N431 Care Plan # 1

Lakeview College of Nursing

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10/28/19

Demographics (3 points)

Date of Admission	Patient Initials	Age	Gender
10/28/19	V.M.	72 years	Female
Race/Ethnicity	Occupation	Marital Status	Allergies
White/Caucasian	Retired	Divorced	Codeine, Chantix, Morphine, Doxepin.
Code Status	Height	Weight	
Full Code	165.1 cm	50.8 kg	

Medical History (5 Points)

Past Medical History: Adrenal insufficiency; General anxiety disorder; Lung Cancer; Insomnia; Major depressive disorder (moderate to severe) without psychosis; Pulmonary embolism.

Past Surgical History: Colonoscopy; Esophagogastroduodenoscopy biopsy; Phacoemulsification; Cataract with left intraocular lens implantation; Aortic valve repair; Cholecystectomy.

Family History: Mother: Heart disease; Heart failure; Hysterectomy; Iliac artery stent. Sister: Aortic valve disorder.

Social History (tobacco/alcohol/drugs): The patient states that she is a former cigarette tobacco smoker with a 30-year pack history, and “quit more than four months ago.” The patient denies past and present alcohol use. The patient denies past and present marijuana or illegal drug use.

Assistive Devices: The patient does not use any assistive devices.

Living Situation: The patient lives at home, alone.

Education Level: The patient states that she has a university-level education and received her bachelor’s degree.

Admission Assessment

Chief Complaint (2 points): The patient states that she has had “more trouble breathing” within the past week.

History of present Illness (10 points): The patient presents to the emergency department the morning of 10/28/19 with complaints of increased shortness of breath which caused the patient to have “more trouble breathing”. She has a past medical history of adrenal insufficiency, general anxiety disorder, lung cancer, and pulmonary embolism. The patient states that the onset of symptoms occurred approximately one week ago and is progressively getting worse. She describes the location of the shortness of breath in her chest/lungs and has been lasting throughout the day and night. The patient states that she is needing to work harder to breath and “cannot catch her breath”. She states that her shortness of breath is accompanied with productive cough with clear sputum. She denies having any fever or chills with nausea or vomiting. The patient states that aggravating factors include walking or any activities that require her to stand up. She states that her 3 liters of oxygen helps relieve the symptoms of the shortness of breath, and does have an oxygen tank at home that she is supposed to 24 hours/7 days a week via nasal cannula. The patient was given a DuoNeb treatment while in the emergency department which she states helped temporarily. Using a numerical pain scale rating from 0-10, the patient rates her pain upon admission as a “0” with 10 being the highest amount of pain.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Chronic Obstructive Pulmonary Disease (COPD) Exacerbation

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

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

Chronic Obstructive Pulmonary Disease (COPD) progressively limits airflow and is associated with an abnormal inflammatory response of the lungs to irritating particles or gases. This can cause chronic inflammation throughout the airways, parenchyma, and pulmonary vasculature (Swearingen, 2016). The persistent airflow limitation characteristics are caused by a mixture of small airway inflammation (bronchitis) and parenchymal destruction (emphysema), the relative contributions of each varying from person to person (Swearingen, 2016).

Common signs and symptoms associated with COPD include dyspnea, chronic cough, and constant sputum production (Swearingen, 2016). Dyspnea that interferes with daily activities is the main reason why patients seek medical attention. Increased sputum production may also be a key indicator. As lung function deteriorates and dyspnea worsens, arterial hypoxemia and hypercarbia become more noticeable, and additional complications such as weight loss, right-sided heart failure, and respiratory failure occur (Capriotti & Frizzell, 2016). Expected findings related to COPD include prolonged expiratory phase, decreased thoracic expansion, adventitious breath sounds such as wheezing or crackles, development of barrel chest, clubbing of the fingernails, dullness on percussion over areas of consolidation, ankle edema, and distended neck veins (Capriotti & Frizzell, 2016).

Diagnostic testing used to identify COPD includes lung function tests, chest x-ray, CT scan, and arterial blood gas analysis. Lung function tests most commonly use spirometry to measure how much air the lungs can hold and how fast an individual can blow the air out of their lungs (Capriotti & Frizzell, 2016). This determines if a patient's lungs are delivering enough oxygen to their blood. A chest x-ray can show one of the leading causes of COPD, emphysema, and can also rule out other lung or heart issues (Capriotti & Frizzell, 2016). A CT scan can help detect the presence of emphysema, lung cancer, and whether a patient would need surgery

(Capriotti & Frizzell, 2016). Arterial blood gas analysis measures how well the lungs are bringing in oxygen to a person's blood and removing the carbon dioxide (Capriotti & Frizzell, 2016). Lab tests can rule out other disease processes but are not usually used as a diagnostic tool for COPD.

The particular tests performed on my patient that helped support the diagnosis of the findings included a CT angiogram and an x-ray of her chest. These specific tests were performed due to the patient's complaints of shortness of breath. The CT angiogram showed no pulmonary emboli; however, mucous plugging on bilateral bronchi was present with a background of emphysema. The chest x-ray was also ordered due to the patient's complaint of experiencing shortness of breath; however, the heart size was average, and lungs were clear without pneumothorax or pleural effusion.

The treatments for COPD include smoking cessation, medications, lung therapies, and surgery (Capriotti & Frizzell, 2016). Smoking makes COPD worse and reduces an individual's ability to breathe, so secondhand smoke exposure should also be avoided. Inhaled medications include bronchodilators to relax the muscles around the airways to relieve coughing and shortness of breath; Steroids to decrease inflammation in the airways; or a combination of bronchodilator and steroid medications such as Salmeterol and Fluticasone or Formoterol and budesonide for enhanced benefits (Capriotti & Frizzell, 2016). Antibiotics can also be used to treat acute exacerbations. Lung therapies include oxygen delivery devices that provide supplemental oxygen to ensure there is enough oxygen in the blood. When medication treatments do not work, surgery is the last result and can include lung volume reduction surgery to create extra space in the chest cavity, lung transplants, or bullectomy to remove bullae from the lungs to improve airflow (Capriotti & Frizzell, 2016).

Specifically pertaining to the patient, she stopped smoking approximately five months ago, so teaching points were not needed in that area. The hospital medications she is on for treatment include azithromycin antibiotics, budesonide-formoterol (Symbicort) steroid/bronchodilator combination medication, ipratropium (Albuterol) bronchodilator. Also, she is currently receiving six liters of oxygen via nasal cannula to supplement the oxygen in her blood since she was below 92% during the morning shift. At home, she has an oxygen tank that delivers three liters of oxygen to supplement her oxygen saturation levels via nasal cannula.

The clinical data that correlates to this particular patient include the previously mentioned common signs and symptoms associated with COPD, which include dyspnea, chronic cough, and chronic sputum production (Capriotti & Frizzell, 2016). The patient presented to the emergency department with all three of these main complications of COPD, which made her feel like she “couldn’t catch” her breath. The cough that she was experiencing was due to her lungs, trying to clear and expel the sputum but couldn’t due to mucus plugs as seen on the CT angiogram. However, a chest physiotherapy vest was placed on the patient by respiratory therapy which as a result allowed her to mobilize, and begin to expel, the sputum. She didn’t present to the emergency department until one week later when she experienced dyspnea that interfered with her daily activities. Increased sputum production may also be a key indicator. Since her lung functioning worsened, she presented with a secondary diagnosis upon admission, which was acute on chronic respiratory failure. The patient is currently receiving antibiotics, bronchodilators, steroids, and is on six liters of oxygen via nasal cannula to help stabilize her COPD exacerbation.

Pathophysiology References (2) (APA):

References

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Swearingen, P. L. (2016). *ALL-IN-ONE NURSING CARE PLANNING RESOURCE: Medical-surgical, pediatric, maternity, and ... psychiatric-mental health* (4th ed.). St. Louis, MO: 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	4-5.5 million	4.51	4.27	N/A
Hgb	12-16	11.7 (L)	11.1 (L)	Repeated exacerbations can inhibit erythropoiesis, and as a result a significant decrease in hemoglobin levels can occur in severe COPD (Van Leeuwen & Bladh, 2017). This patient was admitted with a diagnosis of an acute on chronic respiratory failure secondary to COPD exacerbation.
Hct	35-47%	36.6	34.7 (L)	Low blood volume can be due to chronic inflammatory disease or hemolytic anemia (Van Leeuwen & Bladh, 2017). This patient also had low hemoglobin levels due to repeated exacerbations inhibiting erythropoiesis.
Platelets	150-400 (10^2)	192	198	N/A
WBC	5-10 (10^2)	8.1	8.4	N/A
Neutrophils	55-70 %	76.8	91.6 (H)	An increased percentage of neutrophils may be due to acute infection, acute stress, or trauma (Van Leeuwen & Bladh, 2017). This patient experienced these things with the COPD exacerbation.
Lymphocytes	20-40 %	10 (L)	6.7 (L)	A decreased percentage of lymphocytes may be due to steroid use

				that is in the combination medications (Van Leeuwen & Bladh, 2017). Also, patient currently takes prednisone daily at home.
Monocytes	2-8 %	6.8	1.2 (L)	Repeated exacerbations can inhibit bone marrow functioning where monocytes are produced, causing a decrease in monocyte maturity (Van Leeuwen & Bladh, 2017).
Eosinophils	1-4%	5.3	0.3	Elevated when blood or tissues have sustained an infection or inflammation. Most likely due to eosinophil-rich inflammatory infiltrate mucus plugs (Van Leeuwen & Bladh, 2017).
Bands	0	N/A	N/A	N/A

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

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	135-145	142	143	N/A
K+	3.5-5.1	4.4	4.5	N/A
Cl-	97-107	107 (H)	109 (H)	Increased in dehydration related to hemoconcentration and high blood glucose related to excessive urine production (Van Leeuwen & Bladh, 2017). Blood volume is low as evidenced by low hematocrit levels. Also, blood glucose levels are elevated.
CO2	21-31	30	29	N/A
Glucose	74-109	114 (H)	140 (H)	Blood is not properly oxygenated in COPD patients, resulting in low levels of insulin and increased glucose in the blood which cannot reach the body's cells to provide energy (Capriotti & Frizzell, 2016).

BUN	0.7-25	17	N/A	N/A
Creatinine	0.5-0.9	0.64	N/A	N/A
Albumin	3.5-5.2	N/A	N/A	N/A
Calcium	8.6-10.3	8.2 (L)	N/A	N/A
Mag	1.6-2.6	N/A	N/A	N/A
Phosphate	2.5-4.5	N/A	N/A	N/A
Bilirubin	0.3-1.0	N/A	N/A	N/A
Alk Phos	35-105	N/A	N/A	N/A
AST	0-32	N/A	N/A	N/A
ALT	0-33	N/A	N/A	N/A
Amylase	30-110	N/A	N/A	N/A
Lipase	3-73	N/A	N/A	N/A
Lactic Acid	3-23	N/A	N/A	N/A
Troponin	<0.35	N/A	N/A	N/A
CK-MB	5-25	N/A	N/A	N/A
Total CK	22-198	N/A	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	<1.1	N/A	N/A	N/A
PT	11-13.5	N/A	N/A	N/A

PTT	25-35	N/A	N/A	N/A
D-Dimer	<0.5	3.02 (H)	N/A	High D-dimer levels have been detected in COPD exacerbation, even in the absence of detectable pulmonary embolism due to limited mobility and inflammation (Capriotti & Frizzell, 2016). This patient's activity level has been decreased for over a week since experiencing increased shortness of breath.
BNP	<100	N/A	N/A	N/A
HDL	40-60	N/A	N/A	N/A
LDL	<100	N/A	N/A	N/A
Cholesterol	<200	N/A	N/A	N/A
Triglycerides	<150	N/A	N/A	N/A
Hgb A1c	4-5.6%	N/A	N/A	N/A
TSH	0.4-4.0	N/A	N/A	N/A

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

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	Yellow/Clear	N/A	N/A	N/A
pH	4.5-8.0	N/A	N/A	N/A
Specific Gravity	1.002-1.030	N/A	N/A	N/A
Glucose	Negative	N/A	N/A	N/A
Protein	Negative	N/A	N/A	N/A
Ketones	Negative	N/A	N/A	N/A
WBC	0-5	N/A	N/A	N/A
RBC	0-4	N/A	N/A	N/A

Leukoesterase	Negative	N/A	N/A	N/A

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

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
pH	7.35-7.45	N/A	N/A	N/A
PaO2	75-100	N/A	N/A	N/A
PaCO2	35-45	N/A	N/A	N/A
HCO3	22-28	N/A	N/A	N/A
SaO2	93-100	N/A	N/A	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	N/A
Blood Culture	Negative	N/A	N/A	N/A
Sputum Culture	Negative	N/A	N/A	N/A
Stool Culture	Negative	N/A	N/A	N/A

Lab Correlations Reference (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Van Leeuwen, A. M., & Bladh, M. L. (2017). *Davis's comprehensive handbook of laboratory & diagnostic tests with nursing implications.* Seventh edition. Philadelphia, PA: F.A. Davis Company.

Diagnostic Imaging

All Other Diagnostic Tests (5 points): CT angiogram of the chest (pulmonary); X-ray of the chest.

Diagnostic Test Correlation (5 points): The particular tests performed on my patient that helped support the diagnosis of the findings included a CT angiogram of the chest, and an x-ray of her chest. These specific tests were performed due to the patient's complaints of shortness of breath. It can show thickening of the bronchial walls, excess fluid around the lungs, pulmonary embolism, emphysema, and pneumonia to help determine the cause of shortness of breath or chest pain (Capriotti & Frizzell, 2016). The CT angiogram showed no pulmonary emboli, pneumonia, or pleural effusion. However, mucous plugging on bilateral bronchi was present, showing that it was more noticeable on the right lung. Emphysema was also noted in the background.

A chest x-ray helps produce images of the lungs to evaluate symptoms of shortness of breath or chronic cough as my patient presented at the emergency department. The images are able to show an enlarged lung, air pockets called bullae, or a flattened diaphragm (Capriotti & Frizzell, 2016). However, my patient's x-ray was unremarkable as the heart size was average, bullae was absent, and lungs were clear without pneumothorax or pleural effusion.

Diagnostic Test Reference (APA): Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

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

Home Medications (5 required)

Brand/Generic	Albuterol (Accuneb)	Simvastatin (Zocar)	DULoxetine (Cymbalta)	Ipratropium bromide/al	Prednisone (Winipred)

				buterol (Combivent, DuoNeb)	
Dose	90 mcg	40 mg	60 mg	0.5-2.5 mg	20 mg
Frequency	Every 4 hours, as needed (PRN).	Once daily.	Two times per day; BID.	Every 4 hours, as needed.	Once daily.
Route	PO (Inhaled)	PO	PO	PO	PO
Classification	Bronchodilators; adrenergic.	Lipid-lowering agent; HMG-CoA reductase inhibitors	Antidepressants; selective serotonin/norepinephrine reuptake inhibitors	Bronchodilators.	Corticosteroid (intermediate), antiasthmatic.
Mechanism of Action	Binds to beta2-adrenergic receptors in airway smooth muscle, leading to activation of adenyl cyclase and increased levels of cyclic-3', 5' -adenosine monophosphate. Increases in cAMP activate kinases, which inhibit the phosphorylation of myosin and decrease	Inhibit an enzyme, 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase, which is responsible for catalyzing an early step in the synthesis of cholesterol (Vallerand& Sanoski, 2015).	Inhibits serotonin and norepinephrine reuptake in the CNS. Both antidepressant and pain inhibition are centrally mediated (Vallerand& Sanoski, 2015).	Relax muscles in airways and increase air flow to the lungs (Vallerand & Sanoski, 2015).	Suppress inflammation and the normal immune response (Vallerand& Sanoski, 2015).

	intracellular calcium. Decreased intracellular calcium relaxes smooth muscle airways. Relaxation of airway smooth muscle with subsequent bronchodilation. (Vallerand & Sanoski, 2015).				
Reason Client Taking	Bronchodilation due to history of COPD.	Secondary prevention of cardiovascular events (Decreases risk of MI, coronary revascularization, stroke, and cardiovascular mortality) in patients with clinically evident CHD or those at high-risk for CHD (Hx of diabetes, PAD, or stroke).	Treats depression.	Shortness of breath related to COPD.	COPD treatment.
Contraindications (2)	Hypersensitivity to adrenergic amines. Pregnant women near term (Vallerand & Sanoski,	Concurrent use of strong CYP3A4 inhibitors due to high risk of myopathy/rhabdomyolysis; Active liver disease (Vallerand& Sanoski, 2015).	Narrow-angle glaucoma patients. Immediately after a myocardial infarction (Vallerand& Sanoski, 2015).	Hypersensitivity to ingredients; History of paradoxical bronchospasm (Vallerand & Sanoski,	Active untreated infections. Immunosuppression (Vallerand& Sanoski, 2015).

	2015).			2015).	
Side Effects/Adverse Reactions (2)	Paradoxical bronchospasm; hyperglycemia.	Bronchitis; rashes.	Insomnia, urinary retention.	Sore throat, muscle cramps.	Adrenal suppression; depression.
Nursing Considerations (2)	Observe for paradoxical bronchospasm (wheezing). May cause transient decrease in serum potassium concentrations with nebulization or higher than recommended doses.	Administer once daily in the evening time. Monitor for signs of liver injury including fatigue, anorexia, right upper quadrant pain, dark urine, or jaundice.	Monitor BP before and periodically during therapy. Sustained hypertension may be dose related; decrease dose or discontinue therapy if this occurs. Monitor closely for notable changes in behavior that could indicate the emergence or worsening of suicidal thoughts or behavior or depression.	Administer oral medication with meals to minimize gastric irritation. Shake inhaler well, and allow at least 1 minute between inhalations of aerosol medication.	Do not confuse prednisone with prednisolone. If dose is ordered daily, administer in the morning to coincide with the body's normal secretion of cortisol.
Key Nursing Assessment(s)/Lab(s) Prior to Administration	Assess lung sounds, pulse, and BP before administration and during peak of medication. Monitor pulmonary function tests before initiating therapy	Assess for muscle tenderness during therapy, monitor CK levels for rhabdomyolysis. Evaluate serum cholesterol and triglyceride levels before initiating, after 4-6 weeks of therapy and periodically afterwards.	Monitor mental status and affect. Assess for suicidal tendencies. Monitor for signs of toxicity and overdose.	Assess lung sounds, pulse, and blood pressure before administration of medicine. Monitor pulmonary function tests before initiating therapy.	Monitor intake and output ratios and daily weights. Observe patient for peripheral edema, steady weight gain, rales/crackles, or dyspnea.

	and periodically during therapy.				
Client Teaching needs (2)	Teach patient to contact primary care professional immediately if shortness of breath is not relieved by medication or is accompanied by diaphoresis, dizziness, palpitations, or chest pain. Advise patient to rinse mouth with water after each inhalation dose to minimize dry mouth and clean the mouthpiece with water at least once a week.	Educate patient that consuming large quantities of grapefruit juice may increase blood levels and increase the risk of rhabdomyolysis. Instruct patient to notify health care professional if signs of livery injury or if unexplained muscle pain, tenderness, or weakness occurs, especially if accompanied by fever or malaise.	Encourage patient and family to be alert for emergence of anxiety, agitation, panic attacks, insomnia, irritability, hostility, impulsivity, akathisia, hypomania, mania, worsening of depression and suicidal ideation, especially during early antidepressant therapy. May cause drowsiness, educate client to avoid driving or operating heavy machinery until effects are known.	Instruct patient to contact health care professional immediately if shortness of breath is not relieved by medication or is accompanied by diaphoresis, dizziness, palpitations, or chest pain. Caution patient to avoid smoking and other respiratory irritants. Prime the inhaler prior to first use.	Take with meals in the morning to avoid GI irritation. Report any signs of adrenal insufficiency such as hypotension, weight loss, weakness, nausea, vomiting, anorexia, lethargy, confusion, or restlessness.

Hospital Medications (5 required)

Brand/Generic	Azithromycin (Zithromax)	Symbicort (Budesonide-Formoterol)	Umeclidinium (Incruse Ellipta)	Protonix (Pantoprazole)	Simvastatin
Dose	500 mg	160 mcg	62.5 mcg	40 mg	40 mg
Frequency	Once daily.	Two times daily (BID).	Once daily.	Once daily.	Once daily.
Route	IV	PO	PO	PO	PO
Classification	Macrolides	Corticosteroids/bronchodilator	Anticholinergic	Proton pump inhibitor.	Lipid-lowering agent; HMG-CoA reductase inhibitors
Mechanism of Action	Inhibits protein synthesis at the level of the 50S bacterial ribosome (Vallerand& Sanoski, 2015).	Potent, locally acting anti-inflammatory and immune modifier (Vallerand& Sanoski, 2015).	Relaxing muscles in the airways to improve breathing (Vallerand& Sanoski, 2015).	Inhibit the final step in gastric acid production at the parietal cell level (Vallerand& Sanoski, 2015).	Inhibit an enzyme, 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase, which is responsible for catalyzing an early step in the synthesis of cholesterol (Vallerand& Sanoski, 2015).
Reason Client Taking	COPD Exacerbation.	Shortness of breath related to COPD Exacerbation.	Prevent airflow obstruction and shortness of breath related to COPD Exacerbation.	Prophylaxis therapy to prevent acid reflux.	Secondary prevention of cardiovascular events (Decreases risk of MI, coronary revascularization, stroke, and cardiovascul

					ar mortality) in patients with clinically evident CHD or those at high-risk for CHD (Hx of diabetes, PAD, or stroke).
Contraindications (2)	Hypokalemia, bradycardia.	Acute asthma attacks, untreated infections.	Hypersensitivity to milk proteins. Using other medications that contain salmeterol tiotropium.	Hypersensitivity reactions. Patients receiving rilpivirine containing products.	Concurrent use of strong CYP3A4 inhibitors due to high risk of myopathy/rhabdomyolysis; Active liver disease.
Side Effects/Adverse Reactions (2)	Torsades de pointes; Anemia.	Bronchospasm, wheezing.	Sore throat, irregular heartbeat.	Joint pain, dizziness.	Bronchitis; rashes.
Nursing Considerations (2)	May cause an increase in serum bilirubin, AST, ALT, LDH, and alkaline phosphatase concentrations. Ma increase potassium, PT, BUN, serum creatinine and blood glucose concentrations.	May cause an increase in serum and urine glucose concentrations. May cause decreased bone mineral density during prolonged therapy.	Use with cautin in urinary retention patients due to anticholinergic effects. Can worsen acute narrow-angle glaucoma.	At risk for gastric malignancy. At risk for interstitial nephritis.	Administer once daily in the evening time. Monitor for signs of liver injury including fatigue, anorexia, right upper quadrant pain, dark urine, or jaundice.
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	Obtain specimens for culture and sensitivity before	Assess adrenal function to assess degree of adrenal	Assess AST, ALT prior to administering. Assess BUN and	Assess BUN and creatinine clearance. Assess for diarrhea or	Assess for muscle tenderness during therapy,

	initiating therapy. Assess vital signs to determine presence of infection.	suppression. Monitor respiratory status and lung sounds.	creatine clearance prior to administering.	loose stools.	monitor CK levels for rhabdomyolysis. Evaluate serum cholesterol and triglyceride levels before initiating, after 4-6 weeks of therapy and periodically afterwards.
Client Teaching needs (2)	Teach patient to take medications on schedule and to finish the drug completely. Instruct patient to report symptoms of chest pain, palpitations, yellowing of the skin or eyes.	Teach patient that this medication should not be used to treat an acute asthma attack. Advise patient to stop using medication and notify PCP if hypersensitivity reactions occur.	Teach patient that this should not be used as a rescue inhaler.	Call doctor if you develop kidney problems. Call doctor if you feel tremors or have a irregular heart beat.	Educate patient that consuming large quantities of grapefruit juice may increase blood levels and increase the risk of rhabdomyolysis. Instruct patient to notify health care professional if signs of livery injury or if unexplained muscle pain, tenderness, or weakness occurs, especially if accompanied by fever or malaise.

Medications Reference (APA): Vallerand, A. & Sanoski, C. (2015). *Davis's drug guide for nurses* (14th ed.). Philadelphia: F.A. Davis.

Assessment

Physical Exam (18 points)

GENERAL (1 point): Alertness: Alert to person, place, time, and situation. Orientation: Oriented to person, place, time, and situation. Distress: No signs of distress noted. Overall appearance: Patient appears well fragile and frail; appears stated age.	Patient is A&O x4. Patient does not show signs of distress. Overall, patient appears fragile and frail; however, she looks her stated age, and is able to communicate her needs effectively.
INTEGUMENTARY (2 points): Skin color: Pink Character: Dry Temperature: Warm Turgor: Elastic Rashes: No rashes. Bruises: No bruises. Wounds: Patient does not have any wounds or incisions. Braden Score: 17 Drains present: Y☐ N ☒ Type: N/A	Patient's skin is pink, warm, and dry. Patient's skin turgor is elastic without tenting, rashes, bruises, or drains present. Patient denies any wounds or incisions. Patient is up ad lib with assist. She has a Braden score of 17, suggesting that she is at a mild risk for developing pressure sores.

HEENT (1 point): Head/Neck: Normocephalic Ears: Auricle and tragus without lesion or tenderness bilaterally. No visible drainage. Eyes: PERRLA present bilaterally. Nose: Symmetrical. No visible lesions. Teeth: Clean and present. Oral mucosa appears pink and moist without lesions.	Patient's head is normocephalic in size and shape for patient's body. Patient's ears are normal without drainage or discharge, lesions or tenderness on tragus or auricle bilaterally. PERRLA is present bilaterally with normal pink conjunctiva and white sclera. Nose is symmetrical without bleeding or polyps. Patient's teeth are clean with normal dentition. Oral mucosa appears pink and moist without lesions or sores.
CARDIOVASCULAR (2 points): Heart sounds: Heart sounds: S1, S2, present. Cardiac rhythm (if applicable): Normal sinus rhythm. Peripheral Pulses: Radial, 2+; Pedal 2+ Capillary refill: <3 seconds bilaterally. Neck Vein Distention: Y ☐ N ☒ Edema Y ☐ N ☒ Location of Edema: N/A	Normal S1, S2 heart sounds present upon auscultation. No murmurs, gallops, or rubs present. Patient's cardiac rhythm is normal sinus. Patient's peripheral pulses are present bilaterally in upper radial and lower pedal extremities, both graded as 2+. Patient's capillary refills within 3 seconds bilaterally in upper and lower extremities. Patient does not have visible neck vein distention. Patient does not appear to have visible edema in either foot bilaterally.
RESPIRATORY (2 points): Accessory muscle use: Y☐ N ☒ Breath Sounds: Location, character: Lungs are coarse to auscultation bilaterally in all	Patient's lungs are coarse to auscultation bilaterally in all lung fields. Coarse crackles and wheezing auscultated at the beginning of inspiration with prolonged expiration. No rhonchi

lung fields.	or rales present. Patient is on six liters of oxygen, via nasal cannula route. She is not using accessory muscles to assist in breathing.
GASTROINTESTINAL (2 points): Diet at home: Regular diet Current Diet: Heart healthy diet Height: 165.1 cm Weight: 50.8 kg Auscultation Bowel sounds: Yes. Present in all four quadrants (RLQ, RUQ, LUQ, LLQ). Last BM: 10/27/19 Palpation: Pain, Mass etc.: Inspection: Distention: No distention noted. Incisions: No visible incisions. Scars: No visible scars. Drains: No visible drains. Wounds: No visible wounds. Ostomy: Y ☐ N ☒ Nasogastric: Y ☐ N ☒ Size: N/A Feeding tubes/PEG tube Y ☐ N ☒ Type: N/A	Patient states that is on a no restriction diet at home and current one is a “heart healthy diet.” She measures 165.1 cm tall and weighs 50.8 kg. No distention, incisions, scars, drains, or wounds present. Bowel sounds are present and audible in all four quadrants; right upper/lower, left upper/lower. No ostomies, nasogastric, or feeding/PEG tubes present. Patient states that she was able to have a bowel movement yesterday, 10/27/19, in the afternoon time. Patient states that the appearance of the stool was “lumpy” and brown in color. Patient states that light and deep palpation of the abdomen is not painful; no facial grimace or guarding present during assessment.

GENITOURINARY (2 Points): Color: Yellow Character: Clear Quantity of urine: 140 mL Pain with urination: Y ☐ N ☒ Dialysis: Y ☐ N ☒ Inspection of genitals: N/A Catheter: Y ☐ N ☒ Type: N/A Size: N/A	The patient's urine was yellow and clear in character. The quantity of urine measured approximately 140 mL for my shift. Patient denies pain with urination. Patient is not on dialysis and does not have a urinary catheter placed.
MUSCULOSKELETAL (2 points): Neurovascular status: Intact ROM: Yes Supportive devices: N/A Strength: 5/5 bilaterally in upper extremities; 5/5 musculoskeletal strength bilaterally in lower extremities. ADL Assistance: Y☐ N ☒ Fall Risk: Y ☐ N☒ Fall Score: Morse Fall Scale 40; Low risk Activity/Mobility Status: Independent (up ad lib) ☐ Needs assistance with equipment ☐ Needs support to stand and walk☒	The patient's 12 cranial nerves were assessed and her neurovascular status is intact. She is able to perform active range of motion exercises of the cervical neck, bilateral shoulders, arms, and legs. Patient has 5/5 musculoskeletal strength bilaterally in upper extremities, and 5/5 musculoskeletal strength bilaterally in lower extremities. Patient does not require assistance with activities of daily living. Patient is up with standby assist, needing support to stand and walk. She is categorized as a low fall risk with her Morse fall scale rating is a 40.

NEUROLOGICAL (2 points): MAEW: Y ☒ N☐ PERRLA: Y ☒ N☐ Strength Equal: Y ☒ N ☐ if no - Legs ☐ Arms ☐ Both ☐ Orientation: Oriented to person, place, time, and situation. Mental Status: Patient appears alert and oriented, able to answer questions with ease. Patient denies experiencing depression. Speech: Speaks clearly, fluently, and logically. Sensory: Patient is able to detect sensation in upper and lower extremities bilaterally. LOC: Glasgow coma scale 15; normal.	Patient is able to move all extremities well. PERRLA present upon assessment with penlight. Patient has 5/5 musculoskeletal strength bilaterally in upper extremities and lower extremities. Patient is A&O x4, oriented to person, place, time, and situation. Patient's mental status is unaltered and is able to answer questions with ease and denies depression. Speech is clear, fluent, logical and comprehensible. Patient's sensory level is intact in back of hands, fingertips, and feet bilaterally. Patient's level of consciousness using a Glasgow coma scale is 15; suggesting normal a level that is unaltered.
PSYCHOSOCIAL/CULTURAL (2 points): Coping method(s): Patient states that she likes to "read mystery books" to cope with stressful situations. Developmental level: Patient's developmental level appears equal to her developmental stage and age. Religion & what it means to pt.: Christian. Patient states that it means a lot to her even	The patient states that reading helps her cope with difficult situations. Her developmental level appears equal to her developmental age and states that her highest level of education is University level. Patient states that she is religiously affiliated and identifies as a "Christian". She states that it means a lot to her even though she "doesn't go to church as often as she'd like." The patient is divorced and denies having a positive

though she “doesn’t go to church as often as she’d like.” Personal/Family Data (Think about home environment, family structure, and available family support): The patient denies having a positive family structure that offers family support.	family structure that offers a supportive dynamic since most of her family has passed on. However, patient denies experiencing signs of depression such as feeling sad, losing interest in activities, or self-esteem issues.

Vital Signs, 2 sets (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
1215	99	110/54	20	36.5˚ C	99
0345	83	94/53	18	36.1˚ C	94

Vital Sign Trends:

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
1215	0-10 numerical pain scale.	N/A	0	N/A	No intervention needed.
0345	0-10 numerical pain scale.	N/A	0	N/A	No intervention needed.

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: N/A; Implanted (single) port placed instead. Location of IV: N/A; patient has a central line	Saline lock.

placed on left, upper chest. Date on IV: N/A Patency of IV: Central line is patent; confirmed via saline flush. Signs of erythema, drainage, etc.: No signs of erythema or drainage. IV dressing assessment: Central line dressing is transparent and securement is intact. The end of the access port has an alcohol cap placed. Dressing shows a date of 10/28/19.	

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
140 mL	125 mL

Nursing Care

Summary of Care (2 points)

Overview of care:

Procedures/testing done:

Complaints/Issues:

Vital signs (stable/unstable):

Tolerating diet, activity, etc.:

Physician notifications:

Future plans for patient:

Discharge Planning (2 points)

Discharge location: Home.

Home health needs (if applicable): Occupational health, physical therapy consult.

Equipment needs (if applicable):

Follow up plan: Check-up with primary care physician in 2-4 weeks.

Education needs: Myasthenia gravis disease process and risk factors.

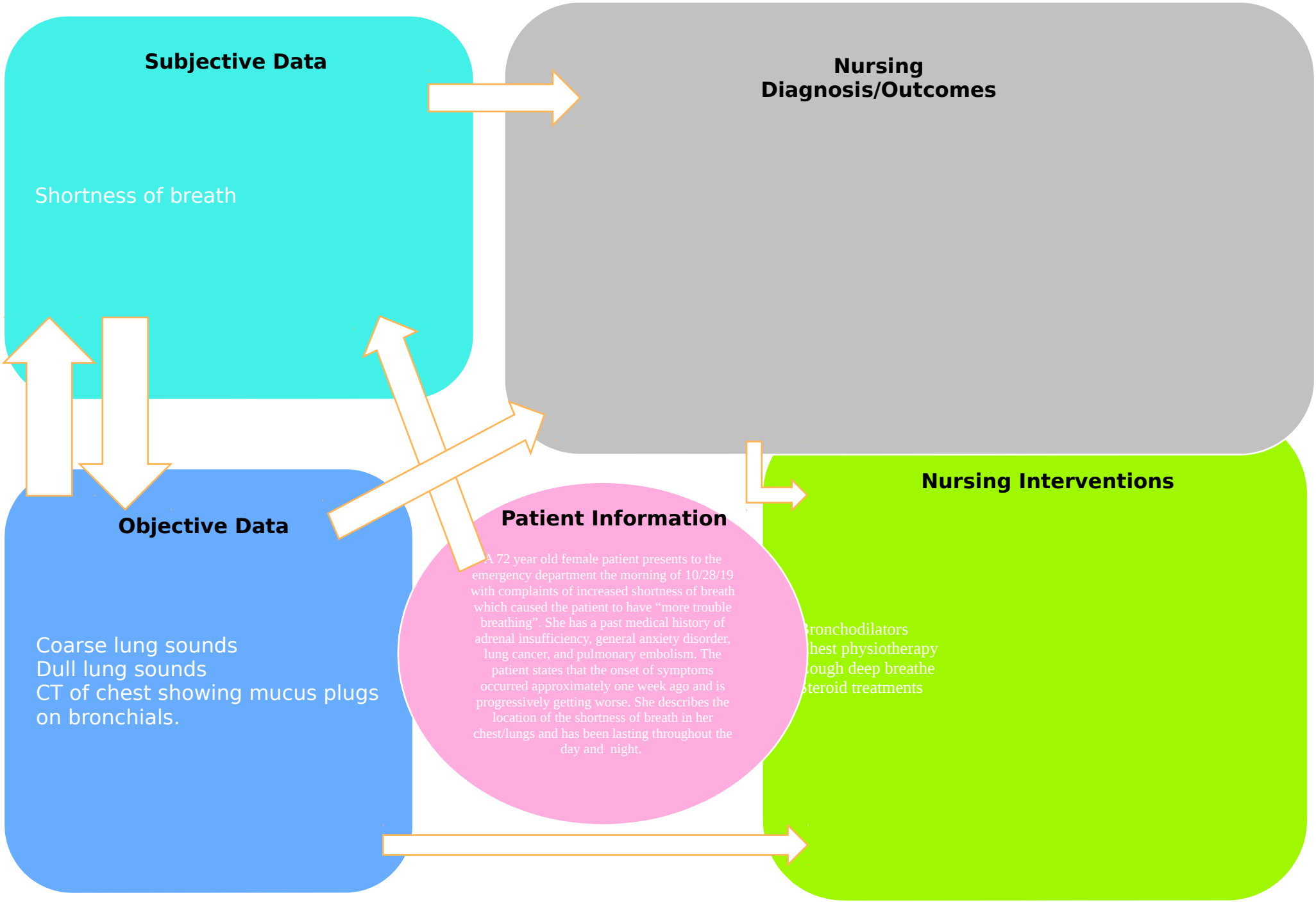
Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	Rational • Explain why the nursing diagnosis was chosen	Intervention (2 per dx)	Evaluation • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Impaired gas exchange related to ventilation-perfusion inequality as evidenced by low oxygen saturation.	Due to ineffective inspiration and expiration occurring with chronic airflow limitations.	1.Monitor for signs of dyspnea and hypoxia. 2.Monitor prescribed oxygen effectiveness with pulse oximetry or arterial blood gas (ABG) analysis.	Improving gas exchange • The patient was compliant with nursing actions. • After treatment/interventions, the patient's breathing pattern improves as evidenced by reduction in or absence of reported dyspnea and related symptoms.
2. Ineffective airway clearance related to bronchoconstriction as evidenced by increased mucous production, ineffective cough, and bronchopulmonary infection.	Due to the presence of excessive tracheobronchial secretions occurring with infection.	1. Encourage high fluid intake to liquefy secretions. 2.Assess success of chest physiotherapy treatment and educate the patient to cough in a directed and controlled manner; expelling any mucous that comes up.	• The patient was compliant with nursing actions. • On teaching, the patient demonstrates an effective cough. After interventions, the patient's airway is free of excessive secretions and adventitious breath sounds.
3. Ineffective breathing pattern related to shortness of breath as evidenced by mucous, bronchoconstriction.	Due to altered oxygen supply occurring with small airway inflammation and parenchymal destruction or alveolar edema.	1. Instruct patient in effective breathing techniques. 2. Teach breathing techniques to reduce respiratory rate and expel maximum air; like with pursed lip	Improved breathing pattern • The patient was compliant with nursing actions. • Within 1-2 hours after treatment/interventions or by discharge, the

		breathing.	patient has adequate gas exchange as evidenced by respiratory rate of 12-20 breaths/minute.
4. Activity intolerance related to fatigue, hypoxemia, and ineffective breathing patterns as evidenced by easily fatigued by activities and needing to rest multiple times in between.	Due to imbalance between oxygen supply and demand occurring with inefficient work of breathing.	1. Teach patient to group activities together and leave room to take breaks in between. 2. Encourage active range of motion exercises to gradually build endurance and improve muscle strength.	Improved activity intolerance. • The patient was compliant with nursing actions. • The patient reports decreasing dyspnea during activity or exercise and rates perceived exertion at 3 or less on a 0-10 scale.

Other References (APA): Swearingen, P. L. (2016). *ALL-IN-ONE NURSING CARE PLANNING RESOURCE: Medical-surgical, pediatric, maternity, and ... psychiatric-mental health* (4th ed.). St. Louis, MO: Mosby.

Concept Map (20 Points):


Subjective Data
Shortness of breath
Nursing Diagnosis/Outcomes
Objective Data
Coarse lung sounds
Dull lung sounds
CT of chest showing mucus plugs on bronchials.
Patient Information
A 72 year old female patient presents to the emergency department the morning of 10/28/19 with complaints of increased shortness of breath which caused the patient to have “more trouble breathing”. She has a past medical history of adrenal insufficiency, general anxiety disorder, lung cancer, and pulmonary embolism. The patient states that the onset of symptoms occurred approximately one week ago and is progressively getting worse. She describes the location of the shortness of breath in her chest/lungs and has been lasting throughout the day and night.
Nursing Interventions
Bronchodilators
hest physiotherapy
ough deep breathe
teroid treatments