N311 Care Plan # 2

Lakeview College of Nursing

Ruva Mutopo

Demographics (5 points)

Date of Admission	Patient Initials	Age	Gender
08/01/2020	H.G.	01/01/52 Age 68	Male
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
Hispanic/Mexican	Retired	Single	Ampicillin
Code Status	**Height**	**Weight**	
DNR	68 inches	156 lb	

Medical History (5 Points)

Past Medical History: emphysema @ age 60, chicken pox @ age 5, Broke his arm @ age 15

Past Surgical History: Client denies any past surgeries.

Family History: Mother: Coronary Heart Disease – Grandfather: Hearing loss and Vision loss when alive, Grandmother: Just had arthritis

Father: Lung Cancer – Grandparents: both were healthy

Siblings: Both of them have chronic bronchitis

Social History (tobacco/alcohol/drugs): Client reports excessive tobacco use, started at age 12, smoked 2 packs a day and quit smoking at age 50. Alcohol use at least 5 times a week and finishes a whole 6 pack of beer. He has felt like he needed to cut down, his kids always comment on his drinking which led him to feel guilty, however has never had an eyeopener. Reports no drug use.

Admission Assessment

Chief Complaint (2 points): Excessive sputum production, dyspnea, wheezing and coughing

History of present Illness (10 points): Onset: Client was admitted into the emergency department at 0600 on August 1st for exacerbation of COPD symptoms; coughing, dyspnea, sputum production. Client was found by his daughter on the floor, unresponsive.

Location: Client rubs around his chest

Duration: He has never become unconscious, but his excessive symptoms started 3 days ago, and they've been consistent throughout the day.

Characteristics: Client says all his symptoms feel a lot more severe than they've been especially with the medication he is on.

Aggravating: Maybe if he is in a dusty room.

Relieving: Nothing really relieves my symptoms besides the medication

Treatment: No, he has not tried to seek out treatment

Primary Diagnosis

Primary Diagnosis on Admission (3 points): COPD Exacerbation

Secondary Diagnosis (if applicable): Pneumonia

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

Chronic Obstructive Pulmonary disorder, commonly known as COPD, is characterized by airflow limitation that can never be fully cured (Swearinger & Wright, 2019). Airflow limitation and abnormal inflammation of the lungs can go hand in hand. Inflammation can be in response to noxious particles or gases. COPD is a combination of chronic bronchitis, emphysema and hyperreactive airway disease. It is the third leading cause of death and the 12th leading cause of morbidity in the United States of America (Capriotti & Frizzell, 2016). There are an estimated 12.7 million people with COPD and more commonly women die of it more than men.

If we look at a client's health history like my current client, it is the key and major cause of COPD. Cigarette smoking or even breathing in secondhand smoke is enormous risk factor (Capriotti & Frizzell, 2016). 90% of clients with COPD are smokers, my client had been smoking since he was 12, which is definitely a factor in his development of COPD. Another risk

factor associated with COPD, primarily emphysema, is intravenous drug abuse. Sometimes, the ingredients of drug enter the blood stream, will enter the right side of the heart, and then into the pulmonary circulation and lung tissue (Swearinger & Wright, 2019).

The characteristics of each of the diseases that make up COPD have a lot in common. However, in chronic bronchitis there is a hypersecretion of mucus in the airways, hypoxia and cyanosis. The client experiencing this needs to have had a cough for 3 months out of year for 2 consecutive years (Capriotti & Frizzell, 2016). In emphysema, the overdistention of alveoli with trapped air creates airflow obstruction on expiration, loss of alveoli elasticity and high carbon dioxide in the lungs. All together the signs and symptoms include those two and asthma. The most apparent sign is dyspnea, which is shortness of breath, it interferes with daily activities causing the client to seek out help. Increasing sputum production is present along with coughing or wheezing. The client may enter respiratory failure (Swearinger & Wright, 2019). My client, definitely had increased sputum production, blocking the air way, the wheezing and coughing that is present in COPD. I could have as well done a bronchophony test on my client and listened for the word “ninety-nine” which would reveal the voice heard with much clarity than the normal muffled in a healthy lung. I would be able to hear the voice with clarity because of the liquid in the alveoli from pneumonia and COPD.

Tests completed for COPD include Spirometry, pulse oximetry, chest x-ray, arterial blood gas values, CBC and an ECG. In severe cases of COPD, the chest x-ray may have characteristics like emphysema: flattened, low diaphragm borders and hyperinflation of both lung fields caused by retained air. In those with severe hypoxia, the CBC will show a high number of erythrocytes caused by the constant secretion of erythropoietin from the kidney. Once the results have returned, you can treat with medication like bronchodilators to help widen the air

ways. My client is currently taking prednisone, salmeterol, and albuterol. Those reduce inflammation and relax the bronchioles for efficient air way. Oxygen therapy like a mask or nasal cannula like what my client is on, which helps him breathe efficiently at 2 liters and allows him to move around. With more severe cases you can turn to surgery like a bullectomy or lung transplant. Ultimately the best is a lifestyle changes; quit smoking, avoiding chemical fumes and smoke, good nutrition and exercise (Capriotti & Frizzell, 2016).

Pneumonia is an acute bacterial or viral infection that causes inflammation of the lung tissue in which alveolar air spaces fill with purulent, inflammatory cells and fibrin. Influenza, inhalation of chemicals, contents from the oropharynx or stomach, fungi or yeasts may also cause pneumonia. Pneumonia is the leading cause of death in the United States of America. It is more prevalent during winter months and in colder climates. Unlike COPD it is more common in males than in females (Capriotti & Frizzell, 2016).

There various types of pneumonia but generally there are three types: community acquired, and hospital acquired (nosocomial), and pneumonia in the immunocompromised individual. Community acquired is the most common and usually doesn't require hospitalization unless the individual has a disease like COPD, diabetes mellitus or cardiac disease (Swearinger & Wright, 2019). Giving my client even more of a reason to come into the hospital. Nosocomial pneumonia occurs after aspiration of bacteria from oropharynx or stomach. Nosocomial also include ventilator associated pneumonia which account for 86 % of hospital acquired pneumonias. immunocompromised individuals are predisposed to the development of nosocomial pneumonias from common and unusual bacteria, viruses or fungi.

Signs and symptoms of pneumonia are typically acute. They are influenced by a client's age, extent of disease process, underlying medical condition, and what type of pathogen is

involve. They include coughing, increased sputum, use of accessory muscles, tachypnea and tachycardia. My client showed obvious signs of pneumonia with a pulse of 100 and respirations of 36. Sometimes with clients who are elderly, hypothermia may be present instead of a fever (Capriotti & Frizzell, 2016).

After documenting these symptoms there are a couple tests you can use. The most important diagnostic study for pneumonia is a chest x-ray. Following is CBC, ABGs, pulse oximetry, and sputum culture and sensitivity; these are very similar to test of COPD. With chest x-ray, we should see infiltrate appearing in the lungs. The culture helps us find the right antibiotic for the right organism that caused this. For my client, he is taking Cephalosporin. Cephalosporin is active predominantly against Gram-positive bacteria, such as Staphylococcus and Streptococcus. Along with antibiotics, I would have my client in high fowlers and nasal cannula to aid and promote breathing. And adding Intravenous fluids to keep him from becoming dehydrated. Then finally because my client is also elderly and immunocompromised, I have to make sure to give him a pneumococcal vaccine because he is more suspectable to the infection (Capriotti & Frizzell, 2016).

Pathophysiology References (2) (APA):

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

Swearinger, P. L., & Wright, J. D. (2019). *All in One: Nursing Care Planning Resource* (5th ed.). Elsevier.

Laboratory Data (20 points)
If laboratory data is unavailable, values will be assigned by the clinical instructor

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	3.90 - 4.98 million/mm^3	4.8 million/ mm^3		
Hgb	12 -15.5 g/dL	9.3 g/dL		Client has exacerbation of COPD, low hgb means low tissue oxygenation
Hct	35-45%	29%		Airway obstruction
Platelets	140-400 Thousand/mm^3	162,000/mm^3		
WBC	4,000 – 9,000/ mm^3	13,000/mm^3		Pneumonia, it's an infection which brings all the WBC's
Neutrophils		N/A		
Lymphocytes		N/A		
Monocytes		N/A		
Eosinophils		N/A		
Bands		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 mEq/L	135 mEq/ L		
K+	3.5 – 5.1 mEq/L	4.4 mEq/L		
Cl-	98 -107 mEq/L	100 mEq/ L		

CO2		**N/A**		
Glucose	**70 – 99 mg/ dL**	**180 mg/dL**		**COPD clients carry higher levels of glucose in airways**
BUN	**6 – 20 mg/dL**	**22 mg/dL**		**Pneumonia clients are usually dehydrated**
Creatinine	**0.50 – 1.00 mg/dL**	**1.0 mg/dL**		
Albumin	**3.5 – 5.2 mg/dL**	**3.0 mg/dL**		**Malnutrition due to anorexia, will require high protein**
Calcium	**8.4 – 10.5 mg/dL**	**9.0 mg/dL**		
Mag		**N/A**		
Phosphate		**N/A**		
Bilirubin		**N/A**		
Alk Phos		**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**	**Clear yellow**		
pH	**4.5 - 8**	**5.8**		
Specific Gravity		**1.002**		
Glucose		**Negative**		
Protein		**Negative**		
Ketones		**Negative**		
WBC		**Negative**		
RBC		**Negative**		

Leukoesterase		**Negative**		

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		**Pending**		
Blood Culture		**Pending**		
Sputum Culture		**N/A**		
Stool Culture		**N/A**		

Lab Correlations Reference (APA):

Lakeview College of Nursing. (n.d.) *Diagnostic Lab.* PDF

Diagnostic Imaging

All Other Diagnostic Tests (10 points): Client has a pending chest x-ray

Current Medications (10 points, 2 points per completed med)
5 <u>different</u> medications must be completed

Medications (5 required)

Brand/Generic	**Ceftriaxone (Rocephin)**	**Nicotine (NicoDerm)**	**Prednisone**	**Salmeterol (Serevent Diskus)**	**Albuterol (Proventil)**
Dose	1 g	21 mg	10mg	1	1.25 mg/3 ml
Frequency	Every 12 hrs.	Daily	Every 12 hrs.	Every 12 hrs.	Every 4 hrs.
Route	IV bolus	Transdermal patch	IV bolus	Oral inhalation	Oral inhalation via Nebulizer
Classification	Cephalosporin	Nicotinic agonist	Glucocorticoid	Long acting beta2 agonist	Adrenergic
Mechanism of Action	Interferes with bacteria cell wall synthesis, so the it is not ridged and protective allowing the bacterial cell to rupture and die	Selectively binds to nicotinic-cholinergic receptors in the brain	Suppresses the inflammatory response	Attaches to beta 2 receptors on bronchial cell membranes and inhibits histamine release, relaxes bronchial cells, and stabilizes mast cells	Attaches to beta receptors on bronchial cell to inhibit histamin release and rela bronchial cells,
Reason Client Taking	Treats infection of pneumonia	Reduces nicotine craving and withdrawals for client	Suppresses the inflammation of air passages	Prevent breathing difficulties such as wheezing, shortness of breath, coughing and chest tightness	Relieve symptoms of COPD like breathlessness and wheezing

Contraindications (2)	Penicillin's or calcium containing I.V. solutions	Skin disorders or recovery from acute MI	Hypersensitivity to prednisone or systemic fungal infection	Hypersensitivity to salmeterol or to milk proteins	Hypersensitivity to albuterol or its components
Side Effects/Adverse Reactions (2)	Pancreatitis and seizures	Arrythmias and hypersensitivity reactions	Seizures and heart failure	Angioedema and tachycardia	Hypotension and Bronchospasms

Medications Reference (APA):

2020 Nurse's Drug Handbook. 19th ed., Jones & Bartlett Learning, 2020.

Assessment

Physical Exam (18 points)

GENERAL: **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	 Alert and Oriented x4 Client appears to be in no distress, is well groomed and put together
INTEGUMENTARY: **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	 Pink Normal Warm +2 None None None 23

HEENT: **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	Symmetrical, no bumps or lesions. Trachea is midline. Lymph nodes are nonpalpable No bumps or lesions, no discharge, healthy cerumen and TM is a pearly grey No abnormalities seen in lids, sclera, conjunctiva and cornea. PERRLA. Normal EOM, and vision with glasses No deviation or abnormalities and sinuses are not tender No lesions or bumps. Mouth is pink and moist .
CARDIOVASCULAR: **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema:**	Normal S1 and S2 sounds with no presence of gallops or murmurs. Cap refill in 5 seconds
RESPIRATORY: **Accessory muscle use: Y☒ N ☐** **Breath Sounds: Location, character**	Diminished lung sounds at the bases, occasional rhonchi, wheezes in both anterior and posterior upper lobes
GASTROINTESTINAL: **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:**	Low sodium, high fiber and protein diet and excessive alcohol use Low sodium, high fiber and protein diet 68 in 156 lb Soft clicks and gurgles heard in each quadrant Two nights ago No abnormalities, pain or tenderness palpated or seen

Drains: **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	
GENITOURINARY: **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☐ N ☒** **Type:** **Size:**	Yellow Clear 250mL Genitals appear normal
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** **Supportive devices:** **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**☐	Normal ROM No supportive devices needed Strength in upper and lower extremities
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	 Oriented to person, place, time, and situation Grieving death of his wife Normal speech patterns Alert and responsive No loss of consciousness
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:**	 Family and friends Matured and fully developed Atheist

Personal/Family Data (Think about home environment, family structure, and available family support):	Lives alone, his wife died 2 months ago, kids and sister visit him occasionally.

Vital Signs, 1 set (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0600	**100 left radially**	**150/94 Right brachial**	**36**	**99.2 Temporally**	**91 % on 5 liters nasal cannula**

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0600	**Numeric**	**n/a**	**0**	**n/a**	**None**

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
NPO (nothing by mouth) **3 mL IV @ 0800** **50 mL IV fluids @ 1000**	**250 mL of clear yellow urine @ 0615** **50 mL of clear yellow urine @**

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis

Nursing Diagnosis	Rational	Intervention (2 per dx)	Evaluation
• Include full nursing diagnosis with	• Explain why the nursing		• How did the patient/family respond

"related to" and "as evidenced by" components	diagnosis was chosen		to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Impaired Gas Exchange	Related to COPD and pneumonia as evidence by a O2 of 91%	1.Checking O2 saturation, client in high fowler's 2.Nasal Canula on 2 liters of O2, 5 liters is way too much as it will stop the CO2 trigger for breathing in a COPD patient.	Goal met by client acquiring adequate gas exchange within 2 hours because of respiratory rate between 12 - 20
2. Ineffective Breathing Prattern	Related to COPD as evidence by ineffective inspiration and shortness of breath	1. Auscultate breath sounds every 2-4 hours and document 2.Adminster medication (corticosteroids) and monitor pulse oximetry	Goal met by client maintaining O2 saturation of 93% or more within 4 hours and appears to be relaxed with breathing control.

Other References (APA):

Concept Map (20 Points):

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Subjective Data

Client denies being in any pain, reports shortness of breath, and exacerbation of his COPD symptoms

Nursing Diagnosis/Outcomes

Impaired gas exchange related to COPD and pneumonia as evidence by a O2 of 91%.
Outcomes: client acquired acquiring adequate gas exchange within 2 hours because of respiratory rate between 12 - 20
Ineffective breathing pattern related to COPD as evidence by ineffective inspiration and shortness of breath.
Outcomes: client maintaining O2 saturation of 93% or more within 4 hours and appears to be relaxed with breathing control.

Objective Data

Client is struggling to breath, use of accessory muscles, heard abnormal lung sounds.

Pulse: 100 bpm radially
BP: 154/94 right brachial
Respirations: 36
Temp: 99.2 Temporal
O2: 91 % on nasal canula

Patient Information

Client found by daughter, unconscious

Nursing Interventions

1.Checking O2 saturation, client in high fowler's

2.Nasal Canula on 2 liters of O2, 5 liters is way too much.

1. Auscultate breath sounds every 2-4 hours and document

2.Adminster medication (corticosteroids) and monitor pulse oximetry

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