreased pulmonary function as evidenced by the patient requiring mechanical ventilation on 02/07/2022.	After admission on 02/03/2022, the patient was unable to maintain his oxygen saturation & perfusion causing him to need mechanical ventilation & intubation on 02/07/2022.	1. Assess the patient's lung sounds bilaterally, anteriorly, & posteriorly during each assessment. 2.Check ET tube placement by assessing rise & fall of the chest.	1. The patient will have no complications during this shift.	Goal met – the patient did not have any complications during the shift. Goal met – The nursing student and clinical instructor assessed the placement of the ET tube including rise & fall of the chest, tubing connections, & ventilator settings.
3. Risk for decreased tissue perfusion related to inadequate oxygen exchange as evidenced by infiltrates & opacities on the chest x-ray.	Having pneumonia causes opacities & infiltrates on a chest x-ray which can result in decreased oxygen perfusion.	**1.** Monitor the patient's ventilator settings & VS to ensure the patient is adequately oxygenated. **2**Assess the patient's ET tube placement & closely monitor the	**1.** The patient's oxygen saturation will remain equal to or above 94% during each shift.	Goal met – the patient's oxygen saturation remained equal to or above 94% for the duration of clinical. Goal partially met – the patient's ventilator settings were assessed by the nursing student & clinical instructor. Lungs sounds were auscultated bilaterally, anteriorly, & posteriorly

		patient's ABG levels.		indicating coarse crackles in all lobes.
4. Impaired skin integrity related to decreased mobility as evidenced by stage 1 pressure ulcers on the right toes & an abrasion on the patient's left cheek.	The sedative & paralytic doesn't allow the patient to be mobile which have caused pressure ulcers & an abrasion to appear on the patient's skin.	**1.** Perform in-depth head-to-toe assessments, particularly on the skin in areas of high friction or pressure. **2.** Turn the patient Q2H & as needed placing pillows & foam boards on bony prominences.	**1.** The patient will not experience further skin breakdown or complications until discharge.	Goal met – the patient did not have any additional wounds or threats to his skin integrity during the entirety of clinical. Goal met – the nursing student & clinical instructor performed foot care to decrease the risk of further skin impairment.
5. Imbalanced nutrition related to the inability to digest food as evidenced by the patient's consistent residual volume being between 400-500mL.	During each feeding the patient's residual volume would be greater than 300 mL which indicates poor digestion & can lead to imbalanced nutrition.	**1.** Check for residual volume before the administration of medications & other liquids. **2.** Monitor the patient's urine & stool output during each assessment.	**1.** The patient will maintain an infusion of Jevity 1.2 kcal/mL at a rate of 20mL/hr for 24 hours.	Goal met – the patient maintained a feeding rate of 20 mL/hr. Goal met – the patient's urine output for the duration of clinical was 650 mL. He also maintained a residual volume of less than 50mL in his stomach.

Other References (APA):

Concept Map (20 Points):

Subjective Data

The patient came to the ED complaining of shortness of breath & weakness on 02/03/2022. No other subjective data was able to be collected due to the patient being sedated & on a paralytic.

Nursing Diagnosis/Outcomes

Impaired spontaneous ventilation related to decreased pulmonary function as evidenced by the patient requiring mechanical ventilation on 02/07/2022.
The patient will have no complications during this shift.
Ineffective protection related to neurosensory impairment as evidenced by the patient being sedated and on a paralytic.
The patient will have a 4 out of 4 on the peripheral nerve monitor by 1200 on 02/15/2022.
Risk for decreased tissue perfusion related to inadequate oxygen exchange as evidenced by infiltrates & opacities on the chest x-ray.
The patient's oxygen saturation will remain equal to or above 94% during each shift.
Impaired skin integrity related to decreased mobility as evidenced by stage 1 pressure ulcers on the right toes & an abrasion on the patient's left cheek.
The patient will not experience further skin breakdown or complications until discharge.
Imbalanced nutrition related to the inability to digest food as evidenced by the patient's consistent residual volume being between 400-500mL.
The patient will maintain an infusion of Jevity 1.2 kcal/mL at a rate of 20mL/hr for 24 hours.

Objective Data

Opaque infiltrates on CXR
COVID diagnosis on 01/27/2022
Pneumonia diagnosis 02/03/2022
Pt intubated on 02/07/2022
Neutrophils 88.2 on admission
Lymphocytes 6.2 on admission
Potassium = 3.0 on 02/15/2022
CO2 = 39 on 02/15/2022
BUN = 38 on admission & 58 on 02/15/2022
Blood arterial pH = 7.47 on 02/15/2022
PaCO2 = 57.2 on 02/15/2022
HCO3 = 39.7 on 02/15/2022
Sputum culture positive for E. coli & Staph aureus on 02/13/2022

Client Information

The patient is a 71 year old white male with a history of anxiety, depression, hypertension, dyspnea, prostate cancer that has metastasized to the bone, and degenerative joint disease who presented to the ED complaining of shortness of breath & weakness on 02/03/2022. He tested positive for COVID-19 on 01/30/2022 & continued to have complications upon readmission to the ED.

Nursing Interventions

Assess the patient's lung sounds bilaterally, anteriorly, & posteriorly during each assessment.
Check ET tube placement by assessing rise & fall of the chest.
Assess the patient's RASS score to ensure proper paralytic parameters are safe for the patient.
Perform ET tube care & suctioning to compensate for patient's decreased cough & gag reflex.
Monitor the patient's ventilator settings & VS to ensure the patient is adequately oxygenated.
Assess the patient's ET tube placement & closely monitor the patient's ABG levels.
Perform in-depth head-to-toe assessments, particularly on the skin in areas of high friction or pressure.
Turn the patient Q2H & as needed placing pillows & foam boards on bony prominences.
Check for residual volume before the administration of medications & other liquids.
Monitor the patient's urine & stool output during each assessment.