

N441 Care Plan

Lakeview College of Nursing

Nikki Brown

Demographics (3 points)

Date of Admission 01/29/22	Client Initials SB	Age 83 y/o	Gender Male
Race/Ethnicity Caucasian	Occupation Unemployed	Marital Status Single	Allergies Montelukast
Code Status Full Code	Height 6'3"	Weight 90.7 kg	

Medical History (5 Points)

Past Medical History: Anxiety, atrial fibrillation, colon cancer, chronic obstructive pulmonary disease, hypertension, obstructive sleep apnea, and pure hypercholesterolemia.

Past Surgical History: Coronary angioplasty with stent placement and pacemaker insertion.

Family History: The patient states he does not know his family medical history, and nothing is listed in the chart.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use):

The patient reports that he has never smoked or used smokeless tobacco. He also reports no alcohol or drugs.

Assistive Devices: The patient uses four liters of oxygen at home during the day and a CPAP at night.

Living Situation: This 83-year-old male is a single, retired man who recently moved to Mohomet from Kankakee. He states that he has moved in with his daughter and they live in a mobile home. The entry to the home is via a ramp with rails and there are no steps in the home. He states that he is independent in all activities of daily living including driving although, he has transportation if needed. He states that he does not use any ambulatory aids and wears a CPAP at night.

Education Level: The patient states that he graduated high school.

Admission Assessment

Chief Complaint (2 points): Cough/sputum and shortness of breath

History of Present Illness – OLD CARTS (10 points):

This 83-year-old male has a past medical history of obstructive sleep apnea (OSA) and is on CPAP at night. He has COPD and is on four liters of oxygen at home. He also has paroxysmal atrial fibrillation and is on Eliquis but was experiencing rapid ventricular rate (RVR), and he has hypertension. He presented to the emergency room with complaints of cough and yellowish sputum on and off for the last few months. He explained that his symptoms get worse upon exertion. He stated that his symptoms worsened yesterday after walking a short distance in his home (January 28). He was hoping his oxygen would relieve his shortness of breath, but it did not and he felt he had to come to the emergency room. The patient complains of shortness of breath since May of last year and has been hospitalized over fifteen times at different hospitals for pneumonia/COPD exacerbation (per patient). He follows up with pulmonary outpatient services. He was admitted to the 3-east unit for management of his COPD exacerbation and atrial fibrillation with RVR.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Respiratory distress triggered by pneumonia and COPD exacerbation.

Secondary Diagnosis (if applicable): Atrial fibrillation with RVR

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

Chronic obstructive pulmonary disease (COPD) happens when there is not enough airflow in the lung, which can cause exposure to harmful substances and tissue destruction

(Agarwal, 2021). There is chronic inflammation that happens due to long-term exposure to harmful substances. The substance that is the most significant cause of COPD is cigarette tobacco (Leap et al., 2021). Other substances that can cause COPD include pollution in the air or exposure to gases, as well as secondhand smoke (Leap et al., 2021). During the inflammatory response and obstruction of the airways, there is a decrease in the forced expiratory volume and tissue destruction, which can cause limited airflow and impaired gas exchange (Agarwal, 2021). One of the structural changes seen with COPD is called emphysema, which is when the alveolar air sacs destroy the normal physiology (Agarwal, 2021). Oxidants destroy the air sacs, leading to loss of elastic recoil resulting in the airway collapsing during exhalation (Agarwal, 2021).

COPD affects many of the body systems overall (Agarwal, 2021). In general, significant respiratory distress can be seen as well as muscle wasting (Agarwal, 2021). There can be accessory muscle use, prolonged expiration, wheezing, and pursed-lip breathing (Agarwal, 2021). The chest can have a barrel shape from the increased diameter anterior and posterior (Agarwal, 2021). Central cyanosis can be seen in the skin when arterial oxygenation is low (Agarwal, 2021). Upon assessing the extremities, there can be digital clubbing due to hypoxemia and lower extremity edema in right heart failure (Agarwal, 2021).

In the radiology images, hyperinflation of the lungs can appear because of the air trapped from the airway collapsing during exhalation (Leap et al., 2021). Because of the limited ventilation the patient experiences, there can be elevations in the carbon dioxide levels leading to CO₂ retention (Leap et al., 2021). Another result of COPD is pulmonary hypertension due to vasoconstriction from hypoxemia (Leap et al., 2021). Acute COPD exacerbations occur when there is a trigger of an irritant. The irritant can cause an increase in inflammation and cause air trapping (Agarwal, 2021). COPD is typically worse in the winter and can worsen coughing and

sputum production (Agarwal, 2021). It is common for COPD in smoking patients, but there are many patients without a smoking history, such as this patient. Acute exacerbations can have symptoms of dyspnea, productive cough, and wheezing (Agarwal, 2021).

COPD diagnosis includes pulmonary function tests, and they can show the stage of COPD and monitor it (Agarwal, 2021). Laboratory tests for COPD patients typically include a complete blood count (CBC) to test for infection, anemia, and polycythemia (Agarwal, 2021). This patient is experiencing anemia with a hemoglobin of 4, a red blood cell count of 10.6, and a hematocrit of 33.5, which are all low numbers. He also had indicators of infection with a white blood cell count of 17.3 and a neutrophil count of 86.7. Computed tomography (CT) scans and chest x-rays are done to determine hyperinflation, wall thickening, or pneumonia (Agarwal, 2021). According to the radiologist report, this patient's chest x-ray showed bibasilar opacities that could represent sequelae (infection) from bronchitis with bronchopneumonia. A six-minute walk test can be done to measure the patient's functional capacity and is usually indoors on a flat surface (Agarwal, 2021). During this patient's six-minute walk down the hall, he became winded as he returned to his room. Monitoring of COPD patients includes arterial blood gases (ABG), chest imaging, and pulse oximetry (Agarwal, 2021).

The goals to treat COPD are to control and manage symptoms and improve the quality of life (Leap et al., 2021). It is recommended for COPD patients to receive their annual flu vaccination (Agarwal, 2021). The medication used for this disease are bronchodilators, inhaled corticosteroids, systemic glucocorticoids, antimuscarinic, and antibiotics (Agarwal, 2021). Bronchodilators help to relax the smooth muscle in the airways to improve bronchodilation (Agarwal, 2021). Corticosteroids are usually used with bronchodilators to decrease inflammation (Agarwal, 2021). Recent studies have shown that antibiotics such as azithromycin may reduce

the number of exacerbations in COPD patients (Agarwal, 2021). This patient was receiving bronchodilators, antimuscarinic, and inhaled corticoids. The long-term treatment is specific to each patient with COPD.

Studies have shown that people with COPD are at a 28% risk of developing atrial fibrillation (afib) and having frequent COPD exacerbations increases the afib risk by double (Matarese et al., 2019). This patient has afib and has mentioned admission around fifteen times for COPD exacerbations since May 2021. Hypoxia is one of the factors of COPD that leads to atrial remodeling and eventually afib because of the changed vascular tone, which then causes pulmonary hypertension (Matarese et al., 2019). This patient has a past medical history of hypertension. COPD and afib are connected to ventricular dysfunction, which affects diastolic function and can cause EKG abnormalities (Matarese et al., 2019). There is a connection between obstructive sleep apnea (OSA) and afib. OSA has been shown to promote afib initiation and significantly negatively impact its treatment (Matarese et al., 2019). Drugs used to treat COPD can also be associated with atrial fibrillation, such as anticholinergics, steroids, and glucocorticoids because of the excretion of electrolytes (Matarese et al., 2019). This information correlates to the patient's secondary diagnosis because he has COPD, afib, and OSA. COPD exacerbation and shortness of breath can result in afib with a rapid ventricular rate (RVR) (Matarese et al., 2019). The afib with RVR was treated with medications called metoprolol and digoxin.

Pathophysiology References (2) (APA):

Agarwal, A. K. (2021, December 10). *Chronic obstructive pulmonary disease*. StatPearls [Internet]. Retrieved February 3, 2022, from <https://www.ncbi.nlm.nih.gov/books/NBK559281/>

Leap, J., Arshad, O., Cheema, T., & Balaan, M. (2021). Pathophysiology of COPD. *Critical Care Nursing Quarterly*, 44(1), 2–8. <https://doi.org/10.1097/cnq.0000000000000334>

Matarese, A., Sardu, C., Shu, J., & Santulli, G. (2019). Why is chronic obstructive pulmonary disease linked to atrial fibrillation? A systematic overview of the underlying mechanisms. *International Journal of Cardiology*, 276, 149–151. <https://doi.org/10.1016/j.ijcard.2018.10.075>

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	3.80-5.30	4.30	4.00	Hgb is a transport molecule, any reduction in these blood levels relates to reduced oxygen-carrying capacity in the blood. The systemic inflammation in COPD makes it possible for anemia due to low levels of circulating hgb and can worsen with dyspnea (Garg et al., 2018).
Hgb	12.0-15.8	11.7	10.6	Hgb is a transport molecule, any reduction in these blood levels relates to reduced oxygen-carrying capacity in the blood. The systemic inflammation in COPD makes it possible for anemia due to low levels of circulating hgb and can worsen with dyspnea (Garg et al., 2018).
Hct	36-47	36.0	33.5	Hematocrit can be low due to an insufficient number of healthy RBC (anemia) due to infection or hypoxemia (Martin, 2021).
Platelets	140-440	330	333	Within normal limits
WBC	4-12	13.20	17.30	Increased due to airflow limitation. WBC is an inflammatory biomarker

				and correlates to lung function. It could also be increased if there was an infection present (Koo et al., 2017). This patient has pneumonia and is on antibiotics.
Neutrophils	47-73	66.9	86.7	Systemic inflammatory marker in conditions such as COPD (Paliogiannis et al., 2018).
Lymphocytes	18-42	8.8	7.8	The neutrophil to lymphocyte ratio reflects the chronic inflammatory condition (Paliogiannis et al., 2018).
Monocytes	4-12	8.8	5.5	Within normal limits
Eosinophils	0.0-5.0	15.0	0.0	High eosinophils are associated with reduced lung function (Tashkin & Wechsler, 2018).
Bands	0-5	n/a	n/a	Lab not ordered

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-	133-144	137	138	Within normal limits
K+	3.5-5.1	4.6	4.5	Within normal limits
Cl-	98-107	92	96	This patient with an exacerbation of COPD has an imbalance of electrolytes. A beta-adrenergic agonist can also contribute to the imbalance due to an increase in renal excretion of electrolytes (Maklad & Basiony, 2019).
CO2	21-31	39	38	This patient with COPD cannot maintain normal respiratory exchange and has a reduced ability to exhale CO2 adequately, resulting in hypercapnia (Pahal, 2021).
Glucose	70-99	115	121	Corticosteroids used for COPD can cause hyperglycemia (Pu et al., 2021).

BUN	7-25	15	38	Increase in COPD because of the reduction in glomerular filtration rate (GFR) due to hypoxemia and hypercapnia (Baha et al., 2019).
Creatinine	0.50-1.00	1.16	1.30	Increase in COPD because of the reduction in glomerular filtration rate (GFR) due to hypoxemia and hypercapnia (Baha et al., 2019).
Albumin	3.5-5.7	n/a	n/a	Lab not ordered
Calcium	8.6-10.3	9.5	9.0	Within normal limits
Mag	1.6-2.6	2.1	n/a	Within normal limits
Phosphate	2.8-4.5	n/a	n/a	Lab not ordered
Bilirubin	0.2-0.8	n/a	n/a	Lab not ordered
Alk Phos	34-104	n/a	n/a	Lab not ordered
AST	13-39	n/a	n/a	Lab not ordered
ALT	7-52	n/a	n/a	Lab not ordered
Amylase	29-103	n/a	n/a	Lab not ordered
Lipase	11-82	n/a	n/a	Lab not ordered
Lactic Acid	0.5-2.0	n/a	n/a	Lab not ordered
Troponin	0.0-0.040	<0.030	n/a	Within normal limits
CK-MB	3-5	n/a	n/a	Lab not ordered
Total CK	22-198	n/a	n/a	Lab not ordered

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
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INR	0.8-1.1	n/a	n/a	Lab not ordered
PT	10.1-13.1	n/a	n/a	Lab not ordered
PTT	25-35	n/a	n/a	Lab not ordered
D-Dimer	0-622	594	n/a	Within normal limits
BNP	0-100	79	n/a	Within normal limits
HDL	<40	n/a	n/a	Lab not ordered
LDL	<70	n/a	n/a	Lab not ordered
Cholesterol	<130	n/a	n/a	Lab not ordered
Triglycerides	<150 mg/dl	n/a	n/a	Lab not ordered
Hgb A1c	4-5.6	n/a	n/a	Lab not ordered
TSH	0.270-4.200	n/a	n/a	Lab not ordered

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	Clear/light yellow	n/a	n/a	Lab not ordered
pH	5.0-9.0	n/a	n/a	Lab not ordered
Specific Gravity	1.003-1.030	n/a	n/a	Lab not ordered
Glucose	Neg	n/a	n/a	Lab not ordered
Protein	Neg	n/a	n/a	Lab not ordered
Ketones	Neg	n/a	n/a	Lab not ordered
WBC	Neg	n/a	n/a	Lab not ordered
RBC	Neg	n/a	n/a	Lab not ordered
Leukoesterase	Neg	n/a	n/a	Lab not ordered

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	7.35-7.45	n/a	n/a	Lab not ordered
PaO2	75-100	n/a	n/a	Lab not ordered
PaCO2	35-45	n/a	n/a	Lab not ordered
HCO3	22-26	n/a	n/a	Lab not ordered
SaO2	94-100	n/a	n/a	Lab not ordered

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	<10,000 colonies/ml	n/a	n/a	Lab not ordered
Blood Culture	Neg	n/a	n/a	Lab not ordered
Sputum Culture	Neg	n/a	n/a	Lab not ordered
Stool Culture	Neg	n/a	n/a	Lab not ordered

Lab Correlations Reference (1) (APA):

Garg, R., Pandey, S., Kant, S., & Gaur, P. (2018). Chronic obstructive pulmonary disease with anemia as comorbidity in North Indian population. *Advanced Biomedical Research*, 7(1), 152. https://doi.org/10.4103/abr.abr_128_18

Martin , L. (2021, May 25). *Anemia of inflammation or chronic disease*. National Institute of Diabetes and Digestive and Kidney Diseases. Retrieved February 4, 2022, from

<https://www.niddk.nih.gov/health-information/blood-diseases/anemia-inflammation-chronic-disease>

- Koo, H.-K., Kang, H. K., Song, P., Park, H. K., Lee, S.-S., & Jung, H. (2017). Systemic white blood cell count as a biomarker associated with severity of chronic obstructive lung disease. *Tuberculosis and Respiratory Diseases*, *80*(3), 304. <https://doi.org/10.4046/trd.2017.80.3.304>
- Paliogiannis, P., Fois, A. G., Sotgia, S., Mangoni, A. A., Zinellu, E., Pirina, P., Negri, S., Carru, C., & Zinellu, A. (2018). Neutrophil to lymphocyte ratio and clinical outcomes in COPD: Recent evidence and future perspectives. *European Respiratory Review*, *27*(147), 170113. <https://doi.org/10.1183/16000617.0113-2017>
- Tashkin, D. P., & Wechsler, M. E. (2018). Role of eosinophils in airway inflammation of chronic obstructive pulmonary disease. *International Journal of Chronic Obstructive Pulmonary Disease*, *Volume 13*, 335–349. <https://doi.org/10.2147/copd.s152291>
- Pahal, P. (2021, August 14). *Chronic obstructive pulmonary disease compensatory measures*. StatPearls [Internet]. Retrieved February 4, 2022, from <https://www.ncbi.nlm.nih.gov/books/NBK525962/>
- Maklad, S. F., & Basiony, F. S. (2019). Electrolyte disturbances in patients with acute exacerbation of chronic obstructive pulmonary disease. *The Scientific Journal of Al-Azhar Medical Faculty, Girls*, *3*(2), 427. https://doi.org/10.4103/sjamf.sjamf_50_19
- Pu, X., Liu, L., Feng, B., Zhang, Z., & Wang, G. (2021, July 8). *Association between ICS use and risk of hyperglycemia in COPD patients: Systematic review and meta-analysis - respiratory research*. BioMed Central. Retrieved February 4, 2022, from <https://respiratory-research.biomedcentral.com/articles/10.1186/s12931-021-01789-7>
- Baha, A., Ogan, N., Akpınar, E. E., Ateş, C., & Gülhan, M. (2019). The course of renal functions in COPD. Two station: Exacerbation and stable period. *Eurasian Journal of Pulmonology*, *21*(1), 63. https://doi.org/10.4103/ejop.ejop_28_19

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

X-ray chest single view on 01/29/22 showing cardiomegaly, atherosclerotic aorta, and bibasilar opacities. There is a suggestion on the report of bronchial wall thickening. The report suggests the opacities could represent sequelae from bronchitis with bronchopneumonia.

The patient also has routine blood work of a CBC and CMP every morning while in the hospital.

Diagnostic Test Correlation (5 points):

A chest x-ray is done in patients with COPD and can determine whether there is cardiac enlargement, pleural effusion, or pulmonary congestion (Rangelov et al., 2020). Blood tests are one of the indicators to determine how well the lungs are working and can measure how bad the COPD is and whether the patient needs oxygen therapy (Biggers, 2018). Blood work also helps to determine if there is an infection in the body.

Diagnostic Test Reference (1) (APA):

Rangelov, B. A., Young, A. L., Jacob, J., Cahn, A. P., Lee, S., Wilson, F. J., Hawkes, D. J., & Hurst, J. R. (2020). thoracic imaging at exacerbation of chronic obstructive pulmonary disease: A systematic review. *International Journal of Chronic Obstructive Pulmonary Disease, Volume 15*, 1751–1787. <https://doi.org/10.2147/copd.s250746>

Biggers, A. (2018, November 7). *COPD diagnosis: Spirometry, X-ray, and 6 more tests for COPD*. Healthline. Retrieved February 4, 2022, from <https://www.healthline.com/health/copd/tests-diagnosis#blood-tests>

**Current Medications (10 points, 1 point per completed med)
*10 different medications must be completed***

Home Medications (5 required)

Brand/Generic	Acetylsalicylic acid (Aspirin)	Alprazolam (Xanax)	Apixaban (Eliquis)	Atorvastatin (Lipitor)	Losartan (Cozaar)
Dose	81 mg	0.25 mg	5 mg	40 mg	25 mg
Frequency	Daily	Daily	BID	Daily	Daily
Route	PO	PO	PO	PO	PO
Classification	NSAID	Benzodiazepine, Anxiolytic/anti-panic	Anticoagulant	Antihyperlipidemic	Antihypertensive
Mechanism of Action	Blocks the activity of cyclooxygenase, the enzyme needed for prostaglandin synthesis. Prostaglandins, important mediators in the inflammatory response, cause local vasodilation and swelling and pain. With blocking of the enzyme inflammatory symptoms subside (J&B, 2020).	May increase the effects of gamma-aminobutyric acid (GABA) and other inhibitory neurotransmitters by binding to specific benzodiazepine receptors in cortical and limbic areas of the CNS. GABA inhibits excitatory stimulation, which helps control emotional behavior (J&B, 2020).	Inhibits free and clot-bound factor Xa and prothrombinase activity (J&B, 2020). Although apixaban has no direct effect on platelet aggregation, it does indirectly inhibit platelet aggregation induced by thrombin. By inhibiting factor Xa, apixaban decreases thrombin generation and thrombus development	Reduces plasma cholesterol and lipoprotein levels by inhibiting HMG-CoA reductase and cholesterol synthesis in the liver and by increasing the number of LDL uptake and breakdown (J&B, 2020).	Blocks binding of angiotensin II to receptor sites in many tissues, including adrenal glands and vascular smooth muscle (J&B, 2020). Angiotensin II is a potent vasoconstrictor that also stimulates the adrenal cortex to secrete aldosterone. The inhibiting effects of angiotensin

			(J&B, 2020).		II reduce blood pressure (J&B, 2020).
Reason Client Taking	Blood thinner due to stents	Anxiety	Blood thinner/antiplatelet long-term due to stents.	Pure hypercholesterolemia	Hypertension
Contraindications (2)	Active bleeding or coagulation disorders; current/recent GI bleed or ulcers; hypersensitivity to aspirin, aspirin products, other NSAIDs (J&B, 2020).	Acute angle-closure glaucoma; hypersensitivity to alprazolam. Hypersensitivity to itraconazole or ketoconazole therapy (J&B, 2020).	Active pathological bleeding. Severe hypersensitivity to apixaban or its components (J&B, 2020).	Acute hepatic disease. Hypersensitivity to atorvastatin (J&B, 2020).	Concurrent aliskiren therapy. Hypersensitivity to losartan or its component (J&B, 2020).
Side Effects/Adverse Reactions (2)	CNS depression, GI bleeding, hepatotoxicity, leukopenia, prolonged bleeding time, thrombocytopenia, bronchospasm, Reyes syndrome (J&B, 2020).	Agitation, confusion, or depression (J&B, 2020).	Hemorrhagic stroke and GI bleeding (J&B, 2020).	Arrhythmias and hypoglycemia (J&B, 2020).	Hypotension and thrombocytopenia (J&B, 2020).
Nursing Considerations (2)	Do not crush the time-release medication. Ask about tinnitus, this	Expect to give a higher dosage if patients' panic	Know that apixaban should not be given to patients with severe	Expect a liver function test to be performed before therapy starts. Expect to measure	Know that in some patients, losartan is more effective

	reaction usually happens when blood aspirin level reaches maximum dosage (J&B, 2020).	attacks occur unexpectedly or during activities. Plan to reduce dosage slowly if discontinued because it can lead to dependency (J&B, 2020).	hepatic dysfunction. Be aware that if apixaban is discontinued prematurely and adequate alternative anticoagulation is not present, the risk of thrombosis increases (J&B, 2020).	lipid levels 2 to 4 weeks after therapy starts, to adjust dosage as directed (J&B, 2020).	when given in 2 divided doses daily; it may be used with other antihypertensives (J&B, 2020). Periodically monitor patient's serum potassium level, as ordered, to detect hyperkalemia (J&B, 2020).
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	Ask if the patient is experiencing tinnitus (J&B, 2020). Ensure the patient has not had any black or tarry stools that could indicate intestinal bleeding (J&B, 2020).	Monitor the patient closely for signs and symptoms of a decrease in consciousness, including coma, profound sedation, and significant respiratory depression (J&B, 2020).	Assess INR levels. Monitor the patient closely for bleeding (J&B, 2020). Know that the effects of apixaban may persist for at least 24 hours after the last dose (J&B, 2020).	Assess patient glucose levels because this medication can affect them (J&B, 2020). Check blood pressure before giving this medication. Assess liver function labs (J&B, 2020).	Assess the patient blood pressure before giving this medication (J&B, 2020). Assess the patient for muscle pain; rarely rhabdomyolysis has developed in patients taking another angiotensin II receptor blockers (J&B, 2020).
Client Teaching	Advise patients	Warn against	Emphasize the	Emphasize that atorvastatin is	Advise patient to

needs (2)	taking low-dose aspirin not to also take ibuprofen because it may reduce the cardioprotective and stroke preventative effects of aspirin (J&B, 2020). Instruct patient to take with food or after meals because it can cause GI upset (J&B, 2020).	stopping drug abruptly because withdrawal symptoms may occur (J&B, 2020). Instruct the patient to never increase the prescribed dose because of the risk of dependency (J&B, 2020).	importance of taking this medication exactly as prescribed (J&B, 2020). Advise the patient to report any unusual bleeding or bruising (J&B, 2020).	an adjunct to, not a substitute for – a low-cholesterol diet (J&B, 2020). Tell the patient to take this medication at the same time every day to maintain its effects (J&B, 2020).	avoid exercising in hot weather and drinking excessive amounts of alcohol (J&B, 2020). Warn the patient to tell all prescribers of losartan therapy (J&B, 2020).
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Hospital Medications (5 required)

Brand/Generic	Digoxin (Lanoxin)	Furosemide (Lasix)	Pantoprazole (Protonix)	Piperacillin-Tazobactam (Zosyn)	Prednisone (Deltasone)
Dose	125 mcg	40 mg	40 mg	4.5 g	40 mg
Frequency	Daily	Daily	Daily	Q8h	Daily
Route	PO	PO	PO	IVPB in 0.9% sodium chloride 100ml.	PO

Classification	Antiarrhythmic	Loop diuretic; antihypertensive	Proton pump inhibitor. Antiulcer	Antibiotic	Glucocorticoid . immunosuppressant
Mechanism of Action	Increases the force and velocity of myocardial contraction, resulting in positive inotropic effects by decreasing the conduction rate and increasing the effective refractory period of the AV node (J&B, 2020).	Inhibits sodium and water reabsorption in the loop of Henle and increases urine formation (J&B, 2020). As the body's plasma volume decreases, aldosterone production increases which promotes sodium reabsorption and the loss of potassium and hydrogen ions (J&B, 2020). By reducing intracellular and extracellular fluid volume, the drug reduces blood pressure and decreases cardiac output. Over time, the cardiac output	Interferes with gastric acid secretion by inhibiting the hydrogen-potassium-adenosine triphosphatase enzyme system, or proton pump, in gastric parietal cells (J&B, 2020). Pantoprazole irreversibly inhibits the final step in gastric acid production by blocking the exchange of H ⁺ and K ⁺ preventing H ⁺ from entering the stomach and additional HCl from forming (J&B, 2020).	Tazobactam inhibits beta-lactamase and prevents the destruction of piperacillin (J&B, 2020). Therefore, tazobactam is given with piperacillin to enhance the activity of piperacillin in eradicating bacterial infections (J&B, 2020). Piperacillin kills bacteria by inhibiting the synthesis of bacterial cell walls (J&B, 2020).	Binds to intracellular glucocorticoid receptors and suppresses inflammatory and immune responses by, inhibiting neutrophil and monocyte accumulation at inflammation sites suppressing their phagocytic and bactericidal activity (J&B, 2020).

		returns to normal (J&B, 2020).			
Reason Client Taking	Atrial fibrillation	Hypertension	Many patients who are admitted are put on PPIs to prevent gastrointestinal bleeding as well as gastroesophageal reflux relief after discharge.	Pneumonia	Anti-inflammatory
Contraindications (2)	History of digitalis toxicity. Hypersensitivity to digoxin (J&B, 2020).	Anuria or hypersensitivity to furosemide (J&B, 2020).	Concurrent therapy with rilpivirine-containing products (J&B, 2020). Hypersensitivity to Pantoprazole or its components (J&B, 2020).	Hypersensitivity to Zosyn or its components (J&B, 2020). Should not be taken if the patient has diarrhea from infection with C. diff bacteria (J&B, 2020).	Hypersensitivity to prednisone or its components. Systemic fungal infection (J&B, 2020).
Side Effects/Adverse Reactions (2)	Arrhythmias, heart block, and electrolyte imbalances (J&B, 2020).	Arrhythmias and thromboembolism (J&B, 2020).	C. diff, hepatic failure, and pancreatitis (J&B, 2020).	Bladder pain, fever sweating. Nausea or vomiting (J&B, 2020).	Seizures and heart failure (J&B, 2020).
Nursing Considerations (2)	Be aware that digoxin has a narrow therapeutic index and interacts	Monitor blood pressure, renal function, BUN, blood glucose,	Administer delayed-release oral suspension 30 minutes before a meal.	Monitor for diarrhea. Monitor for abdominal pain or any unusual bleeding	Administer a once-daily dose of prednisone in the morning to match the body's normal

	with many different drugs. Monitor serum digoxin levels. Monitor ECG tracing as ordered (J&B, 2020).	creatinine, and electrolyte levels. Notify provider if patient experiences hearing loss or vertigo (J&B, 2020).	Expect to monitor PT or INR if the patient takes an oral anticoagulant (J&B, 2020).	from the patient (J&B, 2020).	cortisol secretion schedule (J&B, 2020). Be aware that prolonged use of prednisone may cause hypothalamic-pituitary-adrenal suppression (J&B, 2020).
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	Take patient apical pulse before administering and notify prescriber if the heart rate is below 60 bpm. Assess for digoxin toxicity such as altered mental status, nausea, and vomiting (J&B, 2020).	Obtain patient weight before therapy to monitor fluid loss. Assess patient blood pressure before administration (J&B, 2020).	Assess patient for diarrhea due to being at risk for C. diff while on this medication. Assess patient urinary output because this medication can cause nephritis (J&B, 2020).	Assess the patient for any GI problems before administration. Ensure the patient has not had any seizure activity before giving (J&B, 2020).	Assess regularly for signs and symptoms of heart failure and hypertension. Assess fluid intake and output and daily weight (J&B, 2020).
Client Teaching needs (2)	Instruct patient to take digoxin at the same time every day. Teach patients how to take their pulse rate and to do so before	Instruct patient to take this medication at the same time every day. Advise the patient to move positions slowly to	Swallow tablets whole do not crush or chew. Tell the patient to expect relief of symptoms within two weeks of	Use this medication for the prescribed length of time (J&B, 2020). Skipping doses can increase the risk of	Instruct patient to take this medication with food to prevent GI upset (J&B, 2020). Caution patient to not stop taking this medication

	each pulse (J&B, 2020).	avoid orthostatic hypotension (J&B, 2020).	starting therapy (J&B, 2020).	infection. Inform the patient that they will have routine blood tests (J&B, 2020).	abruptly. Emphasize the importance of taking it at the same time every day (J&B, 2020).
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Medications Reference (1) (APA):

J., & B. (2020). *2020 Nurse's drug handbook* (19th ed.). Burlington, MA, MA: Jones & Bartlett Learning.

Assessment

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

<p>GENERAL: Alertness: Orientation: Distress: Overall appearance:</p>	<p>Alert and oriented to time, place, location No distress Well-groomed and appropriately dressed</p>
<p>INTEGUMENTARY: Skin color: Character: Temperature: Turgor: Rashes: Bruises: Wounds: Braden Score: Drains present: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Type:</p>	<p>Pink Dry/Normal Warm Normal skin turgor 2+ No Rashes No Bruises The patient has a right and left gluteal stage 2 pressure ulcer. Blanchable erythema from the left buttock to the coccyx and over to the right buttock that measures 13cmx13cm. The wound was cleaned with normal saline and covered with a Tegaderm absorbent dressing followed by a sacral silicone border foam dressing. Braden score of 20 No drains present.</p>
<p>HEENT: Head/Neck: Ears:</p>	<p>The Head and neck are symmetrical, the trachea is midline, lymph nodes are nonpalpable. Ears are</p>

<p>Eyes: Nose: Teeth:</p>	<p>free of discharge, with no difficulty in hearing. Eyes are symmetrical, EOM intact. The nose is symmetrical, turbinate's are clear with no bleeding/polyps. Teeth are intact, dentition is good.</p>
<p>CARDIOVASCULAR: Heart sounds: S1, S2, S3, S4, murmur etc. Cardiac rhythm (if applicable): Peripheral Pulses: Capillary refill: Neck Vein Distention: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Edema Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Location of Edema:</p>	<p>S1 and S2 are appreciated with no murmur, gallop, or rub. The patient has atrial fibrillation. Capillary refill is less than 3 seconds. The patient has mild clubbing of the fingertips. Peripheral pulses 2+ throughout. No neck vein distention. No edema was palpated or seen.</p>
<p>RESPIRATORY: Accessory muscle use: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Breath Sounds: Location, character</p> <p>ET Tube: Size of tube: Placement (cm to lip): Respiration rate: FiO2: Total volume (TV): PEEP: VAP prevention measures:</p>	<p>Respirations are even, nonlabored, and symmetrical. Crackles could be auscultated but they were minor. No wheezes or rhonchi were noted. The patient is on 4 liters of oxygen baseline.</p> <p>The patient is not on a ventilator.</p>
<p>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 <input type="checkbox"/> N <input checked="" type="checkbox"/> Nasogastric: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Size:</p>	<p>The patient is typically eating a normal diet when he is at home. During his hospital stay, he remains on cardiac restrictions which started on 01/29/22. Height is 6'3" Weight is 90.7 kg Bowel sounds are normoactive in all four quadrants. The last bowel movement was this morning on 02/01/22. Nothing was found upon inspection for distention, incision, scars, or drains. The patient has a left and right gluteal stage two pressure ulcer that is cleaned and dressed appropriately. No ostomy</p>

<p>Feeding tubes/PEG tube Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Type:</p>	<p>No Nasogastric tube No feeding/PEG tubes</p>
<p>GENITOURINARY: Color: Character: Quantity of urine: Pain with urination: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Dialysis: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Inspection of genitals: Catheter: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Type: Size: CAUTI prevention measures:</p>	<p>Urine is yellow Not cloudy but clear No pain with urination and voids spontaneously without difficulty. No dialysis Genitals normal No catheter</p>
<p>MUSCULOSKELETAL: Neurovascular status: ROM: Supportive devices: Strength: ADL Assistance: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Fall Risk: Y <input type="checkbox"/> N <input type="checkbox"/> Fall Score: Activity/Mobility Status: Independent (up ad lib) <input type="checkbox"/> Needs assistance with equipment <input type="checkbox"/> Needs support to stand and walk <input type="checkbox"/></p>	<p>Neurovascular status normal No ROM deficits identified Strength equal in upper and lower extremities. No supportive devices, balance stable Does not need assistance in ADLs Low fall risk Fall score is 45 Able to ambulate self with someone walking alongside him in case he becomes short of breath. Patient stood to urinate with good balance. Patient ambulated in the room to and from the bathroom while managing an IV pole.</p>
<p>NEUROLOGICAL: MAEW: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> PERLA: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Strength Equal: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> if no - Legs <input type="checkbox"/> Arms <input type="checkbox"/> Both <input checked="" type="checkbox"/> Orientation: Mental Status: Speech: Sensory: LOC:</p>	<p>Does move all extremities well Pupils are equal round and reactive to light and accommodating. Strength is equal in the upper and lower extremities. Cognitive of time, place, location A&O x3 Normal mental status Articulative/clear speech LOC is alert No gross focal neurological deficits</p>
<p>PSYCHOSOCIAL/CULTURAL: Coping method(s): Developmental level: Religion & what it means to pt.: Personal/Family Data (Think about home environment, family structure, and</p>	<p>The patient lives with his daughter. When I asked him what his support system was, he mentions that his daughter is always there for him. He uses prayer as a coping mechanism. His developmental level is appropriate for his age. His religion is catholic, and his religion is</p>

available family support):	important to him. He requests the hospital chaplain come and pray with him each day.
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Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0808	73	118/73	17	97.3	96% on 4 liters nasal cannula.
1100	82	112/69	18	97.2	95% on 4 liters nasal cannula.

Vital Sign Trends/Correlation:

Patient vital signs remain stable and consistent. His pulse went from 73-82 with a 9 number difference. His blood pressure went from 118/73-112/69 therefore it did not have a significant change. His respiratory went from 17-18 which is within the normal range. His temperature did not change much. His oxygen went from 96-95% which is within normal range and is managed with oxygen via nasal cannula. The patient’s baseline oxygen therapy is always 4 liters due to his diagnosis of COPD.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0800	Numeric	N/A	0	N/A	No interventions
1100	Numeric	N/A	0	N/A	No interventions

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: Location of IV: Date on IV: Patency of IV: Signs of erythema, drainage, etc.: IV dressing assessment:	20 gauge in the right forearm and 22 gauge in the left forearm. Both were placed on 01/29/22. IVs are dry and intact and flush without difficulty. No signs of erythema or drainage. IVs are dressed with a sterile dressing of Tegaderm with tape over top. CURO caps are in place.
Other Lines (PICC, Port, central line, etc.)	No
Type: Size: Location: Date of insertion: Patency: Signs of erythema, drainage, etc.: Dressing assessment: Date on dressing: CUROS caps in place: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> CLABSI prevention measures:	N/A

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
480ml of normal saline via IV	950ml of urine
50ml of water	

Nursing Care

Summary of Care (2 points)

Overview of care:

When I entered the patient's room, he was awake and alert sitting up in his bed. He had just finished eating 100% of his breakfast and I put his tray away for him. The patient was compliant with his carb-consistent diet. At 0800 it was time to administer the patient's morning medications which he was compliant to take all. There was an order for a 6-minute walk test. I took the patient down the hall and back to his room over six minutes with a pulse oximeter attached monitoring the consistency the entire time. By the time the patient and I returned to his room he explained that he is winded, and it made him uncomfortable enough to request another night in the hospital.

Procedures/testing done:

The patient had a chest x-ray on 01/29/22 showing bibasilar opacities.

Other than the chest x-rays the only other testing that was completed was his routine morning blood draw of a CBC and BMP.

Complaints/Issues:

When I was assessing the patient after our six-minute walk he had a complaint of shortness of breath. Other than that, the patient had no other questions or complaints and wanted to rest.

Vital signs (stable/unstable):

Vital signs are stable.

Tolerating diet, activity, etc.:

The patient is tolerating dietary restrictions and ate 100% of his breakfast.

Physician notifications:

The physician taking care of this patient informed us she had cleared him for discharge but after the walk, we had to send a message to the physician stating the patient was uncomfortable with going home.

Future plans for client:

The patient will be further assessed tomorrow 02/02/22 to determine his comfortability with going home upon discharge.

Discharge Planning (2 points)

Discharge location:

The patient states he plans to return home with his daughter. He states he will have support at home as well as transport if needed. He denied the need for home health or outpatient services.

Home health needs (if applicable): n/a

Equipment needs (if applicable):

The patient is concurrent with the following medical equipment companies for their respiratory equipment: oxygen from Apna, CPAP, and nebulizer q4-6 hr.

Follow up plan:

The patient is to follow up with his primary care provider (PCP) within one week after discharge.

Education needs:

Due to the patient eating a regular unplanned diet at home it would be beneficial to him to learn about a healthier diet specific to his diagnosis.

Nursing Diagnosis (15 points)

Must be NANDA approved nursing diagnosis and listed in order of priority

<p>Nursing Diagnosis</p> <ul style="list-style-type: none"> • Include full nursing diagnosis with “related to” and “as 	<p>Rationale</p> <ul style="list-style-type: none"> • Explain why the nursing diagnosis was chosen 	<p>Interventions (2 per dx)</p>	<p>Outcome Goal (1 per dx)</p>	<p>Evaluation</p> <ul style="list-style-type: none"> • How did the client/family respond to the nurse’s actions? • Client response, status of goals

<p>evidenced by” components</p> <ul style="list-style-type: none"> Listed in order by priority – highest priority to lowest priority pertinent to this client 				<p>and outcomes, modifications to plan.</p>
<p>1. Ineffective airway clearance related to increased production of secretions as evidenced by excessive sputum production.</p>	<p>The patient’s chief complaint when presenting to the ER included excess sputum production.</p>	<p>1. Assess and monitor respirations and breath sounds. Respirations may be shallow and rapid, with prolonged expiration in comparison to inspiration (Olalekan et al., 2020).</p> <p>2. Monitor pulse oximetry. Establishes a baseline for monitoring progression or regression of disease process complications (Olalekan et al., 2020).</p>	<p>1. Maintain airway patency with breath sounds clear/clearing.</p>	<p>Patient is compliant to treatment plan and responding well with a decrease in secretions. Family not at bedside.</p>
<p>2. Impaired gas exchange related to altered oxygen supply due</p>	<p>Patient explained that when he first entered the hospital his secretions</p>	<p>1. Assess and routinely monitor skin and mucous membrane color (Olalekan et</p>	<p>1. Demonstrates improved ventilation and adequate oxygenation of tissues and be free of symptoms of</p>	<p>The patient is compliant with the treatment plan and was relieved of his shortness of breath with oxygen therapy. Family not</p>

<p>to obstruction of airways by secretions as evidence by inability to move secretions.</p>	<p>had worsened overnight. He did not have a productive cough and was short of breath per ER report.</p>	<p>al., 2020). 2. Monitor changes in the level of consciousness and mental status (Olalekan et al., 2020).</p>	<p>respiratory distress.</p>	<p>at the bedside.</p>
<p>3. Risk for infection related to chronic disease process as evidence by COPD.</p>	<p>The patient has COPD which puts him at risk for pneumonia infection due to difficulty clearing the lungs.</p>	<p>1. Monitor temperature. 2. Review the importance of breathing exercises, effective cough, frequent position changes, and adequate fluid intake (Olalekan et al., 2020).</p>	<p>1. Demonstrate techniques, lifestyle changes to promote a safe environment.</p>	<p>The patient verbalizes understanding of risk factors. The patient is compliant with the treatment plan. The family is not at the bedside.</p>
<p>4. Risk for decreased cardiac output related to altered electrical conduction as evidence by atrial fibrillation with RVR.</p>	<p>The patient presented to the ER and was admitted with a secondary diagnosis of atrial fibrillation with RVR.</p>	<p>1. Auscultate heart sounds, noting rate, rhythm, presence of extra heartbeats, dropped beats (Vera, 2020). 2. Monitor vital signs. Assess cardiac output and tissue</p>	<p>1. Maintain/achieve an adequate cardiac output as evidenced by BP/pulse within normal range, adequate urinary output, palpable pulses of equal quality, usual level of mentation (Olalekan et al., 2020).</p>	<p>The patient is compliant with the plan to treat his afib with RVR with medications. The patient is now out of RVR. Family not at the bedside.</p>

		perfusion, variations in BP/pulse rate equality, respirations, changes in skin color, temperature, level of consciousness (Vera, 2020).		
<p>5. Activity intolerance related to Imbalanced between oxygen supply and demand due to inefficient work of breathing as evidence by exertional dyspnea.</p>	<p>When the patient was up and ambulating during the six-minute walk test he was short of breath by the time we returned to his room and felt he needed another night in the hospital.</p>	<p>1. Assess the patient’s respiratory response to the activity which includes monitoring of respiratory rate and depth, oxygen saturation, and use of accessory muscles for respiration (Olalekan et al., 2020).</p> <p>2. Assess the patient’s nutritional status. Adequate energy reserves are needed during activity (Olalekan et al., 2020).</p>	<p>1. Reports reduced episodes of dyspnea during an activity</p>	<p>The patient is willing to continue the six-minute walks for evaluation. The patient agrees with the treatment plan to reevaluate in the morning. The family is not at the bedside.</p>

Other References (APA):

Olalekan, S., Onyegasi, M., & Parmar, M. (2020, December 8). *7 chronic obstructive pulmonary disease (COPD) nursing care plans*. Nurseslabs. Retrieved February 5, 2022, from <https://nurseslabs.com/chronic-obstructive-pulmonary-disease-copd-nursing-care-plans/>

Vera, M. (2020, August 21). *3 cardiac arrhythmia (digitalis toxicity) nursing care plans*. Nurseslabs. Retrieved February 5, 2022, from <https://nurseslabs.com/3-cardiac-arrhythmia-digitalis-toxicity-nursing-care-plans/>

Concept Map (20 Points):

Subjective Data

Pain is 0/10 on the numeric scale
The patient states he has never smoked.
The patient states that he has been seen fifteen times for COPD exacerbation since last May.

Objective Data

Blood pressure is 118/73
The respiratory rate is 17
RBC is 4
WBC is 17.3
Stage 2 pressure ulcer on right and left gluteal region.

Client Information

83 y/o
Male
Unemployed
Height 6'3"
Weight 90.7 kg
Full code

Ineffective airway clearance related to increased production of secretions by excessive sputum production.
Outcome: Maintain airway patency with breath sounds clear.
Impaired gas exchange related to altered oxygen supply due to obstruction of airways by secretions as evidence by inability to move secretions.
Outcome: Demonstrate improved ventilation and adequate oxygenation of tissues and be free of symptoms of respiratory distress.
Risk for infection related to chronic disease process as evidence by COPD.
Outcome: The patient verbalizes understanding of risk factors. The patient is compliant with the treatment plan. The family is not at the bedside.
Risk for decreased cardiac output related to altered electrical conduction as evidence by atrial fibrillation with RVR.
Outcome: Maintain/achieve an adequate cardiac output as evidenced by BP/pulse within normal range, adequate urinary output, palpable pulses of equal quality, usual level of mentation (Olalekan et al., 2020).
Activity intolerance related to Imbalanced between oxygen supply and demand due to inefficient work of breathing as evidence by exertional dyspnea.
Outcome: The patient is willing to continue the six-minute walks for evaluation. The patient agrees with the treatment plan to reevaluate in the morning. The family is not at the bedside.

Nursing Interventions

1. Assess and monitor respirations and breath sounds. Respirations may be shallow and rapid, with prolonged expiration in comparison to inspiration (Olalekan et al., 2020).
2. Monitor pulse oximetry. Establishes a baseline for monitoring the progression or regression of disease process complications (Olalekan et al., 2020).
3. Assess and routinely monitor skin and mucous membrane color (Olalekan et al., 2020).
4. Monitor changes in the level of consciousness and mental status (Olalekan et al., 2020).
5. Monitor temperature.
6. Review the importance of breathing exercises, effective cough, frequent position changes, and adequate fluid intake (Olalekan et al., 2020).
7. Auscultate heart sounds, noting rate, rhythm, presence of extra heartbeats, dropped beats (Vera, 2020).
8. Monitor vital signs. Assess cardiac output and tissue perfusion, variations in BP/pulse rate equality, respirations, changes in skin color, temperature, level of consciousness (Vera, 2020).
Assess the patient's respiratory response to the activity which includes monitoring of respiratory rate and depth, oxygen saturation, and use of accessory muscles for respiration (Olalekan et al., 2020).
2. Assess the patient's nutritional status. Adequate energy reserves are needed during activity (Olalekan et al., 2020).

