Medications	Demographic Data	Pathophysiology
Amlodipine besylate (Norvasc) **Pharmacologic class:** Calcium channel blocker T**herapeutic class:** Antianginal, antihypertensive **Reason given:** To control patient's hypertension **Nursing assessment:** Assess hepatic function and renal function, monitor blood pressure, chest pain, medication allergy, and medication list for drug interactions (Ambrose, 2021). **Budesonide-Formoterol fumarate (Symbicort)** **Pharmacologic class:** corticosteroid/ selective beta2-adrenergic agonist **Therapeutic class:** antiasthmatic, Anti-inflammatory / Bronchodilator **Reason given**: To control and prevent wheezing and shortness of breath caused by her COPD **Nursing assessment:** Asses for asthma, cardiovascular disorders, untreated herpes simplex, tubercular infection, and untreated fungal bacterial or viral infection. Asses for a milk allergy, medication allergy and medication list for drug interactions (Ambrose, 2021). **Enoxaparin(Lovenox)** **Pharmacologic class:** low-molecular-weight heparin **Therapeutic class:** Anticoagulant **Reason given:** To reduce the chance of blood clots. **Nursing assessment:** Assess hepatic function and renal function, monitor blood pressure, chest pain, medication allergy, and medication list for interactions (Ambrose, 2021). **Escitalopram oxalate (Lexapro)** **Pharmacologic class:** Selective serotonin reuptake inhibitor (SSRI) **Therapeutic class:** Antidepressant **Reason given:** to treat patient's anxiety related to COPD exacerbations. **Nursing assessment:** Assess a history of heparin-induced thrombocytopenia, watch for any bleeding, check for pregnancy and medical allergies, and medication list for drug interactions (Ambrose, 2021). **Ipratropium bromide (Atrovent)** **Pharmacologic class:** Anticholinergic **Therapeutic class:** Bronchodilator **Reason given:** To provide treatment for bronchospasm associated with her diagnosed COPD **Nursing assessment:** Assess for a history of heparin-induced thrombocytopenia, watch for any bleeding, check for pregnancy and medical allergies, and medication list for	**Date of Admission:** 10/05/2022 **Admission Diagnosis:** Acute exacerbation of chronic obstructive pulmonary disease **Age:** 67 **Gender:** Female **Race:** White/Non-Hispanic or Latino **Allergies:** Doxycycline, Losartan **Code Status:** Full Code **Height:** 162.6 cm (5'4 in) **Weight:** 75.6 kg (166 lb. 9 oz) **Psychosocial Developmental Stage:** Integrity vs Despair **Cognitive Developmental Stage:** Formal operational stage **Braden Score:** 20 **Morse Fall Score:** 7 **Infection Control Precautions:** N/A	**Disease Process:** COPD Chronic obstructive pulmonary disease is a combination of chronic bronchitis, emphysema, and hyperreactive airway disease characterized by a poorly reversible airflow limitation. COPD increases the number of neutrophils, macrophages, and T lymphocytes in the lungs (Capriotti, 2020). With COPD, the airways in the lungs become inflamed and thickened. The tissue where oxygen exchanges get destroyed, and the airflow in and out of the lungs decreases. When that happens, less oxygen gets into the body's tissues, making it harder to eliminate carbon dioxide. As the disease worsens, shortness of breath makes it harder to remain active (Capriotti, 2020). **S/S of disease:** Symptoms of COPD include a combination of chronic bronchitis, emphysema, and asthma. Dyspnea with heavy exertion. Productive cough, wheezing sputum with cough. Hypoxia, cyanosis, right ventricular failure. Juglar venous distention ascites hepatosplenomegaly and ankle edema with long-term chronic bronchitis. Use intercostal or accessory muscles while breathing and clubbing the fingers. Barrel-shaped chest cyanosis, prolonged exhalation, and pursed lips when exhaling are symptoms of emphysema with COPD (Capriotti, 2020). **Method of diagnosis:** The COPD assessment test (CAT) is A patient questionnaire that asks specific questions about the patients breathing activity and activity limitations. A Pulmonary function test can measure lung volume: a complete blood count, sputum culture, blood chemistry panel, chest x-ray, electrocardiogram, and ABGs can also be used to diagnose COPD (Capriotti, 2020). **Treatment of disease:** Treatment of COPD involves a Stepwise approach that begins with short-acting bronchodilator agents for patients with the mid disease and incorporates long-acting agents into the treatment plan as the disease progresses in severity. Long acting antimuscarinic agents, phosphodiesterase inhibitors, oral corticosteroids, leukotriene antagonists, Smoking cessation, pneumococcal and influenza vaccines, pulmonary rehabilitation, and oxygen therapy are treatments for COPD. Mechanical ventilator and lung volume reduction surgery to remove areas of emphysematous lungs are also treatments for COPD (Capriotti, 2020).

drug interactions (Ambrose, 2021). **Methylprednisolone sodium succinate (Solu-Medrol)** **Pharmacologic class:** Glucocorticoid **Therapeutic class:** Corticosteroid **Reason given:** To reduce inflammation present in COPD **Nursing assessment:** Asses for traumatic brain injury, recent myocardial infarction, congestive heart failure, renal insufficiency, diverticulitis, sclerosis, signs of infection, depression, or psychotic episode; monitor blood glucose level, liver enzymes, medication allergies and medication list for drug interactions (Ambrose, 2021). **Potassium chloride (Klor-con)** **Pharmacologic class:** electrolyte cation **Therapeutic class:** electrolyte replacement **Reason given:** To treat low potassium levels in the body. **Nursing assessment:** Monitor serum potassium level, serum sodium level, urine PH, assess ECG, medication allergies, and medication list for drug interactions (Ambrose, 2021).		**Relation:** My patient is experiencing exacerbations of chronic obstructive pulmonary disease. COPD exacerbations are associated with More coughing, wheezing, or shortness of breath than usual, Changes in the color, thickness, or amount of mucus, need to increase oxygen need and feeling tired for more than one day (COPD Staff, n.d.). During my patients visit a CBC was drawn, chest x-ray, electrocardiogram and a sputum culture was done for diagnosing. A Regular dose of bronchodilators, continuous supplemental oxygen, antibiotics and systemic corticosteroids was part of the patient's treatment plan.

Lab Data			Admission History	Medical History
Abnormal D-Dimer: 712 MPV: 7.0 Alkaline Phosphatase: 186 CO2, Venous: 31 Potassium: 2.8 Chloride: 96 Glucose: 147 Bun: 7 Bun/ Creatinine:11Magnesium:1.5 Hemoglobin:11.8 Lymphocytes: 3.1 Monocytes: 2.8	**Normal** D-Dimer: >500ng/ml MPV: 9.7-12.4 Alkaline Phosphatase: 44-147 CO2, Venous: 23-29 mEq/L Potassium: 3.5-5.0 Chloride: 98-107 Glucose: 70 - 100 Bun: 8- 25 mg/dL Bun/Creatinine: 12-20 Magnesium: 1.6-2.6 Hemoglobin: 12- 15 g/dL Hematocrit: 35-47% Lymphocytes: 20-40% Monocytes: 4-6%	Positive **D-dimer** indicates that there is a blood clot (Capriotti, 2020). Low **MPV** can be due to infection or patient's age (Capriotti, 2020). Elevated **Alkaline phosphatase** could be a sign of liver problem, or a bone disorders (Capriotti,2020). Elevated **CO2** can result from patient's diagnosed COPD. Not being able to maintain a normal respiratory exchange (Capriotti, 2020). Low **potassium** may be attributed to respiratory acidosis and metabolic alkalosis (Capriotti, 2020). Serum **chloride** levels are lower in acute exacerbations in copd patients (Capriotti, 2020). The patient is taking a steroid, and this could raise **Glucose** levels (Capriotti, 2020). The patient's **Creatinine** and **Buns** levels are high, and this indicates kidney failure (Capriotti, 2020). Low levels of **magnesium** are seen in patients with acute exacerbations compared to stable copd (Capriotti, 2020). Low **HGB** indicates anemia. Meaning low red blood cell count in the body (Capriotti, 2020). High **neutrophils** indicate a bacterial infection (Capriotti, 2020). Low **lymphocytes** indicate possible infection. (Capriotti, 2020). Low **monocytes** could be a result of the patient suppressed immune system (Capriotti, 2020). My patient's lab's	V.E. is a 67-year-old Caucasian female with a history of COPD who persists with shortness of breath, coughing, and dyspnea. The Patient says she "has been feeling short of breath for quite a while, but because of her COPD, she wasn't concerned until, and the cough worsened over the last few days with brownish green sputum." The Patient says she usually coughs, but the sputum is clear, and the brownish-green sputum brought her to the ER. The Patient has used her inhaler and oxygen, but they provided no relief. The Patient says she is in no pain.	**Previous Medical History:** Chronic obstructive pulmonary disease (COPD), Hepatocellular carcinoma, Hypertension, hypokalemia. Lymphadenopathy. **Prior Hospitalizations:** N/A **Previous Surgical History:** Cesarean **Social History:** Smoking Tabacco: former smoker. The patients said she smoked 1-2 packs daily. The patient says she hasn't smoked since her COPD diagnosis 10-1 years ago. Smokeless tabacco:Never Drugs: Never Alcohol use: 6 glasses of wine, 4-5 can of beer per week.

		show slight decreases which could be due to the medications she was given while being in the hospital.		

Active Orders	Diagnostic imaging
Diet cardiac restrictions: Cardiac aerosol nebulizer-4x Daily Oxygen therapy-Continuous nasal cannula 88-93% titrate O2 to maintain initiate O2 at 1 pm Pulse oximetry, continuous Cardiac monitoring continuous incentive spirometry every 2 hours while awake Maintain peripheral IV lock with saline intake and output routine every 8 hours when not in use. Maintain IV while on telemetry-continuous Notify the physician of a pulse less than 50 or greater than 120 and respiratory rates less than ten or greater than 30. Notify the physician of a temperature greater than 101.5. Notify the physician of urinary output less than 240 ml/8hr. Notify the physician if systolic bp is less than 85 or greater than 85 or greater than 180, diastolic bp is less than 50 or greater than 105, the pulse is less than 90, new onset or worsening pain. Up as tolerated Routine vital signs per unit routine If the iv expires overnight, put flushes without difficulty obtaining blood returns no sign or symptoms of infiltration or phlebitis. My Patient is experiencing exacerbations of chronic obstructive pulmonary disease. These active orders placed by the Patient's physician will help reduce dyspnea, help with hypoventilation, and prevent respiratory failure and maintain exacerbations of chronic obstructive pulmonary disease.	**CT Chest** with contrast SOB on O2 cough evaluation for PE high D-dimer. - No pulmonary embolism - Small mediastinal and hilar lymph nodes - Mild emphysema no focal consolidation or effusion. **EKG** Sinus rhythm with premature atrial complexes -Possible left atrial enlargement borderline ECG

General: Patient is alert and responsive to person, place, situation and time. Well-groomed and in no acute distress.

Integument: Patient's skin color is appropriate for race. Skin is warm, and dry upon palpitations. Turgor normal for age, no rashes, no open wounds no bruises, senile purpura present on. The patient has a Braden score of 20. No drains are present. No edema present.

HEENT: Head and neck are symmetrical, trachea is midline without deviation, thyroid is not palpable, no noted nodules. carotid pulses are palpable 3+. No lymphadenopathy in the head or neck.

Bilateral auricles. No visible or palpable deformities or lumps. Ear canals bilateral and clear with pearly grey tympanic membranes.

All parts of the eyes are bilateral and symmetrical. Sclera white, cornea clear, conjunctiva pink with no drainage present. Eye lids bilateral moist and pink without lesions. Perrla bilateral.

The septum is midline, turbinates are moist and pink bilaterally. No visible bleeding or polys. Frontal sinuses are nontender to palpation. Patient has good oral hygiene.

Cardiovascular: clear s1 and s2 without murmurs or gallops or rubs. PMI is palpable at the 5th intercostal space at the MCL. no A-fib present. Pulses 2 + throughout bilaterally. Capillary refill more than 3 seconds between fingers and toes. NO JVD. NO edema present.

Respiratory: Normal rate and pattern of respirations, symmetrical and labored, decreased lung sounds throughout anterior. Posterior bilaterally, accessory muscles are being used for breathing. Patient is on continuous 2L nasal cannula at home.

Genitourinary: No urine sample obtained upon assessment.

Gastrointestinal: No bowels sound heard upon assessment.

Musculoskeletal: All extremities have full range of motion 5/5 bilaterally, hand grips and pedal pushes and pulls demonstrated with weak and equal strength. No clubbing or cyanosis visible.

Neurological: Alert and oriented X 4, mental status, speech and sensory normal. Patient is awake and answers questions appropriately.

Most recent Vital signs

10/06/2022 at 1517

BP- 148/60 mmHg

BPM- 118 bpm

Resp – 19 rpm

Temp – 97.2 F

Spo2%- 92 %

Pain and Pain scale – Numeric rating scale 0 - 10 used, patient rates no pain 0/10.

Nursing diagnosis 1	**Nursing Diagnosis 2**	**Nursing Diagnosis 3**
ineffective airway clearance related chronic obstructive pulmonary disease (COPD) as evidenced by dyspnea (Phelps, 2020).	Impaired gas exchange related to altered oxygen supply as evidenced by a reduced tolerance for an activity or abnormal breathing (Phelps, 2020).	Activity intolerance related to the imbalance between oxygen supply and demand, as evidenced by the shortness of breath upon exertion (Phelps, 2020).
Rationale This diagnosis was chosen	**Rationale** This diagnosis was chosen	**Rationale** This diagnosis was chosen

because my patient has COPD and is having a hard time breathing.	because my patient has COPD and there is an alteration in the balance of oxygen and carbon dioxide.	because my patient has COPD and uses portable oxygen which can reduce her activity level.
Interventions **1.** Assist the patient in administering bronchodilators to open airways. **2.** Obtain a sputum sample.	**Interventions** **1.** Encourage slow deep breathing using an incentive spirometer as indicated. **2.** Position the patient with the head of the bed elevated.	**Interventions** **1.** Teach deep breathing exercises and relaxation techniques. **2.** Create a baseline of activity levels.
Evaluation of Interventions The patient will maintain clear, open airways as evidenced by normal breath sounds, rate, and depth.	**Evalution of interventions** The Patient will demonstrate improved ventilation and adequate oxygenation of tissues by ABGs within the patient's normal range and be free of symptoms of respiratory distress.	**Evaluation of interventions** The patient will verbalize techniques that aid in improved activity tolerance.

References

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Capriotti, T. (2020). *Davis Advantage for pathophysiology: Introductory concepts and clinical perspectives*. Second edition. F.A. Davis Company.

COPD staff. (n.d.). Understanding COPD exacerbations. COPD step by step. https://www.copd.com/copd-progression/copd-exacerbations/

Phelps, L. L (2020). *Sparks and Taylor's Nursing Diagnosis Reference Manual.* Eleventh edition. Wolters Kluwer.