

## Medications

### Home Medications

**Lisinopril 40 mg PO daily** **Class:** ACE inhibitor **Reason:** To treat hypertension **Assessment:** Monitor creatine levels as decrease can occur (alert provider), monitor BP often, assess for cough as it is common adverse effect

**Amiodarone 200 mg PO daily** **Class:** Benzofuran derivative **Reason:** antiarrhythmic drug used for pts with A-fib, **Assessment:** can cause or worsen pulmonary disorders, frequent chest x-ray and follow-up exams while using

**Aspirin 81 mg PO daily**

**Class:** Salicylates/antipyretic, non-opioid analgesic **Reason:** anticoagulation related to A-fib **Assessment:** monitor for s/s of bleeding, assess pulse rate

**Atorvastatin 40 mg PO daily at HS**

**Class:** HMG-COa enzyme reductase inhibitor **Reason:** hyperlipidemia **Assessment:** evaluate serum lab levels before starting or changing therapy, should be taken at night for maximal effect on cholesterol

**Metoprolol 50 mg PO BID**

**Class:** Beta blocker/antihypertensive **Reason:** Hypertension **Assessment:** Assess blood pressure and pulse before administration

### Hospital Medications

**NS at 75 mL/hr:** fluid supplementation

**Azithromycin 500 mg PO daily** **Class:** macrolide **Reason:** to treat pneumonia or acute bacterial exacerbations of COPD including chronic bronchitis **Assessment:** Monitor elderly patients for arrhythmias, should not be used in patients on amiodarone as it can increase risk for arrhythmias, patient already has history of A-fib

**Potassium Chloride 40 mEq IV once** **Class:** electrolyte cation **Reason:** low potassium, supplementation

**Assessment:** infuse slowly, caution usage due to renal labs of concern, monitor for arrhythmia progression with history of A-fib

**Levaquin 750 mg IV daily** **Class:** Fluoroquinolone **Reason:** acute exacerbation of chronic bronchitis

**Assessment:** assess renal labs and monitor closely during treatment

**DuoNeb 1 nebulizer inhaled q4h PRN for shortness of breath/wheezing** **Class:** Respiratory imbalance combination/bronchodilator **Reason:** prevent bronchospasm related to COPD **Assessment:** be alert for s/s of allergic reaction, ask patient the time that it was last used, have patient rinse mouth after usage

**Acetaminophen 650 mg PO q6h PRN for pain/fever** **Class:** Non-salicylate para-aminophenol derivative,

antipyretic, nonopioid **Reason:** As needed for fever or mild pain. **Assessment:** Double check dosing based on patient's weight. Make sure daily limit is not gone over.

**Docusate 100 mg PO BID PRN for constipation** **Class:** surfactant **Reason:** to treat constipation **Assessment:** assess for electrolyte imbalances and laxative dependence

(Jones & Bartlett Learning, 2020)

## Lab Values/Diagnostics

**Na=124 (L): (135-145 meq/L)** low sodium related to poor nutritional intake and constant state of disease

**K=2.8 (L): (3.5-5.1 meq/L)** reduction in potassium can be attributed to medications for hypertension and laxative misuse, which the patient is currently on

**BUN=24 (H): (7-25mg/dL)** can be raised due to acetaminophen usage

**Creatinine=2.8 (H)@0.7-1.3 mg/dL)** can be increased by lisinopril, which the patient is on

**ABG=**respiratory acidosis (Normal values pH 7.35-7.45, Co2 35-45, HCO3 22-26)

(Cerner, 2021)

(Van Leeuwen & Bladh, 2021)

A chest x-ray was performed to visualize for possible infection within the thoracic cavity. The findings were consistent with chronic bronchitis. The chest x-ray would provide a view of the lungs, to see if there was fluid in the lungs, a collapsed lung, all of which could be tied to shortness of breath (Capriotti, 2020).

An EKG was performed to assess cardiac electrical activity and rhythm, as the patient has a history of A-fib. The findings were A-fib with a controlled rate of 88 bpm.

## Demographic Data

**K.K.**

**Date of Admission:** 10/17/2021

**Admission Diagnosis/Chief Complaint:** The patient was admitted with a chief complaint of shortness of breath, with an accompanying cough. The admitting diagnosis was COPD exacerbation.

**Age:** 72

**Gender:** Male

**Race/Ethnicity:** African America

**Allergies:** No known diagnosed allergies

**Code Status:** DNR/DNI

**Height in cm:** 175.26 cm

**Weight in kg:** 66.2 kg

**Psychosocial Developmental Stage:** Integrity vs. despair stage

**Cognitive Developmental Stage:** Formal operational stage

**Braden Score:** 21

**Morse Fall Score:** 35

**Infection Control** Precautions: standard, upon negative COVID results

## Admission History

The patient was admitted two days ago, 10/17/21 for an exacerbation of COPD. Patient presented to the emergency room with complaints of shortness of breath and a cough that has worsened over the past several days. Exertion aggravates the SOB and rest periods alleviate it, as well as usage of home oxygen, 2L/min.

The patient currently lives at home alone, after being widowed. He is a former welder, received a high school diploma and is now retired.

## Medical History

**Previous Medical History:** The patient has a past medical history of hypertension, atrial fibrillation, hyperlipidemia and COPD.

**Prior Hospitalizations:** N/A

**Previous Surgical History:** The patient had an appendectomy in 1995.

**Social History:** The patient is a social drinker, one to two drinks per month. He has no prior history of smoking or drug usage.

**Family history:** The patient's mother had a history of diabetes. The patient's father had an MI. The patient's brother had a history of diabetes.

## Pathophysiology

Chronic obstructive pulmonary disorder, also known as COPD, is a triad of three respiratory complications. Chronic bronchitis, emphysema and hyperactive airway disease come together to form this complex disease. Due to the combination of complications, COPD is a leading cause of death in the US and responsible for many becoming disabled (Capriotti, 2020).

**Disease process:** The pathophysiology is summed up as reversible airflow caused by the three combining underlying conditions. With chronic bronchitis, there is an excessive production of mucus, causing obstruction in the airways. With the emphysema component, the alveoli become trapped with air, with obstruction allowing poor deflation. Hyper reactivity to irritants set the airways in motion, constricting and producing mucus in an endless cycle of troubled breathing. With severe COPD, there are poor ventilation rates, leading to hypoxia and need for use of oxygen.

**S/S of disease:** Dyspnea is common, especially exacerbated upon lying down. Coughing or wheezing can be a common and/or constant complain of the patient. Barrel shaped chests from emphysema and clubbed fingers (from hypoxia) can commonly be seen in COPD patients. Cyanosis around the lips and fingertips can be a sign of severe hypoxia. In observing vital signs, watch for the oxygen saturation levels, pursed lipped breathing and tripod position. Saturation levels will usually be low, with ranges of 89-92% commonly seen in COPD patients, as opposed to the normal expected range of 95-99%.

**Method of Diagnosis:** Diagnosis of COPD can include an assessment questionnaire, pulmonary function tests and lab values. Diagnostic procedures can also include chest x-rays, ECG and ABGs.

**Treatment of disease:** Treatment for this triad of complications can be tricky. Smoking cessation is a huge component of living and treating COPD. Medications can follow, to help open airways and expel mucus. Therapies for lungs can include oxygen therapy, pulmonary rehab programs and ventilation machines (Mayo Clinic, 2020). There can also be machines such as nebulizers and Bi-pap that can offer relief and breathing assistance.

## Active Orders

**Normal saline via IV 75ml/hour:** Normal saline supplementation for reduce risk of dehydration. Fluids also run for administration of antibiotics and potassium IV administration.

**Monitor I/O:** Monitor intake and output of fluids to assess for possible fluid overload.

**Continuous O2 via Nasal Canula, currently 2L/min:** supplemental oxygen needed to maintain adequate oxygenation

**Vital signs Q4H:** assess vital signs for change in oxygenation, s/s of infection, monitoring of A-fib

### Physical Exam/Assessment

**General:** The patient was alert and oriented to person, place, time and situation. The patient was responsive with no noted distress. The appearance of the patient was appropriate, wearing hospital gown. The patient chose to remain seated in chair during time of assessment.

**Integument:** Skin color was appropriate for ethnicity. The skin was warm and dry, intact, skin turgor elastic. The Braden scale was calculated to be 21: Sensory perception: no impairment (4) Moisture: rarely moist (4) Activity: walks occasionally (3) Mobility: No limitation (4) Nutrition: adequate (3) Friction/shear: No apparent problem (3)

**HEENT:** Head displayed symmetry of skull and face. Neck was in-line with the rest of spine, trachea in line without deviation. Ears were symmetrically placed on either side of the head. Tympanic membrane was pearly and gray. Eyes were equally placed on either side of face, with adequate vision. The nose was in the middle of the face with patency, no drainage noted. Teeth were intact, slightly crooked, with pink moist mucous membranes.

**Cardiovascular:** Nailbed normal for ethnicity. Heart rhythm was noted to be NSR on bedside monitor, with S1 and S2 sounds present upon auscultation. Regular rhythm without murmur noted. Peripheral pulses (dorsalis pedis) were normal, 3+, with a capillary refill less than 3 seconds. No JVD observed. Edema of the lower limbs, especially in the ankle area, was observed.

**Respiratory:** Respirations were regular, unlabored. **Breath sounds were diminished throughout all lobes**, both anteriorly and posteriorly.

**Genitourinary:** Patient is voiding regularly, without difficulty or incontinence. Urine is yellow and clear. Inspection of genitals was not performed. No catheter usage at time of assessment. The patient is able to ambulate to restroom.

#### Musculoskeletal:

Nail bed color appropriate for ethnicity, blanchable when checking capillary refill. Skin warm and dry, loose skin turgor.

ROM is active, patient able to ambulate and adjust self in bed. Strength is graded as 5, normal motion against resistance. No supportive devices in use.

Patient performs ADLs independently.

Not a fall risk, according to scoring of 35 per Morse scale: 15 points for secondary diagnosis and 20 points for IV insertion. Up ad lib.

#### Neurological:

Patient is A/O x 4, awake and conversing appropriately. Appearance appropriate for age. Appropriate cognition for age. Patient is able to move all extremities equal and well. PERLA. Strength equal in both arms and legs. Speech is appropriate, clear. No noted sensory deficits or alteration in level of consciousness.

**Most recent VS (include date/time and highlight if abnormal):** 1100: Pulse 68, BP 138/62, **RR 24**, T 36.8 C, **O2 97% on 2L via NC**

**Pain and pain scale used:** 1100: 2/10 generalized pain, no intervention performed at this time

<p><b>Nursing Diagnosis 1</b></p> <p>1. Ineffective gas exchange as related to diagnosis of COPD, as evidenced by need for continual supplemental oxygen to maintain adequate oxygen saturation.</p>	<p><b>Nursing Diagnosis 2</b></p> <p>2. Ineffective protection related to infection as evidenced by use of antibiotics.</p>	<p><b>Nursing Diagnosis 3</b></p> <p>3. Risk for activity intolerance, related to lack of oxygen and shortness of breath, as evidenced by need for continual oxygen.</p>
<p><b>Rationale</b></p> <p>I chose this concept as a priority of the ABCs, impaired breathing can be an immediate cause of death. A lack of oxygen can lead to infarction, altered mental status and loss of consciousness in relation to hypoxia.</p>	<p><b>Rationale</b></p> <p>The patient is currently on two types of antibiotics, used for bacterial exacerbations of bronchitis, a subcomponent of COPD.</p>	<p><b>Rationale</b></p> <p>The patient states limited mobility in relation to shortness of breath, exacerbated upon exertion. Could cause increased interference with performing ADL's and self-care, as patient lives alone.</p>
<p><b>Interventions</b></p> <p><b>Intervention 1:</b> Use of continuous oxygen while in hospital.</p> <p><b>Intervention 2:</b> Patient positioning with head raised.</p>	<p><b>Interventions</b></p> <p><b>Intervention 1:</b> Administration of antibiotics per provider's orders</p> <p><b>Intervention 2:</b> Educate patient on importance of finishing full course of antibiotics if not finished within hospital stay.</p>	<p><b>Interventions</b></p> <p><b>Intervention 1:</b> Discussion on energy conservation methods and incorporating rest periods.</p> <p><b>Intervention 2:</b> Education on pulmonary rehab programs.</p>
<p><b>Evaluation of Interventions</b></p> <p>The patient responded well to high flow oxygen, saturation levels slightly elevated into high 90s. The patient states he can breathe better with oxygen and is agreeable to discuss home oxygen safety.</p>	<p><b>Evaluation of Interventions</b></p> <p>Antibiotics given via IV and oral as prescribed. Patient educated on the importance of finishing the oral antibiotic course once discharged. The patient will be attending a follow up appointment with PCP.</p>	<p><b>Evaluation of Interventions</b></p> <p>Had a discussion with patient on energy conservation, with the patient able to teach back information. The patient also given information on pulmonary rehab and scheduled for intake appointment, pending approval from PCP at follow-up appointment.</p>

**References (3) (APA):**

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