

N321 CARE PLAN

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N321: Adult Health I

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10/02/24

Demographics

Date of Admission 09/26/24	Client Initials L.H	Age 63	Biological Gender Female
Race/Ethnicity White	Occupation Unemployed	Marital Status Single	Allergies Codeine- Sedation Benadryl- Cannot tolerate Iv, only P.O Influenza vaccine- n/a Latex- Rash Levalbuterol- Rash Ondansetron- Nausea Penicillin's- Rash Promethazine- Rash Sulfa antibiotics- Rash Tiotropium-Rash
Code Status DNR	Height 5'1"	Weight 82 lbs	

Medical History

Past Medical History: Oxygen dependency, Severe malnutrition, Hypotension, Chronic Respiratory failure, Microcytic anemia, End stage COPD, Chronic hypoxic respiratory failure, Emphysema, Gerd, Pneumonia, and Smoking.

Past Surgical History: Tonsillectomy (n/a) and Partial lung removal (1980)

Family History: No family history on file or per client.

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

Never used smokeless tobacco or drugs. No use of alcohol. Smoke 2 cigarettes per day, recently started using E-cigarettes.

Education: Completed 10th grade

Living Situation: Lives home alone with cat and dog.

Assistive devices: Uses walker at home and oxygen machine.

Admission History

Chief Complaint: Shortness of breath

History of Present Illness (HPI)– OLD CARTS

The client experienced shortness of breath that started around 0330. Oxygen flow was increased at home with no relief for about 4 hours, at this time the client came to the emergency department. The client complains of a cough with white sputum and increased shortness of breath with activity and at rest. Location at the chest and general pain. The client denies chest pain but does have exhaustion with increased work of breathing.

Previous treatments for shortness of breath have been nebulizer treatments and Symbicort inhaler but had no relief for this episode. High severity with decreased oxygen saturation and fatigue.

Admission Diagnosis

Primary Diagnosis: Acute Chronic respiratory failure

Secondary Diagnosis (if applicable): Hypokalemia

Pathophysiology

Respiratory failure occurs when gas exchange in the lungs deteriorates, indicated by a PaO₂ (arterial oxygen tension) of less than 60 mm Hg and a PaCO₂ (arterial carbon dioxide tension) greater than 50 mm Hg, along with a pH below 7.35 (Hinkle & Cheever, 2019). This leads to poor oxygenation and ineffective elimination of carbon dioxide, resulting in inadequate ventilation for the blood. Oxygenation can be compromised when fluid accumulates in the lungs or when alveoli collapse (Kaynar, 2019). Inadequate ventilation is often seen in patients with pneumonia, heart failure, COPD, and restrictive lung diseases (Hinkle & Cheever, 2019). Acute respiratory failure is a sudden onset of the

defining factors stated above, whereas chronic respiratory failure results from these factors over several days or longer. In this case, the client was diagnosed with both acute and chronic respiratory failure due to the sudden onset of worsening symptoms and prolonged impairment of oxygen transfer across the alveolus. When gas exchange deteriorates over time, the kidneys have time to compensate and retain bicarbonate (Kaynar, 2019). This explains to why the client had an elevated level of 41.2 mmol bicarbonate.

Signs and symptoms respiratory failure usually connect to the underlying disease. In this case the client had a past medical history of COPD (chronic obstructive pulmonary disease) and presented with restlessness, fatigue, headache, dyspnea, and increased blood pressure. During a physical assessment I was able to observe that the client was experiencing the use of accessory muscles, diminished breath sounds, and productive cough.

This client's primary diagnosis was established with an arterial and venous lab draw to assess tissue hypoxia and tension levels. A chest x-ray to assess fluid accumulation, infiltrates and alveolar damage. Pulmonary function tests assess lung capacity changes and airflow obstructions (Kaynar, 2019).

The treatment that was ordered for this client during her impatient stay included antibiotic to prevent respiratory infection, steroids to help with breathing effort and lung inflammation, and an albuterol nebulizer will help open the airways.

Pathophysiology References (2) (APA):

Hinkle, J. L., & Cheever, K. H. (2019). *Lippincott Coursepoint for Brunner & Suddarth's Textbook of Medical-Surgical Nursing*. Wolters Kluwer.

Kaynar, A. M. (2019, November 10). *Respiratory Failure: Background, Pathophysiology, Etiology*. Medscape.com. <https://emedicine.medscape.com/article/167981-overview>

Laboratory/Diagnostic Data

Lab Name	Admission Value	Today's Value	Normal Range	Reasons for Abnormal
Mpv	7.2 fl	N/a	9.7-12.4 fl	Client has a history of microcytic anemia. Platelets are smaller than what is considered normal (Cleveland clinic, 2022).
Neutrophils	85.5%	N/a	47-73%	Elevated due to inflammation and injury to the lungs (Cleveland Clinic, 2022b).
Absolute lymphocytes	0.9 Mcl	N/a	1.3-3.2 Mcl	Low due to inflammation and mild infection in the lungs (Cleveland Clinic, 2022d).
Absolute neutrophils	10 Mcl	N/a	1.6-7.7 Mcl	Elevated due to inflammation and injury to the lungs (Cleveland

				Clinic, 2022b).
C02 Venus	32 mmol	N/a	22-30 mmol	Elevated due to the retention of bicarbonate and history of COPD (Cleveland Clinic, 2022c).
PC02 Arterial	63 mmhg	N/a	35-45mmhg	Elevated due to the retention of bicarbonate and history of COPD (Cleveland Clinic, 2022c).
Glucose	113	N/a		Could be elevated due to the increased stress and breathing effort (Cleveland Clinic, 2022a).
Potassium	2.6 mmol	N/a	3.5-5.1 mmol	Could be due to a lack in diet and corticosteroid use, could not find a coloration in history.
BUN/Creatinine ratio	22mg/dL	N/a	12-20mg/dL	Elevated due to lack of blood flow to the kidneys from her history of

				microcytic anemia (Begum, 2023).
Magnesium	2.7mg/dl	N/a	1.6-2.6mg/dl	I could not find a coloration to her diagnosis or history, but this may be due to the lack of blood flow to her kidneys, can could contribute to her fatigue and her history of hypotension (Reiff Ellis, 2024).
Lymphocytes	7.8%	N/a	18-42%	Low due to inflammation and mind infection in the lungs (Cleveland Clinic, 2022d).
PaO2 Arterial	114mmhg	N/a	85-105mmhg	Could not confidently find why this is elevated but may due to increased oxygen administration and microcytic anemia.

Base arterial	14.3mmol	N/a	-2-2mmol	Elevated due to the retention of bicarbonate.
Bicarbonate	41.2mmol	N/a	22-26mmol	Elevated due to impaired gas exchange. Retaining bicarbonate and impaired elimination of CO₂. Correlated to her history of COPD (Smith, 2018).

Diagnostic Test & Purpose	Clients Signs and Symptoms	Results
Chest x-ray – To evaluate the presences of edema, infiltration, infection, and fluid in the lungs.	Shortness of breath at rest and activity.	Emphysema with COPD. Some Improvement with air flow to lower lobes of the lung.
Rhythm strip EKG – To assess heart rhythm with hypokalemia and rule out a cardiac cause of exacerbation of COPD.	Shortness of breath and hypokalemia	Sinus rhythm

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Diagnostic Test Reference (1) (APA):

Begum, J. (2023, October 30). *What is a blood urea nitrogen test?* WebMD; WebMD.
<https://www.webmd.com/a-to-z-guides/blood-urea-nitrogen-test>

Cleveland Clinic. (2022a). *Blood Glucose Test: Levels & What They Mean*. Cleveland Clinic. <https://my.clevelandclinic.org/health/diagnostics/12363-blood-glucose-test>

Cleveland Clinic. (2022b, January 21). *Neutrophils*. Cleveland Clinic.
<https://my.clevelandclinic.org/health/body/22313-neutrophils>

Cleveland Clinic. (2022c, June 13). *CO2 Blood Test: Purpose, Procedure, Levels & Results*. Cleveland Clinic. <https://my.clevelandclinic.org/health/diagnostics/23247-co2-blood-test>

Cleveland Clinic. (2022d, June 20). *Lymphocytes: Function, Definition, Levels & Ranges*. Cleveland Clinic. <https://my.clevelandclinic.org/health/body/23342-lymphocytes>

Cleveland clinic. (2022, July 19). *MPV Blood Test: High MPV, Low MPV & Normal Ranges*. Cleveland Clinic. <https://my.clevelandclinic.org/health/diagnostics/23572-mpv-blood-test>

Reiff Ellis, R. (2024, March 24). *What Is a Magnesium Test? Why Do I Need One?* WebMD. <https://www.webmd.com/a-to-z-guides/magnesium-test>

Smith, M. (2018, January 31). *What Is a Bicarbonate Blood Test?* WebMD; WebMD.
<https://www.webmd.com/a-to-z-guides/bicarbonate-blood-test-overview>

Active Orders

Active Orders	Rationale
DNR order	Patient Preference.

X-ray of Chest	To evaluate the cause of respiratory failure (Kaynar, 2019).
EKG 12-lead	Evaluate heart rhythm with hypokalemia.
Aerosol nebulizer	Dilate airways and help breathing effort.
Oxygen therapy nasal canula titrate to 90-95%	Support lung function, breathing efforts, maintain adequate gas exchange and, perfusion.
Oxygen therapy Bipap, titrate to 90-95%	Support lung function, breathing efforts, maintain adequate gas exchange and, perfusion.
Pulmonary rehab evaluation	Evaluate the status of chronic respiratory failure (Kaynar, 2019).
Continuous Pulse OX	Monitor oxygen perfusion in the blood during respiratory distress. Qualify for Bipap use at home.
Admission weight	Base line weight to evaluate retention of fluid and weight gain/loss
Iv therapy while on telemetry monitoring	Ensure iv access if cardiac arrest were to occur.
Sequential compression devices	Dvt prevention while activity is reduced in hospital stay. Respiratory distress decreases the client activity.
Telemetry monitoring	Monitor heart rhythm while in respiratory

	distress.
Up with assistance	Ensure safety, client gets short of breath them ambulating.

Medications

Home Medications (Must List ALL)

Brand/Generic	clotrimazole, (Mycelex), 10mg daily, oral	folic acid, (Folvite), 1mg daily, oral	guaifenesin (Mucinex), 600mg daily, oral	ipratropium albuterol, (Atrovent) 0.5-2.5mg, PRN, inhalation		
Classification	Antifungal	Supplement, vitamins and minerals	Expectorants decongestants	Bronchodilators , anti-asthmatic.		
Reason Client Taking	Treat oral thrush	Microcytic anemia (Jones & Bartlett Learning , 2022)	Relieve chest congestion	Dilate airways.		
Key nursing assessment(s) prior to administration	Monitor signs of itching, vomiting and unpleasant sensation in the mouth. (Jones & Bartlett	Assess bowels status, last bowel movement, and starting weight. (Jones & Bartlett Learning ,	Assess gi health, and other concurrent medications (Jones & Bartlett Learning ,	Assess renal function and hepatic function. (Jones & Bartlett Learning , 2022)		

	Learning , 2022).	2022)	2022)			
Brand/Generic	Multivitamins and minerals, 1tablet, oral daily.	budesonide (Symbicort) 1.6-4.5 mcg, PRN, inhalation.				
Classification	Supplements, vitamins and minerals	Corticosteroid, anti- inflammatory				
Reason Client Taking	Supplement vitamins, old age	Treat lung inflammation				
Key nursing assessment(s) prior to administration	Medication reconciliation, drug interactions, Evaluate diet and interactions. (Jones & Bartlett Learning , 2022)	Determine if milk allergy and check for infection as this can suppression. (Jones & Bartlett Learning , 2022)				
Brand/Generic						
Classification						
Reason Client Taking						
Key nursing assessment(s) prior to administration						

Highlighted medications are both home and Hospital.

Hospital Medications (Must List ALL)

Brand/Generic	azithromycin (Zithromax), 500mg, oral daily.	methylprednisolone (Solumedrol) 62.5mg, IV push, daily	Nystatin, 500,000 units, swish and swallow, 4 times daily			
Classification	Antibiotic	Corticosteroid, anti-inflammatory	Antifungal			
Reason Client Taking	Preventive against a respiratory infection.	Treat lung inflammation (Jones & Bartlett Learning , 2022)	Treat oral thrush (Jones & Bartlett Learning , 2022)			
Key nursing assessment(s) prior to administration	Access heart rhythm as this medication can cause prolonged QT, assess hepatic function. (Jones & Bartlett Learning , 2022)	Access renal function, access fall risk as this can increase risk of fractures. (Jones & Bartlett Learning , 2022)	Review allergies and prior adverse reactions. (Jones & Bartlett Learning , 2022)			
Brand/Generic						
Classification						
Reason Client Taking						
Key nursing assessment(s) prior to administration						
Brand/Generic						

Classification						
Reason Client Taking						
Key nursing assessment(s) prior to administration						

Prioritize Three Hospital Medications

Medications	Why this medication was chosen	List 2 side effects. These must correlate to your client
1.Ipratropium albuterol	Will dilate airway and improve breathing effort	1. Cough, increased sputum production (Jones & Bartlett Learning , 2022). 2. Dyspnea (Jones & Bartlett Learning , 2022).
2.budesonide	Will help with inflammation and shortness of breath	1. Oral candidiasis (Jones & Bartlett Learning , 2022). 2. Increased cough, respiratory infection. (Jones & Bartlett Learning , 2022).
3.methylprednisolone	Will help with inflammation and shortness of breath	1. Fatigue (Jones & Bartlett Learning , 2022) 2. Headache (Jones & Bartlett Learning , 2022)

Medications Reference (1) (APA)

Jones & Bartlett Learning. (2022). *2023 Nurse's Drug Handbook*. Jones & Bartlett Learning.

Physical Exam

HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS

GENERAL: Alertness: Orientation: Distress: Overall appearance: Infection Control precautions: Client Complaints or Concerns:	Alert and responsive, oriented x4, appropriate appearance, in acute distress with activity. Complains of shortness of breath and fatigue.
VITAL SIGNS: Temp: Resp rate: Pulse: B/P: Oxygen: Delivery Method:	0740: 97.0F, 24 resp, 90 pulse, 142/82 (99), 93% on 4L NC 1125: 07.2F, 24 resp, 94 pulse, 146/95, 93% on 4L NC
PAIN ASSESSMENT: Time: Scale: Location: Severity: Characteristics: Interventions:	1030: 8/10, headache, throbbing pain, given caffeine tablet and Tylenol.
IV ASSESSMENT: Size of IV: Location of IV: Date on IV: Patency of IV: Signs of erythema, drainage, etc.: IV dressing assessment: Fluid Type/Rate or Saline Lock:	22g iv in left hand, placed 9/26, patent, no signs of redness, drainage or warmth. No pain when flushing.
INTEGUMENTARY: Skin color: Character: Temperature: Turgor: Rashes: Bruises: Wounds: . Braden Score: Drains present: Y ☐ N ☐ Type:	Skin color usual for ethnicity, No cyanosis, molting, redness, or jaundice present. Dry, warm and intact skin. Elastic skin. No Braden score in the chart, from my assessment I would give the client a score of 18.
HEENT: Head/Neck: Ears:	Head and neck symmetrical, PERRLA, hearing intact, responds to commands, mucous membranes moist and pink color.

Eyes: Nose: Teeth:	Nose and septum midline, no discharge noted and patent. .
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:	Sinus rhythm, S1 and S2 heard, pulses 3+ normal, capillary refill less than 3 seconds. no edema present. No neck vein distension.
RESPIRATORY: Accessory muscle use: Y ☐ N ☐ Breath Sounds: Location, character	Diminished lung sounds and use of accessory muscles. Labored breathing effort and shallow fast breaths. No snoring, pursed lips, or gasping noted.
GASTROINTESTINAL: Diet at home: Current Diet: Is Client Tolerating Diet? Height: Weight: Auscultation Bowel sounds: Last BM: Palpation: Pain, Mass etc.: Inspection: Distention: Incisions: Scars: Drains: Wounds: Ostomy: Y ☐ N ☐ Nasogastric: Y ☐ N ☐ Size: Feeding tubes/PEG tube Y ☐ N ☐ Type:	Brown formed stool. Normoactive bowel sounds, abdomen soft and non-tender. No pain with palpation. No use of drains. Tolerating general diet well. No masses or scars noted. No use of nasogastric tube. No wounds noted.
GENITOURINARY: Color: Character: Quantity of urine: Pain with urination: Y ☐ N ☐ Dialysis: Y ☐ N ☐ Inspection of genitals:	Yellow clear urine. No incontinence or pain with urination. Dialysis not in use. DID NOT inspect genitals. No use of foley.

Catheter: Y ☐ N ☐ Type: Size:	
Intake (in mLs) Output (in mLs)	Intake about 840mls. Output not measured, client up to the toilet.
MUSCULOSKELETAL: Neurovascular status: ROM: Supportive devices: Strength: ADL Assistance: Y ☐ N ☐ Fall Risk: Y ☐ N ☐ Fall Score: Activity/Mobility Status: Activity Tolerance: Independent (up ad lib) Needs assistance with equipment Needs support to stand and walk	Flesh colored nail beds, capillary refill less than 3 seconds. Full range of motion, active motion with full resistance. Uses a walker to ambulate. Fall risk -74 high, activity as tolerated, needs minimal assistance to ambulate.
NEUROLOGICAL: MAEW: Y ☐ N ☐ PERLA: Y ☐ N ☐ Strength Equal: Y ☐ N ☐ if no - Legs ☐ Arms ☐ Both ☐ Orientation: Mental Status: Speech: Sensory: LOC:	Oriented x4, normal cognition. Speech is clear. Answers questions appropriately and responds to commands. Equal strength in upper and lower extremities. PERLA
PSYCHOSOCIAL/CULTURAL: Coping method(s): Developmental level: Religion & what it means to pt.: Personal/Family Data (Think about home environment, family structure, and available family support):	Highest grade completed is 10th grade. Able to comprehend questions and processes. Did not assess religion. Sister is a retired nurse and visits daughter from time to time. Did not access coping methods.

Discharge Planning

Discharge location: Home, lives alone with pets.

Home health needs: Homecare visits x3 per week, nurse visits x2 per week, and therapy x2 per week. Client already has this routine.

Equipment needs: oxygen machine, not able to have good mobility with oxygen tank. Bipap for increased shortness of breath, and travel SP02 monitor when short of breath.

Follow up plan: Follow up visit with primary care provider and continue to see home health therapy and nurse.

Education needs: Tobacco use, smoke exposure, diet modifications, medication management, oral health, fall prevention, infection prevention, and oxygen safety.

Nursing Process

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

Nursing Diagnosis	Rationale	Outcome Goal (1 per dx)	Interventions (2 per goal)	Evaluation of interventions
• Include full nursing diagnosis with “related to” and “as evidenced by” components • Listed in order by	• Explain why the nursing diagnosis was chosen			

priority – highest priority to lowest priority pertinent to this client				
1. Impaired gas exchange related to ventilation-perfusion imbalance as evidenced by hypercapnia (Phelps, 2023).	The client is having increased work of breathing and unable to maintain an adequate oxygen saturation at rest and activity.	Patient will maintain adequate ventilation at rest during clinical time. (Phelps, 2023).	1. Patient will change positions to that best facilitates chest expansion (Phelps, 2023). 2. Perform bronchial hygiene, coughing, to keep airways clear (Phelps, 2023).	Client was able to maintain a oxygen saturation above 90 when placed in a high fowlers position.
2. Decreased activity tolerance related to imbalance between oxygen supply/demand as evidenced by exertional dyspnea (Phelps, 2023).	The client is unable to complete ADL's due to shortness of breath.	Patient will perform self-care activities to tolerance level during clinical (Phelps, 2023).	1. Support and encourage activity to patients' level of tolerance (Phelps, 2023). 2. Monitor response to increased activity level (Phelps, 2023).	Client was encouraged to use the bedside commode instead of the bed pan. Client was able to tolerate the activity with the use of Bipap.
3. Fatigue related to increased work of breathing as evidenced by expressed lack of energy (Phelps, 2023).	The client is unable to tolerate normal activity level.	Client will employ measures to prevent fatigue during clinical (Phelps,	1. Discuss the effects of fatigue on daily living and connect to disease process (Phelps,	The client understands why she is short of breath and will use the Bipap to prevent fatigue.

		2023).	2023). 2 Schedule periods of rest and structure schedule to the client's needs and desires (Phelps, 2023).	
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Other References (APA):

Begum, J. (2023, October 30). *What is a blood urea nitrogen test?* WebMD; WebMD.
<https://www.webmd.com/a-to-z-guides/blood-urea-nitrogen-test>

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<https://my.clevelandclinic.org/health/body/22313-neutrophils>

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Hinkle, J. L., & Cheever, K. H. (2019). *Lippincott Coursepoint for Brunner & Suddarth's Textbook of Medical-Surgical Nursing*. Wolters Kluwer.

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Phelps, L. (2023). *Nursing Diagnosis Reference Manual* (12th ed.). WOLTERS KLUWER MEDICAL.

Reiff Ellis, R. (2024, March 24). *What Is a Magnesium Test? Why Do I Need One?* WebMD. <https://www.webmd.com/a-to-z-guides/magnesium-test>

Smith, M. (2018, January 31). *What Is a Bicarbonate Blood Test?* WebMD; WebMD. <https://www.webmd.com/a-to-z-guides/bicarbonate-blood-test-overview>

