N431 Care Plan # 1

Lakeview College of Nursing

Sengsavang Carr

Demographics (3 points)

Date of Admission 12/19/2023	Client Initials J.C.	Age 58 years old	Gender Male
Race/Ethnicity White/Caucasian	Occupation Unemployed	Marital Status Single	Allergies No known allergies
Code Status FULL	Height 182.9 cm	Weight 212.6 kg	

Medical History (5 Points)

Past Medical History: Chronic respiratory failure with hypoxia and hypercapnia, depression, gastric ulcer, hypertension, idiopathic progressive polyneuropathy, low vitamin B-12 level, low vitamin D level, morbid obesity, and obesity hypoventilation syndrome.

Past Surgical History: Gastric bypass surgery, hernia repair, and tracheostomy (12/27/2022).

Family History: Mother (cardiac death at age 63), father (cerebral hemorrhage at age 50), and brother (septic death at age 59).

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): Tobacco (2 packs/day for 19 years and quit smoking 2019), never used smokeless tobacco, not currently drinking alcohol, and patient states that he used to smoke a lot of weed before but not currently.

Assistive Devices: None; patient is in a bed during hospital stay and at his living situation.

Living Situation: Vandalia Rehabilitation and Healthcare Center

Education Level: Patient states that he has his high school diploma.

Admission Assessment

Chief Complaint (2 points): Acute on chronic hypoxia and hypercapnia respiratory failure

History of Present Illness – OLD CARTS (10 points): The patient presented to Carle on 12/19/2022 with symptoms of acute on chronic hypoxia and hypercapnia respiratory failure. The patient stated he had difficulty breathing. The patient described the respiratory failure as being short of breath or not feeling like he was getting enough air. The only times that worsened his breathing were when he did not have continuous air to his tracheostomy. He stated that timing was continuous once he started experiencing respiratory failure. The patient was given supplemental oxygen until needing a tracheostomy on 12/27/2022 as part of his treatment. The patient explained that the severity of respiratory failure was terrible and scary.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Obesity hypoventilation syndrome

Secondary Diagnosis (if applicable): Acute on chronic hypoxia and hypercapnia respiratory failure

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

When energy intake surpasses energy expenditure, obesity follows. When the body does not use all the energy it consumes, it gets stored as fat. However, the predisposition for weight growth and the accumulation of fat mass varies significantly among people. *Obesity* is a metabolic condition brought on by alterations in fluid balance, hepatic glucose production, fat accumulation, and cellular insulin sensitivity. Adipocytes, often known as fat cells, are regarded as endocrine cells. Adipokines, which are hormones and proteins that impact the body's metabolism, is secreted by them. The number of adipocytes can rise, and each cell can grow to produce fat accumulation. The body's organs are

insulated, warmed, and cushioned by adipose tissue, which also acts as a place to store extra energy (Capriotti & Frizzell, 2020).

Air is inhaled and exhaled through the pulmonary airways during ventilation. The oxygen concentration of the atmosphere and air movement are both influenced by physical forces. There is less oxygen present and low air pressure at high altitudes. The rate and depth of breathing increase in response to the lower O2 levels (Capriotti & Frizzell, 2020). The procedure, speed, and depth of respirations during inhalation and expiration are all regulated by different receptors. Because variations in blood pH and carbon dioxide produce changes in the pace and depth of breathing, the medulla contains central chemoreceptors. The central chemoreceptors are stimulated by an increase in CO2 (hypercapnia) or a decrease in pH (acidosis), which causes an increase in respiration rate. The pH will eventually revert to normal. Hypercapnia, an increased blood carbon dioxide, serves as the body's typical breathing stimulus. The increasing CO2 levels stimulate the central respiratory center in the medulla. However, central chemoreceptors become less responsive when subjected to high CO2 levels for extended periods. The peripheral chemoreceptors of low O2 can now act as the primary stimulus for breathing due to the attenuated response to CO2. This response correlates with a PaO2 level of roughly 60 mmHg, the point at which oxygen dissociates from hemoglobin, during the hypoxic drive phase (Capriotti & Frizzell, 2020).

When blood oxygen levels are insufficient to meet tissue demands, hypoxia results and numerous variables that affect gas exchange across the alveolar membrane may be to blame. For instance, pulmonary edema generates a fluid barrier that prevents oxygen from passing across the alveolar-capillary interface. In contrast to anoxia, which denotes no

oxygen in the blood, hypoxemia means insufficient oxygen in the arterial blood. Hypoxia can result from chemical poisoning, such in that scenario from Carbon Monoxide Poisoning. In this instance, oxygen cannot attach to the hemoglobin molecule because carbon monoxide instead binds to it as carboxyhemoglobin. High blood levels of carbon monoxide can be lethal (Capriotti & Frizzell, 2020).

Respiratory failure ensues when the pulmonary system cannot adequately remove carbon dioxide or oxygenate the blood. Either hypoxemic or hypercapnic regulatory failure is what this is (Capriotti & Frizzell, 2020). Hypoxemic respiratory failure ensues when arterial blood pressure for oxygen and carbon dioxide is less than 60 mmHg with standard arterial carbon dioxide. Respiratory failure can be brought on by a variety of acute lung disorders, such as pulmonary edema, PE, pneumonia, or pneumothorax (Capriotti & Frizzell, 2020). When the level of carbon dioxide in arterial blood exceeds 50 mmHg, hypercapnic respiratory failure develops. Asthma and COPD are two prominent causes of hypercapnia. Hypercapnic rotatory failure is frequently accompanied by hypoxemia in people breathing room air (Capriotti & Frizzell, 2020).

Pathophysiology References (2) (APA):

Capriotti, T. & Frizzell, J.P. (2020). *Pathophysiology: Introductory concepts and clinical perspectives*. (2nd ed.). F.A. Davis Company.

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2018). *Mosby's diagnostic and laboratory test reference* (14th ed.). Mosby.

Laboratory Data (15 points)

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

Lab	Normal Range	Admission Value	Today's Value	Reason for Abnormal Value
RBC	4.10-5.70 10^6/uL	4.26 10^6/uL	N/A	
Hgb	12.0-18.0 g/dL	13.2 g/dL	N/A	
Hct	37.0-51.0%	46.7%	N/A	
Platelets	140-400 10^3/uL	224 10^3/uL	N/A	
WBC	4.00-11.00 10^3/uL	10.14 10^3/uL	N/A	
Neutrophils	1.60-7.70 10^3/uL	8.36 10^3/uL	N/A	
Lymphocytes	1.00-4.90 10^3/uL	1.10 10^3/uL	N/A	
Monocytes	0.00-1.10 10^3/uL	0.59 10^3/uL	N/A	
Eosinophils	0.00-0.50 10^3/uL	0.04 10^3/uL	N/A	
Bands	50-65%	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 mmol/L	143 mmol/L	N/A	
K+	3.5-5.1 mmol/L	4.4 mmol/L	N/A	
Cl-	98-107 mmol/L	91 mmol/L	N/A	Patient could be dehydrated with a sign of having too much acid in blood (Pagana et al., 2018).

CO2	**22.0-29.0 mmol/L**	**41.0 mmol/L**	**N/A**	**Patient's lungs were not able to properly remove CO2 (Pagana et al., 2018).**
Glucose	**74-100 mg/dL**	**108 mg/dL**	**N/A**	**Patient's glucose levels are elevated as a result to having possible diabetes (Pagana et al., 2018).**
BUN	**8-26 mg/dL**	**9 mg/dL**	**N/A**	
Creatinine	**0.55-1.30 mg/dL**	**0.40 mg/dL**	**N/A**	**Patient's creatinine levels could be low as a sign of poor nutritional status or fluid overload (Pagana et al., 2018).**
Albumin	**3.5-5.0 g/dL**	**3.3 g/dL**	**N/A**	**Patient's albumin levels were low as a result of an infection (Pagana et al., 2018).**
Calcium	**8.9-10.6 mg/dL**	**10.0 mg/dL**	**N/A**	
Mag	**1.6-2.6 mg/dL**	**1.8 mg/dL**	**N/A**	
Phosphate	**3.0-4.5 mg/dL**	**N/A**	**N/A**	
Bilirubin	**0.2-1.2 mg/dL**	**0.6 mg/dL**	**N/A**	
Alk Phos	**40-150 U/L**	**73 U/L**	**N/A**	
AST	**5-34 U/L**	**13 U/L**	**N/A**	
ALT	**0-55 U/L**	**7 U/L**	**N/A**	
Amylase	**40-140 U/L**	**N/A**	**N/A**	
Lipase	**11-82 U/L**	**N/A**	**N/A**	
Lactic Acid	**0.5-2.0 mmol/L**	**N/A**	**N/A**	
Troponin	**0.00-0.03 ng/mL**	**0.01 ng/mL**	**N/A**	
CK-MB	**5-25 IU/L**	**N/A**	**N/A**	
Total CK	**55-170 U/L**	**N/A**	**N/A**	

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	0.8-1.1 sec	N/A	N/A	
PT	10.1-13.1 sec	N/A	N/A	
PTT	25-36 sec	N/A	N/A	
D-Dimer	220-500 ng/mL	N/A	N/A	
BNP	>100 pg/mL	N/A	N/A	
HDL	>40 mg/dL	N/A	N/A	
LDL	<130 mg/dL	N/A	N/A	
Cholesterol	<200 mg/dL	N/A	N/A	
Triglycerides	<150 mg/dL	N/A	N/A	
Hgb A1c	<5.7%	N/A	N/A	
TSH	0.5-5.0 mlU/L	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	Yellow/ cloudy	N/A	Patient's urine showed signs of possible UTI or dehydration (Pagana et al., 2018).
pH	5.0-9.0	>=9.0	N/A	Patient's kidneys are not properly removing acids (Pagana et al., 2018).
Specific Gravity	1.000-1.030	1.010	N/A	
Glucose	Negative	Negative	N/A	
Protein	Negative	100	N/A	If the pH of specimen is 8.0 or greater. Dipstick protein result is subject to error.

Ketones	**Negative**	**Trace!**	**N/A**	**If there is a trace of ketones in the patient's urine it is a sign that his body is overly acidic (Pagana et al., 2018).**
WBC	**0-25/UL**	**79**	**N/A**	**If the patient's WBC is elevated it could indicate an infection (Pagana et al., 2018).**
RBC	**0-20/UL**	**102**	**N/A**	**If the patient's RBC is elevated it could indicate an underlying health issue (Pagana et al., 2018).**
Leukoesterase	**Negative**	**Large!**	**N/A**	**A detection of leukoesterase could indicate a urinary tract infection (UTI) (Pagana et al., 2018).**

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	**7.310-7.410**	**7.499**	**N/A**	**Having an elevated pH could indicate that the patient's blood is alkalotic (Pagana et al., 2018).**
PaO2	**35.0-45.0 mmHg**	**140.8 mmHg**	**N/A**	**Having an elevated PaO2 indicates alveolar hypoventilation (Pagana et al., 2018).**
PaCO2	**41.0-51.0 mmHg**	**54.4 mmHg**	**N/A**	**Having an elevated PaCO2 indicated a buildup of CO2 due to hypoventilation or respiratory**

				failure (Pagana et al., 2018).
HCO3	**21.5- 25.5 mmol/L**	**41.4 mmol/L**	**N/A**	**Having an elevated HCO3 could indicate that the body is having a difficult time maintaining its acid-base balance (Pagana et al., 2018).**
SaO2	**95-99%**	**98.7%**	**N/A**	

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	**Negative**	**N/A**	**N/A**	
Blood Culture	**Negative**	**N/A**	**N/A**	
Sputum Culture	**Negative**	**N/A**	**N/A**	
Stool Culture	**Negative**	**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* (14th ed.). Mosby.

Diagnostic Imaging

All Other Diagnostic Tests (5 points): 12/19/2022 and 1/23/2023 – Chest x-ray Ap, single AP portable view; indicates hypoxia.

Diagnostic Test Correlation (5 points): The findings are prominent bilateral interstitial and some airspace opacities suggesting pulmonary edema.

Diagnostic Test Reference (1) (APA):

Pagana, K.D., Pagana, T.J., & Pagana, T.N. (2018). *Mosby's Diagnostic and Laboratory Test Reference* (14th ed.). Mosby.

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

Home Medications (5 required)

Brand/Generic	**bupropion HCL (Wellbutrin XL)**	**diphenhydramine (Benadryl)**	**gabapentin (Neurontin)**	**ondansetron (Zofran)**	**omeprazole**
Dose	**300 mg**	**25 mg**	**100 mg**	**14 mg**	**20 mg**
Frequency	**Daily**	**Every 6 hours as needed**	**TID**	**Every 6 hours as needed**	**Daily**
Route	**Oral**	**Oral**	**Oral**	**Oral**	**Oral**
Classification	**Pharmacologic: Aminoketone Therapeutic: Antidepressant**	**Pharmacologic: Antihistamine Therapeutic: Antianaphylactic adjunct, antidyskinetic, antiemetic,**	**Pharmacologic: 1-amino-methyl cyclohexane acetic acid Therapeutic: Anticonvulsant**	**Pharmacologic: Selective serotonin receptor antagonist Therapeutic: Antiemetic**	**Pharmacologic: Proton pump inhibitor Therapeutic: Antiulcer**

		antihistamine, antitussive, antivertigo, and sedative-hypnotic			
Mechanism of Action	**It may prevent neurons from absorbing dopamine, norepinephrine, and serotonin, dramatically reducing depression symptoms (Jones & Bartlett, 2020).**	**It competes with histamine for these receptors by binding to central and peripheral H1 receptors, preventing it from reaching its target location. Diphenhydramine has antihistamine effects by blocking histamine. These actions include suppressing the contraction of smooth muscles in the GI, respiratory, and vascular systems, reducing capillary permeability to lessen itchiness and wheals, and**	**The primary inhibitory neurotransmitter in the brain, gamma-aminobutyric acid (GABA), shares structural similarities with gabapentin (Jones & Bartlett, 2020). However, the precise mode of action of gabapentin is not established. GABA prevents the fast neuronal firing linked to seizures. It may also prevent exaggerated reactions to painful stimuli and pain-related reactions to**	**Blocks serotonin receptors both proximally at vagal nerve terminals in the gut and centrally in the chemoreceptor trigger zone (Jones & Bartlett, 2020). Limiting serotonin release in the small intestine and restricting signals to the central nervous system decreases nausea and vomiting (Jones & Bartlett, 2020).**	**By blocking the hydrogen potassium adenosine triphosphatase enzyme system, also known as the proton pump, in gastric parietal cells, omeprazole prevents the secretion of stomach acid (Jones & Bartlett, 2020). Normally, the proton pump drives hydrogen and chloride out of parietal cells and into the stomach lumen in exchange for potassium, which exits the stomach lumen and enters parietal cells, using**

		lacrimal and salivary gland secretions (Jones & Bartlett, 2020).	**a typically harmless stimulus, which would explain why it works so well in treating the symptoms of postherpetic neuralgia and restless legs syndrome (Jones & Bartlett, 2020).**		**energy from the breakdown of adenosine triphosphate (Jones & Bartlett, 2020). Following this exchange, hydrochloric acid is created in the stomach by combining hydrogen and chloride (Jones & Bartlett, 2020). The exchange of internal hydrogen and extracellular potassium is permanently blocked by omeprazole. Omeprazole prevents more HCl from developing by stopping hydrogen from entering the stomach lumen (Jones & Bartlett, 2020).**
Reason Client	**To treat**	**To treat**	**To manage**	**To prevent**	**To treat**

Taking	**depression (Jones & Bartlett, 2020).**	**sleep disorders (Jones & Bartlett, 2020).**	**postherpetic neuralgia (Jones & Bartlett, 2020).**	**nausea and vomiting (Jones & Bartlett, 2020).**	**erosive esophagitis due to acid-medicated GERD (Jones & Bartlett, 2020).**
Contraindications (2)	**Seizure disease or disorders that enhance the risk of seizures and hypersensitivity to bupropion or its components (Jones & Bartlett, 2020).**	**Hypersensitivity to diphenhydramine similar histamines, or their components (Jones & Bartlett, 2020).**	**Hypersensitivity to gabapentin or its components and depression (Jones & Bartlett, 2020).**	**Concomitant use of apomorphine, hypersensitivity to ondansetron or its component (Jones & Bartlett, 2020).**	**Concurrent therapy with rilpivirine-containing products and hypersensitivity to omeprazole, substituted benzimidazoles, or their component (Jones & Bartlett, 2020).**
Side Effects/Adverse Reactions (2)	**Arrhythmias and thrombocytopenia (Jones & Bartlett, 2020).**	**Tachycardia and hemolytic anemia (Jones & Bartlett, 2020).**	**Hypoglycemia and apnea (Jones & Bartlett, 2020).**	**Bronchospasms and anaphylaxis (Jones & Bartlett, 2020).**	**Leukopenia and hypomagnesemia (Jones & Bartlett, 2020).**
Nursing Considerations (2)	**Because the medicine is eliminated through the kidneys and used with caution in people with renal impairment (Jones & Bartlett, 2020), especially when**	**Diphenhydramine should only be used intravenously if oral intake is impossible (Jones & Bartlett, 2020). Elixir and parenteral versions should be**	**Before ingestion, gabapentin capsules may be opened and combined with applesauce, fruit juice, pudding, or water (Jones & Bartlett, 2020). Give**	**After opening the container, place an oral soluble film or dissolving tablet on the patient's tongue, which will disintegrat**	**For a once-daily dose, administer omeprazole before meals, ideally in the morning, and an antacid if necessary (Jones & Bartlett, 2020). Be aware that**

	therapy begins or the dose is changed, closely monitor depressed individuals for worsening depression and an increased risk of suicide (Jones & Bartlett, 2020).	**kept out of the light and in a properly closed container (Jones & Bartlett, 2020).**	**the medication at least two hours following an antacid (Jones & Bartlett, 2020).**	**e in seconds (Jones & Bartlett, 2020). Anaphylaxis and bronchospasm are hypersensitivity reactions that may occur while taking ondansetron, so it is essential to closely monitor the patient for any signs and symptoms. If present, stop taking the medication, inform the doctor, and offer comfort care (Jones & Bartlett, 2020).**	**medicine may interfere with a patient's ability to absorb vitamin B-12; keep an eye out for macrocytic anemia (Jones & Bartlett, 2020).**
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	**Bupropion may cause hypertension; therefore, keep an eye on the patient's blood pressure and WBC levels**	**Watch the patient's heart rate closely because this medication may cause tachycardia, resulting in an increased**	**The medication may result in hypoglycemia, thus keeping track of the patient's blood sugar**	**Keep an eye out for any bronchospasm symptoms in the patient, such as lung**	**Because this medication may cause hypomagnesemia, monitor serum magnesium levels (Jones & Bartlett,**

	because this medication can drop white blood cell counts (Jones & Bartlett, 2020).	**heartbeat (Jones & Bartlett, 2020). Keep an eye on the patient's RBC levels because this medication may result in hemolytic anemia, which means that the patient's red blood cells may be lost more quickly than they are produced (Jones & Bartlett, 2020).**	**levels (Jones & Bartlett, 2020). As this medication can result in apnea, monitor the patient's breathing and respiratory pattern (Jones & Bartlett, 2020).**	**coughing or wheezing (Jones & Bartlett, 2020). Because this medication can drop blood pressure, keep an eye on the patient's blood pressure (Jones & Bartlett, 2020).**	**2020). Because this medication may cause leukopenia, keep track of the patient's WBC count (Jones & Bartlett, 2020).**
Client Teaching Needs (2)	**Inform the patient to take bupropion with meals and to keep the medication at room temperature, dry, and away from light (Jones & Bartlett, 2020). Inform the patient not to chew, chop, or crush the E.R. tablets before**	**Tell the patient to take diphenhydramine for at least 30 minutes before being exposed to circumstances that could make them queasy. Encourage him to take the medication with food to reduce GI upset (Jones & Bartlett, 2020).**	**Inform the patient receiving gabapentin extended-release capsules to swallow the capsule whole and not to chew, break, or split the capsules (Jones & Bartlett, 2020). Instruct the patient to take gabapentin capsules to**	**Tell the patient to report any rash or other symptoms of sensitivity right away (Jones & Bartlett, 2020). Encourage the patient to get help immediately if they encounter persistent, severe, unusual, or worse**	**Inform the patient to swallow delayed-release capsules or tablets whole and to take the medication before eating, typically before breakfast. If necessary, the patient can mix the capsule's contents with one tablespoon**

	swallowing them whole (Jones & Bartlett, 2020).		**open them and sprinkle the contents in juice or soft food right before usage (Jones & Bartlett, 2020).**	**symptoms (Jones & Bartlett, 2020).**	**of applesauce before swallowing it whole without chewing the pellets. After that, he should drink a glass of cool water and not save any leftover combination (Jones & Bartlett, 2020). Tell the patient to call the doctor if they observe blood in their urine or a decrease in the amount of urine they pass (Jones & Bartlett, 2020).**

Hospital Medications (5 required)

Brand/Generic	**bumetanide**	**carvedilol (COREG)**	**enoxaparin (LOVENOX)**	**lisinopril**	**sertraline (ZOLOFT)**
Dose	**2 mg**	**6.25 mg**	**60 mg**	**5 mg**	**200 mg**
Frequency	**BID**	**BID**	**Every 12**	**Daily**	**Daily**

			hours		
Route	**Oral**	**Oral**	**Subcutaneous injection**	**Oral**	**Oral**
Classification	**Pharmacologic: Loop diuretic as sulfonamide derivative Therapeutic: Diuretic**	**Pharmacologic: Nonselective beta blocker and alpha 1 blocker Therapeutic: Antihypertensive, heart failure treatment adjunct**	**Pharmacologic: Low-molecular-weight heparin Therapeutic: Anticoagulant**	**Pharmacologic: Angiotensin-converting enzyme (ACE) inhibitor Therapeutic: Antihypertensive**	**Pharmacologic: Selective serotonin reuptake inhibitor Therapeutic: Antianxiety, antidepressant, antiobsessant, antipanic, antiposttraumatic stress**
Mechanism of Action	**It prevents sodium, chloride, and water from being reabsorbed in the ascending limb of the loop of Henle, promoting their excretion and reducing fluid volume (Jones & Bartlett, 2020).**	**It decreases peripheral vascular resistance, vasodilation, and cardiac output while reducing tachycardia and blood pressure (Jones & Bartlett, 2020). Carvedilol lowers plasma renin activity when administered for at least four weeks (Jones & Bartlett, 2020).**	**It enhances the coagulation inhibitor antithrombin III's effects. Enoxaparin rapidly attaches to and inactivates coagulation factors by adhering to antithrombin III (Jones & Bartlett, 2020). Clots cannot form without thrombin because fibrinogen cannot transform into fibrin (Jones &**	**It may lower blood pressure by preventing angiotensin I from becoming angiotensin II. A potent vasoconstrictor, angiotensin II, also causes the adrenal cortex to release aldosterone (Jones & Bartlett, 2020). Angiotensin II production in the kidneys and blood**	**It increases the quantity of serotonin accessible at nerve synapses by inhibiting the neurotransmitter serotonin's reuptake by CNS neurons (Jones & Bartlett, 2020). A higher serotonin level may improve mood and lessen depression. This procedure might also**

			Bartlett, 2020).	**vessels may be inhibited by lisinopril. Reduced aldosterone release results in increased sodium and water excretion and decreased reabsorption, which lowers blood pressure (Jones & Bartlett, 2020).**	**help with other psychiatric illnesses with serotonin deficiencies as a contributing factor (Jones & Bartlett, 2020).**
Reason Client Taking	**To treat edema caused by heart failure, hepatic disease, and renal disease, including nephrotic syndrome (Jones & Bartlett, 2020).**	**To control hypertension (Jones & Bartlett, 2020).**	**To prevent deep vein thrombosis (Jones & Bartlett, 2020).**	**To treat hypertension (Jones & Bartlett, 2020).**	**To treat major depression (Jones & Bartlett, 2020).**
Contraindications (2)	**Anuria and hepatic coma (Jones & Bartlett, 2020).**	**Bronchial asthma or related bronchospastic conditions; history of serious hypersensiti**	**A history of immune-mediated heparin-induced thrombocytopenia (HIT) and ongoing severe**	**Hypersensitivity to lisinopril or other ACE inhibitors. Hereditary or idiopathic angioedema**	**Concurrent use of disulfiram (oral solution) or pimozide and hypersensitivity to**

		vity reactions, such as anaphylaxis, angioedema, or Steven Johnson syndrome (Jones & Bartlett, 2020).	**bleeding (Jones & Bartlett, 2020).**	**or a history of angioedema connected to previous ACE inhibitor treatment (Jones & Bartlett, 2020).**	**sertraline or its components (Jones & Bartlett, 2020).**
Side Effects/Adverse Reactions (2)	**Hypotension and hypocalcemia (Jones & Bartlett, 2020).**	**Bradycardia and hypoglycemia (Jones & Bartlett, 2020).**	**Thrombocytopenia and hyperkalemia (Jones & Bartlett, 2020).**	**Acute renal failure and hyponatremia (Jones & Bartlett, 2020).**	**Bradycardia and hyponatremia (Jones & Bartlett, 2020).**
Nursing Considerations (2)	**If the patient is taking a digitalis glycoside for heart failure or has aldosteronism, ascites, diarrhea, hepatic cirrhosis, potassium-losing neuropathy, or a history of ventricular arrhythmia, it is important to regularly check the serum potassium level to look for**	**Be aware that the benefits of long-term beta-blocker therapy, such as carvedilol, exceed the dangers associated with its usage during general anesthesia and surgical procedures. As a result, it is typically discontinued after significant surgery (Jones & Bartlett, 2020). Patients with**	**If the platelet count drops below 100,000/mm 3, closely monitor for bleeding and immediately alert the doctor. If a patient experiences a thromboembolic event, such as a stroke, expect to stop the medicine and begin treatment (Jones & Bartlett, 2020). Patients with renal impairment or those currently on potassium-**	**Patients with fluid volume deficits, heart failure, decreased renal function, or sodium depletion should use lisinopril with caution (Jones & Bartlett, 2020). Keep an eye out for dehydration, which can cause hypotension, particularly if the patient has diarrhea or vomiting**	**If a patient is taking a medication known to induce gastrointestinal bleeding, such as aspirin, an NSAID, or warfarin, they should be closely watched for any signs of GI bleeding (Jones & Bartlett, 2020). When treatment ends, tapering dosage is expected rather than sudden drug discontinuat**

	hypokalemia (Jones & Bartlett, 2020).	**peripheral vascular disease should use carvedilol with caution as it may exacerbate the symptoms of arterial insufficiency (Jones & Bartlett, 2020).**	**sparing diuretics should have their serum potassium levels checked for an increase (Jones & Bartlett, 2020).**	**(Jones & Bartlett, 2020).**	**ion to reduce side effects (Jones & Bartlett, 2020).**
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	**Monitor the patient's calcium levels and blood pressure, as this medication can cause hypotension and hypocalcemia (Jones & Bartlett, 2020).**	**Because carvedilol medication can affect blood glucose levels, keep an eye on the patient's blood sugar levels (Jones & Bartlett, 2020). Watch the patient's heartbeat closely since this medication may cause bradycardia when the heart beats too slowly (Jones & Bartlett, 2020).**	**Monitor the patient's serum potassium level because this drug can cause hyperkalemia and watch closely to the patient's WBC count because this medication can cause thrombocytopenia (Jones & Bartlett, 2020).**	**Because lisinopril use has been linked to changes in renal function, keep an eye on the patient's serum creatinine level (Jones & Bartlett, 2020). Because this medication may result in hyponatremia, keep an eye on the patient's serum sodium level (Jones & Bartlett, 2020).**	**In patients with hepatic or renal failure, monitor serum creatinine levels, BUN levels, and liver enzymes as necessary (Jones & Bartlett, 2020). Because this medication may result in hyponatremia, keep track of the patient's serum sodium levels (Jones & Bartlett, 2020).**
Client Teaching Needs (2)	**Stress the significance of**	**Inform the patient that the medicine**	**Inform the patient that taking**	**Inform the patient that lisinopril**	**Inform the patient that taking**

	keeping an eye out for signs of electrolyte imbalance, including headaches and muscle spasms, and monitoring fluid intake and output (Jones & Bartlett, 2020). Review the adverse effects and instruct the patient to report any severe or lingering effects (Jones & Bartlett, 2020).	**may produce lightheaded ness, dizziness, and orthostatic hypotension and to take precautions (Jones & Bartlett, 2020). Insist that the patient seek emergency care if they experience hives or facial, tongue, lip, or throat swelling that makes it difficult to breathe or swallow (Jones & Bartlett, 2020).**	**aspirin or other NSAIDs may increase their bleeding risk and alert the prescriber of any adverse side effects, especially bleeding (Jones & Bartlett, 2020). Tell the patient to get care immediately if they experience symptoms of thromboemb olism, including extreme shortness of breath or neurologic abnormalities (Jones & Bartlett, 2020).**	**helps control hypertensio n but does not cure it and that they may require lifelong therapy (Jones & Bartlett, 2020). Encourage the patient to take lisinopril every day simultaneou sly (Jones & Bartlett, 2020).**	**certain medications with sertraline, including aspirin, NSAIDs, other antiplatelet medications, warfarin, or other anticoagula nts, may increase his risk for bleeding (Jones & Bartlett, 2020). Patients should be warned not to stop taking drugs suddenly and told that tapering off slowly will help prevent withdrawal symptoms (Jones & Bartlett, 2020).**

Medications Reference (1) (APA):

Jones & Bartlett Learning. (2020). *2021 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:**	 **Alert and kind** **Oriented to person, place, and time** **Not in apparent distress** **Clean and neat**
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	 **White, normal for race** **Dry** **Warm** **Normal** **Red in color, on right lower extremity** **N/A** **N/A** **14**
HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	 **Head and neck symmetrical** **A pink, moist ear with no apparent lesions** **Sclera was white, cornea was clear, conjunctiva was pink, with no drainage noted.** **Midline septum, no drainage or bleeding apparent.** **Top and bottom teeth are not present.** .
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur etc.**	 **S1 and S2 heart sounds are present with no murmurs, rubs, or gallops**

Cardiac rhythm (if applicable): **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☒ N ☐** **Location of Edema:**	**Normal rhythm** **1+ symmetric** **Normal, 3-5 seconds** **Both lower extremities**
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	 **LUL, LLL, RUL, RLL (all fields) were coarse, wheezes, expiratory, and diminished bilaterally**
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	 **Regular** **Regular** **182.9 cm (6')** **212.6 kg (468 lb 12.8 oz)** **Normoactive in all four quadrants** **2/6/2023 at 0700** **No pain or mass noted** **Rash noted on both lower extremities** **No distention noted** **No incisions noted** **No scars noted** **No drains present** **No wounds noted**
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type:** **Size:**	 **Yellow** **Cloudy** **Normal output** **Not performed** **Foley catheter** **18 g**
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:**	 **No obvious deficits noted** **ROM not performed, patient stays in bed** **None**

Strength: **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib) ☐** **Needs assistance with equipment ☒** **Needs support to stand and walk☒**	**Upper extremities strength is stronger than lower extremities** **9** **Cummings score is 1**
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no -** **Legs ☒ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	**Lower extremities are not as strong in strength as upper extremities** **Oriented to person, place, and time** **Kind, friendly, and alert** **Good, clear with speech attachment to trach** **No obvious deficits** **Alert**
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):**	**Television** **No deficits noted** **Nondenominational, and patient states it means a good deal to him** **Patient states he has support but the distance from his living situation makes it difficult “so/so”**

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

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0759	86	119/71	22	97.3 F (36.7)	92%
1125	85	109/67	20	98.5 F (36.9)	90%

Vital Sign Trends:

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0900	**1-10**	**Legs and abdomen (all over)**	**9**	**Constant/sore**	**Pain management with Tylenol**
1136	**1-10**	**Legs and abdomen (all over)**	**9**	**Constant/sore**	**Pain management with Tylenol**

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 20 g **Location of IV: Left forearm** **Date on IV: 2/1/2023** **Patency of IV: Flushed without difficulty** **Signs of erythema, drainage, etc.: old drainage – cleaned during assessment** **IV dressing assessment: changed/cleaned**	Saline lock

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
980 mL	**1150 mL**

Nursing Care

Summary of Care (2 points)

Overview of care: The patient was awake for vitals. He finished all his breakfast that the hospital provided. He took all his 0900 medications without difficulty. The patient needed trach care and a clean dressing change around his I.V. site. During both pain assessments, the patient stated having the same pain from the morning assessment.

Procedures/testing done: The patient had a chest x-ray taken single view portable.

Complaints/Issues: The patient did not verbalize any complaints.

Vital signs (stable/unstable): The patient's oxygen was slightly low and needed continuous humid air to his tracheostomy.

Tolerating diet, activity, etc.: Patient ate all his breakfast and was happy to communicate with nurse and nursing students.

Physician notifications: No notification.

Future plans for client: Evaluate the patient's response to new medications or test results.

Discharge Planning (2 points)

Discharge location: N/A – patient has had an extended stay at hospital because of having a difficulty finding a new living situation and insurance.

Home health needs (if applicable): Patient would need home health aide required for being limited to his bed or possible bariatric chair.

Equipment needs (if applicable): The patient stays in bed but would need bariatric lift to go into a bariatric chair.

Follow up plan: Follow up with doctor to discuss chest x-ray results.

Education needs: If the patient is prescribed new medications or education for abnormal test results and what that means for his health.

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

Nursing Diagnosis	Rationale	Interventions (2 per dx)	Outcome Goal (1 per dx)	Evaluation
• Include full nursing diagnosis with "related to" and "as evidenced by" components	• Explain why the nursing diagnosis was chosen			• How did the client/family respond to the nurse's actions? • Client response, status of goals and

• Listed in order by priority – highest priority to lowest priority pertinent to this client				outcomes, modifications to plan.
1. Risk for infection related to foley catheter as evidenced by genitourinary assessment	**The patient cannot walk due to his weight, so he remains in the bed leaving him at risk for an infection from his foley catheter.**	**1.Minimize the patient's risk of infection by washing hands before and after providing care and wear gloves when providing direct care (Phelps, 2020).** **2.Use strict sterile technique when suctioning the patient's lower airway, inserting indwelling urinary catheter, inserting IV catheters, and providing wound care to avoid spreading pathogens (Phelps, 2020).**	**1. Patient will remain free from signs and symptoms of an infection (Phelps, 2020).**	• **The patient responded to the nursing student's action with an understanding and willingness to keep his hygiene up to prevent an infection risk.** • **Patient's urine remains clear, yellow, odorless, and free from sediment (Phelps, 2020).**
2. Impaired gas exchange	**The patient came to**	**1. Place the patient in the**	**1. Patient will maintain**	• **The client responded**

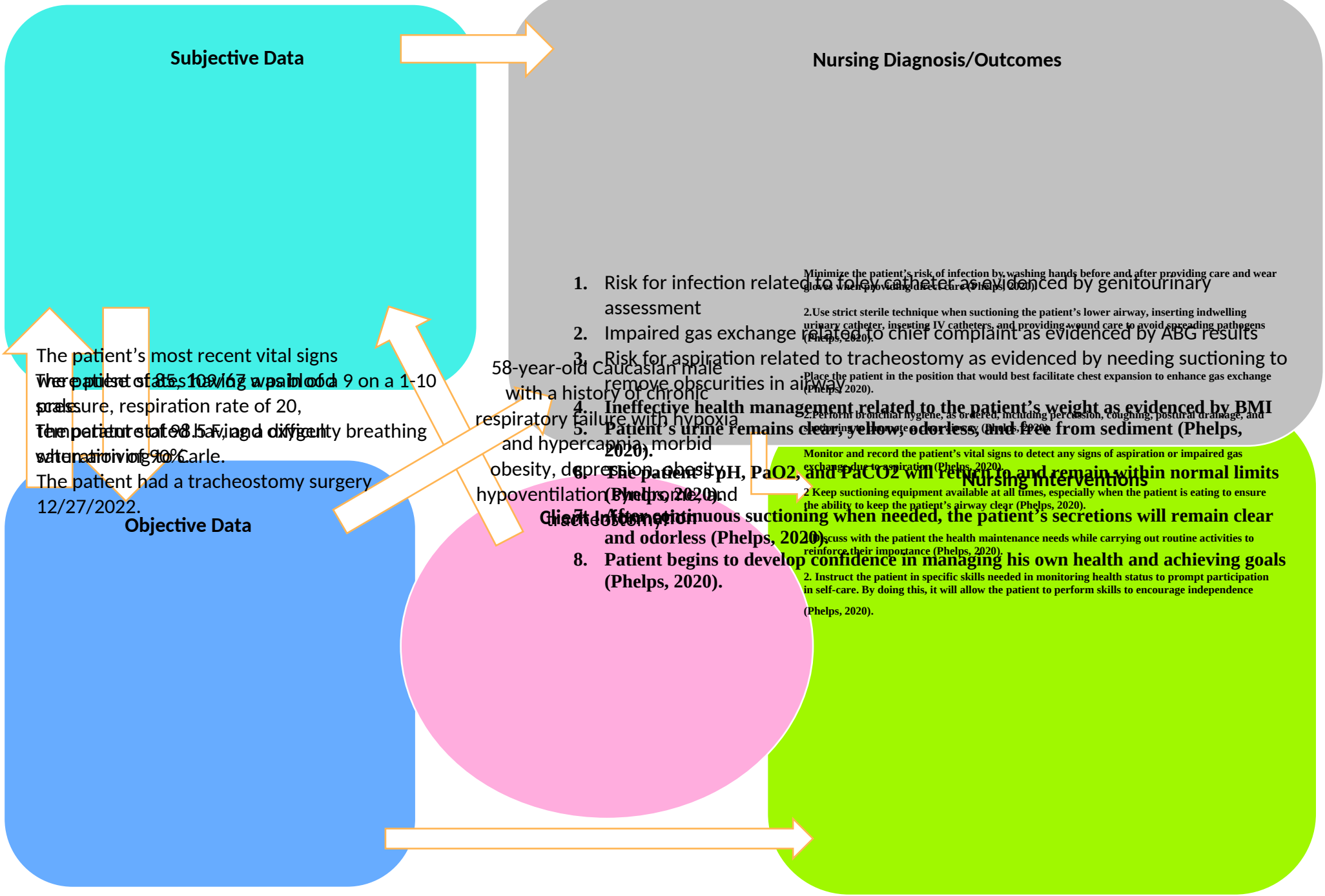
related to chief complaint as evidenced by ABG results	**Carle with feeling like it was difficult for him to breathe.**	**position that would best facilitate chest expansion to enhance gas exchange (Phelps, 2020).** **2.Perform bronchial hygiene, as ordered, including percussion, coughing, postural drainage, and suctioning to promote a clear airway (Phelps, 2020).**	**adequate ventilation and will have clear breath sounds on auscultation (Phelps, 2020).**	**with complete understanding in the importance of trying to keep his airway clear for him to breathe effectively.** • **The patient's pH, PaO2, and PaCO2 will return to and remain within normal limits (Phelps, 2020).**
3. Risk for aspiration related to tracheostomy as evidenced by needing suctioning to remove obscurities in airway	**The patient's oxygen saturations were fluctuating while the nurse and nursing students were in the patient's room.**	**1. Monitor and record the patient's vital signs to detect any signs of aspiration or impaired gas exchange due to aspiration (Phelps, 2020).** **2 Keep suctioning equipment available at all times, especially**	**1. Respiratory secretions will be clear and odorless (Phelps, 2020).**	• **The client responded positively to the nursing student's actions** • **After continuous suctioning when needed, the patient's secretions will remain clear and odorless (Phelps, 2020).**

		when the patient is eating to ensure the ability to keep the patient's airway clear (Phelps, 2020).		
4. Ineffective health management related to the patient's weight as evidenced by BMI	**The patient's obesity puts him at risk for having ineffective management to his health.**	**1.Discuss with the patient the health maintenance needs while carrying out routine activities to reinforce their importance (Phelps, 2020).** **2. Instruct the patient in specific skills needed in monitoring health status to prompt participation in self-care. By doing this, it will allow the patient to perform skills to encourage independence (Phelps, 2020).**	**1. Patient will acknowledge responsibility to manage his health condition (Phelps, 2020).**	• **The patient's response was willingness to learn skills to help him gain independence when caring for his health.** • **Patient begins to develop confidence in managing his own health and achieving goals (Phelps, 2020).**

Other References (APA):

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

Concept Map (20 Points):


Subjective Data
The patient states, "I'm in a pain of a 9 on a 1-10 scale.
The patient states, "I have difficulty breathing when moving in bed."
Objective Data
The patient's most recent vital signs were blood pressure of 85-109/67 with a pulse of 90, respiration rate of 20, temperature of 98.5 F, and oxygen saturation of 90% on 3L via nasal cannula.
The patient had a tracheostomy surgery 12/27/2022.
58-year-old Caucasian male with a history of chronic respiratory failure with hypoxia and hypercapnia, morbid obesity, depression, obesity hypoventilation syndrome, and tracheostomy.
Client Information
Nursing Diagnosis/Outcomes
1. Risk for infection related to foley catheter as evidenced by genitourinary assessment
2. Impaired gas exchange related to chief complaint as evidenced by ABG results
3. Risk for aspiration related to tracheostomy as evidenced by needing suctioning to remove obscurities in airway
4. Ineffective health management related to the patient's weight as evidenced by BMI
5. Patient's urine remains clear, yellow, odorless, and free from sediment (Phelps, 2020).
6. The patient's pH, PaO2, and PaCO2 will return to and remain within normal limits (Phelps, 2020).
7. After continuous suctioning when needed, the patient's secretions will remain clear and odorless (Phelps, 2020).
8. Patient begins to develop confidence in managing his own health and achieving goals (Phelps, 2020).
Nursing Interventions
Minimize the patient's risk of infection by washing hands before and after providing care and wear gloves when providing direct care (Phelps, 2020).
2.Use strict sterile technique when suctioning the patient's lower airway, inserting indwelling urinary catheter, inserting IV catheters, and providing wound care to avoid spreading pathogens (Phelps, 2020).
Place the patient in the position that would best facilitate chest expansion to enhance gas exchange (Phelps, 2020).
2.Perform bronchial hygiene, as ordered, including percussion, coughing, postural drainage, and suctioning to promote adequate airway (Phelps, 2020).
Monitor and record the patient's vital signs to detect any signs of aspiration or impaired gas exchange due to aspiration (Phelps, 2020).
2 Keep suctioning equipment available at all times, especially when the patient is eating to ensure the ability to keep the patient's airway clear (Phelps, 2020).
1. Discuss with the patient the health maintenance needs while carrying out routine activities to reinforce their importance (Phelps, 2020).
2. Instruct the patient in specific skills needed in monitoring health status to prompt participation in self-care. By doing this, it will allow the patient to perform skills to encourage independence
(Phelps, 2020).