

Preconference Form

Student Name: Ayanna Williams

Medical Diagnosis/Disease: Chronic Obstructive Pulmonary Disease (COPD)

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology

Normal Structures

Anatomy:

Upper Respiratory Tract: nose, mouth, pharynx, epiglottis, larynx, trachea

Lower Respiratory Tract: lungs, bronchi, bronchioles, alveolar ducts, alveoli (all found in the lung except the right and left mainstem bronchi)

Chest Wall: shaped, supported, and protected by 24 ribs, protects the lungs from injury. The mediastinum is the space in the middle of the cavity and separates the right and left lungs into compartments.

- lined with parietal pleura
- lungs lined with visceral pleura
- interpleural space between the pleural layers, contains 10-20 mL of fluid to provide lubrication for the pleural layers during breathing and promotes expansion in the lungs during inspiration
- diaphragm moves up and down during inspiration and expiration to impact thoracic pressure

Physiology:

Gas exchange: the transfer of oxygen and carbon dioxide between the atmosphere and the blood, oxygenation, ventilation, compliance and resistance, respiratory defense mechanisms

Pathophysiology of Disease

COPD is identified through chronic inflammation of the airways, lung parenchyma (bronchioles and alveoli), and pulmonary blood vessels. A defining feature of this disease is that the airflow limitation is not fully reversible during forced exhalation caused by loss of elastic recoil and airflow obstruction, mucus hypersecretion, mucosal edema, and bronchospasm. Inflammation typically occurs through inhalation of noxious particles and gases (ex. cigarette smoke). Consistent exposure can lead to the chronic inflammation initiate tissue destruction and disrupting the normal defense mechanisms and repair process of the lung. The inflammatory response can also be genetically determined. The oxidants in cigarette smoke and other inhaled particles can inactivate antiproteases (prevent natural destruction of the lungs), stimulate mucus secretions, and increase fluid in the lungs. The main characteristic of COPD is the inability to expire air and the main site of airflow limitation is the smaller airways (bronchioles). When peripheral airways become obstructed, air is trapped in the lungs during expiration and the chest hyper-expands and becomes barrel shaped because the respiratory muscles cannot function effectively. The trapped air causes the functional residual capacity to be increased and the combination of residual air and loss of elasticity causes the patient to inhale when the lungs are overinflated and they become dyspneic with limited exercise capacity. Due to hypoxia, the small pulmonary arteries vasoconstrict. As the disease advances, the structure of the pulmonary arteries changes and the vascular smooth muscle thickens.

Classifications: mild, moderate, severe, and very severe

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics

Labs

- ABG
- sputum culture
- alpha-1 deficiency screening

Additional Diagnostics

- H&P assessment/COPD assessment test
- Chest x-ray
- 6 minute walk test: pulse ox readings are taken during walking and rest
- Pulmonary Function Test
- CT scan
- spirometry

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- cigarette smoking/secondhand
- occupational risks (dusts, vapors, irritants, fumes)
- air pollution (solid fuel combustion)
- infection (flu, pneumonia)
- genetics (alpha 1 antitrypsin deficiency - AAT)
- aging (older than 40)
- hx of allergy, asthma, nasal polyps, sinusitis, and severe respiratory infections in childhood

Signs and Symptoms

- dyspnea (usually progressive over time, persistent, and worse with exercise)
- cough (intermittent and/or unproductive)
- recurrent wheeze
- regular sputum production
- chest heaviness
- excessive intercostal and accessory muscle use
- fatigue
- weight loss

Possible Therapeutic Procedures

Non-surgical

- pulmonary rehab
- oxygen therapy
- incentive spirometer
- medications
- smoking cessation

Surgical

- lung volume reduction
- bronchoscopic lung volume reduction
- bullectomy
- lung transplant

Prevention of Complications

(What are some potential complications associated with this disease process)

- acute exacerbation of COPD
- anxiety and depression
- bacterial infections
- CAD, heart failure, cor pulmonale
- pulmonary hypertension
- muscle weakness
- acute respiratory failure

NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management

- short/long acting bronchodilators (albuterol)
- mucolytic agents
- sustained-release morphine
- lose dose theophylline - may improve exercise tolerance
- anticholinergics
- roflumilast - decrease exacerbations

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

- nutritional therapy
- smoking cessation
- exercise training
- pursed-lip and diaphragmatic breathing techniques
- counseling/psychosocial care
- adequate sleep

NCLEX III (4): Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?

- depression
- anxiety
- dyspnea
- poor access to healthcare
- restlessness
- end-of-life concerns

Client/Family Education

List 3 potential teaching topics/areas

- smoking cessation
- pulmonary rehab recommendations such as the pursed-lip and diaphragmatic breathing techniques
- possible oxygen use in the home setting

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

- PT
- OT
- physician
- dietician
- respiratory therapist
- pulmonologist
- pharmacist

Anatomy:

Upper Respiratory Tract:

- **Nose:** divided into 2 nares by the nasal septum, the inside is shaped into passages by projections (turbinates) that increase the surface area of the nasal mucosa, which warms and moistens the air as it goes into the nose, foreign materials are trapped by mucous secretions
- **Pharynx** - throat, connects with the nasal cavity and serves as a tubular passageway, separated into 3 parts: nasopharynx, oropharynx, laryngopharynx
- **Epiglottis** - small flap behind the tongue that closes over the larynx during swallowing to prevent food from entering the lungs
- **Larynx:** vocal cords, air passes through the glottis (opening between vocal cords) to the trachea
- **Trachea:** cylindrical tube that has u-shape cartilages to keep it open and allow the esophagus to expand for swallowing, divides into the left and right mainstream bronchi
 - carina located at the angle of Louis and is where the trachea bifurcates into the right and left mainstream bronchi

Lower Respiratory Tract:

- **Lungs** : the right lung is divided into 3 lobes and the left lung is divided into 2 lobes, 2 different types of circulation
 - pulmonary: provides lungs with blood that takes part in gas exchange
 - bronchial: provides oxygen to the bronchi and other lung tissues
- **Bronchi:** right one is shorter, wider, and straighter than the left one, which is why aspiration is more likely to occur in the right lung compared to the left, divides into lobar, segmental, and subsegmental bronchi, enters the lungs at the hilus
- **Bronchioles:** encircled by smooth muscles that constrict and dilate in response to stimuli (bronchoconstriction and bronchodilation)
- **Alveoli:** small sacs that serve as the primary site of gas exchange, occurs across the alveolar-capillary membrane where the alveoli is connected to the pulmonary capillaries, secrete surfactant to lower the surface tension and reduces the amount of pressure needed to inflate to prevent them from collapsing, pores of Kohn facilitates collateral ventilation

Physiology:

Oxygenation: process of obtaining oxygen from the atmospheric air and making it available to the organs and tissues of the body. Oxygen is carried into the bloodstream through dissolved oxygen and hemoglobin-bound oxygen. PaO₂ represents the amount of oxygen dissolved in the plasma and the SaO₂ is the amount of oxygen bound to hemoglobin in comparison with the amount of oxygen the hemoglobin can carry. O₂ and CO₂ move across the alveolar-capillary membrane by diffusion. Oxygen moves from alveolar gas into the arterial blood and the carbon dioxide moves from the arterial blood into the alveolar gas (atmospheric air).

Ventilation: inspiration and expiration. As the air moves in and out of the lungs, the intrathoracic pressure is changing in relation to the pressure at the airway opening. During expiration, elastic recoil occurs to allow the lungs to return to its original size due to the elastic fibers around the alveolar walls and surrounding the bronchioles/capillaries. Intrathoracic pressure is always negative.

- The medulla is known as the respiratory center and responds to chemical/mechanical signals and elevated carbon dioxide levels to control respiration. The medulla sends impulses from the spinal cord and phrenic nerve to the respiratory muscles.
- V/Q ratio determines efficiency of gas exchange

Compliance and Resistance:

- compliance - the ability for the lungs to expand, increased fluid in the lungs can cause them to be less elastic or distensible
- resistance - any obstacle that prevents airflow during oxygenation and ventilation including the diameter of the airway, presence of secretions

Respiratory Defense Mechanisms: protect lungs from inhaled particles, microorganisms, and toxic gases

- air filtration: nasal hairs filter inspired air
- mucociliary clearance system: promotes the movement of mucus (blanket that contains the impacted particles and debris from distal lung areas, cilia covers the airway from the trachea to bronchioles to move the mucus towards the mouth, removes secretions upwards below the subsegmental level
- cough reflex - clears the airway by a high-pressure, high-velocity flow of air, removes secretions above the subsegmental level
- reflex bronchoconstriction - inhalation of large amount of irritating substances can cause the bronchi to constrict and prevent entry
- alveolar macrophages: rapidly phagocytize inhaled foreign particles (bacteria), particles not removed can cause inflammatory responses

Nursing Problem Worksheet

Name: Ayanna Williams

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: impaired gas exchange Reasoning: restlessness, wheezing, dyspnea on exertion, intermittent cough, hypoxemia, accessory muscle use during chest rise and fall, nasal flaring, cigarette smoker, weight loss Goal: O2 sat will remain \geq 93% during my time of care Goal: respiratory rate will remain within the range of 12-20bpm during my time of care	Monitor ABG values Q 2 hours	Encourage and educate use of IS 10 times Q 1 hour
	Assess respiratory status Q 2 hours	Elevate the HOB >30 degrees and maintain supplemental oxygen as ordered during my time of care
	Auscultate breath sounds Q 2 hours	Educate on pursed-lip and diaphragmatic breathing techniques during my time of care
	Assess nutritional status Q 2 hours	Encourage PO intake and fluids Q 2 hours, ask for food/beverage preferences
	Assess RR and O2 sat Q 2 hours	Administer ceftriaxone medication as ordered

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: deficient knowledge Reasoning: consistently requesting for additional information about diagnosis, cigarette smoker, development of worsening condition Goal: will verbalize contributing risk factors for COPD by the end of my shift Goal: will verbalize the common signs and symptoms of COPD that should be addressed by the end of my shift	Assess health literacy level during my time of care	Provide written material that appropriately matches the literacy level during my time of care
	Assess baseline knowledge and current understanding of COPD during my time of care	Educate on the common signs and symptoms of COPD during my time of care
	Assess cognitive status and comprehension, such as A&O, during my time of care	Encourage the presence of a support system while teaching during my time of care
	Assess for the most effective learning strategy during my care	Utilize an appropriate learning modality, such as verbal instructions or demonstrations, during my time of care
	Assess for individual factors that may aggravate the disease including air pollution or tobacco during my time of care	Educate on the importance of smoking cessation during my time of care

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME Ayanna Williams

MEDICATION Ceftriaxone REVIEW MODULE CHAPTER _____

CATEGORY CLASS Antibiotic

PURPOSE OF MEDICATION

Expected Pharmacological Action

Binds to bacterial cell membranes and inhibits cell wall; bactericidal

Therapeutic Use

Treatment of susceptible infections due to gram-negative aerobic organisms, some gram-positive, such as bloodstream infections, bone and joint infections, gonorrhea, lower respiratory tract infections, pelvic inflammatory disease, skin/soft tissue infections, surgical prophylaxis, complicated UTI

Off-Label: COPD (acute exacerbation)

Complications

Derm: rash, urticaria (hives)

GI: clostridioides difficile-associated diarrhea, cholelithiasis, diarrhea, gallbladder sludging, pancreatitis

GU: acute renal failure, urolithiasis (kidney stones)

Hemat: bleeding, eosinophilia, hemolytic anemia, leukopenia, thrombocytosis

Local: pain at IM site, phlebitis at IV site

Neuro: encephalopathy, seizure (high dose)

Misc: hypersensitivity reactions (anaphylaxis), superinfection

Medication Administration

IM/IV: 1-2 grams Q 12-24 hrs

- Max dose: 4g/day
- For intermittent IV infusion (piggyback), infuse over 30 minutes

Contraindications/Precautions

Contraindications: hypersensitivity to cephalosporins. Serious hypersensitivity to penicilins. Hyperbilirubinemic neonates should not be treated with ceftriaxone because it can displace bilirubin from its binding to serum albumin, causing bilirubin encephalopathy. Do not administer with calcium-containing IV solutions due to the risk of precipitation of ceftriaxonocalcium salt.

Cautions: hepatic impairment, hx of GI diseases, hx of penicillin allergy

Nursing Interventions

- Obtain CBC and renal function test
- Question for hx of allergies, particularly cephalosporins and penicillins
- Assess signs and symptoms for superinfection (fever, vomiting, diarrhea, oral mucosa changes)
- Monitor daily bowel activity, stool consistency

Interactions

Drug: Probenecid may increase concentration/effect. Calcium salts may increase adverse/toxic effects. Warfarin may increase risk for bleeding

Lab values: May increase serum BUN, alkaline phosphatase, bilirubin, creatinine, LDH, ALT, AST. May cause positive direct/indirect Coombs' test (detects antibodies that attack RBCs)

Client Education

- doses should be evenly spaced
- continue antibiotic therapy for full length of treatment
- advise to report signs of superinfection to physician
- do not treat diarrhea without consulting the health care professional

Evaluation of Medication Effectiveness

Evaluate for therapeutic response: no signs and symptoms of infection

ACTIVE LEARNING TEMPLATE: Medication

STUDENT NAME Ayanna Williams

MEDICATION Acetaminophen (Tylenol) REVIEW MODULE CHAPTER _____

CATEGORY CLASS Nonnarcotic analgesic, antipyretic

PURPOSE OF MEDICATION

Expected Pharmacological Action

Inhibits synthesis of prostaglandins that may serve as mediators of pain and fever, primarily in the CNS

Therapeutic Use

Temporary reduction of fever

Pain (injection): management of mild-moderate pain in pts greater than or equal to 2 yrs of age

Oral/Rectal: temporary relief of mild-moderate pain and headache

Complications

Rare: hypersensitivity reaction

Adverse Effects:

Early signs of toxicity: anorexia, nausea, diaphoresis, fatigue within the first 12-24 hrs

Later signs of toxicity: vomiting, RUQ tenderness, elevated LFTs within 48-72 hrs after ingestion

Medication Administration

PO: 325-650 mg Q 4-6 hrs

- **max dose:** 3250 mg/day unless directed by healthcare provider
- administer with full glass of water

IV: 1000 mg Q 6hrs or 650 mg Q 4 hrs

- **max dose:** 4000 mg/day

Contraindications/Precautions

Contraindications: Previous hypersensitivity. Products containing alcohol, aspartame, saccharin, sugar, or tartrazine (FDC yellow dye #5) should be avoided in pts who have intolerance to these products. Severe hepatic impairment/active liver disease

Cautions: hepatic/renal disease, alcoholism, chronic malnutrition, severe hypovolemia (fluid overload)

Nursing Interventions

- Assess overall health status and alcohol usage
- Assess onset, type, location, and duration of pain prior to administration
- Assess fever and note presence of associated signs (diaphoresis, tachycardia)
- Assess amount, frequency, and type of drugs taken in pts self-medications, especially OTC

Interactions

Drug: alcohol (chronic use), hepatotoxic medications and strong CYP3A4 inducers (rifampin) may increase risk of hepatotoxicity with prolonged dose or single toxic dose, chronic high-dose with warfarin may increase risk of bleeding

Lab values: may increase ALT, AST, bilirubin, prothrombin levels

Client Education

- Advise pt to take medication exactly as directed and not to take more than the recommended amount
- Adults should not take acetaminophen longer than 10 days
- Advise pt to avoid alcohol if taking more than an occasional 1-2 doses and to avoid taking concurrently with NSAID for more than a few days, unless directed by health care professional
- Consult physician if discomfort or fever is not relieved by routine doses or of fever is greater than 39.5 C or lasts longer than 3 days

Evaluation of Medication Effectiveness

- Evaluate for clinical improvement and relief of pain (mild-moderate) and reduction of fever: assess type, location, and intensity 30-60 min following administration

Module Report

Tutorial: Real Life RN Medical Surgical 4.0

Module: COPD



Individual Name: **Ayanna Williams**

Institution: **Margaret H Rollins SON at Beebe Medical Center**

Program Type: **Diploma**

Standard Use Time and Score

	Date/Time	Time Use	Score
COPD	10/29/2024 5:40:43 AM	1 hr 10 min	Strong

Reasoning Scenario Details COPD - Use on 10/29/2024 4:30:55 AM

Reasoning Scenario Performance Related to Outcomes:

*See Score Explanation and Interpretation below for additional details.

Body Function	Strong	Satisfactory	Needs Improvement
Cognition and Sensation	100%		
Immunity	100%		
Ingestion, Digestion, Absorption & Elimination	100%		
Integument	100%		
Oxygenation	100%		

NCLEX RN	Strong	Satisfactory	Needs Improvement
RN Management of Care	100%		
RN Psychosocial Integrity	100%		
RN Pharmacological and Parenteral Therapies	100%		
RN Reduction of Risk Potential	100%		
RN Physiological Adaptation	100%		

QSEN	Strong	Satisfactory	Needs Improvement
Safety	100%		
Patient-Centered Care	100%		
Evidence Based Practice	100%		
Teamwork and Collaboration	100%		

Decision Log:

Optimal Decision	
Scenario	Nurse Allyson is preparing her assignment/worksheet, in anticipation of caring for Mr. Gomez. He is coming from the emergency department to the medical-surgical unit.
Question	Nurse Allyson is planning care for Mr. Gomez. He is coming from the emergency department. Which of the following data should the nurse include in the plan of care? (Select all that apply.) Review the data in the EMR and the information the nurse has captured below for the assignment/worksheet. T - 99.2; P - 100; R - 36; O2 Sat 91% on 5L of O2; BP - 150/94; I - NPO; O - 250mL clear yellow urine Dx - Pneumonia, exacerbation of COPDLabs/Diagnostics - ABGs, CBC, chest x-ray, chem/metabolic profile, UA and C&S of sputum pendingAllergies - AmpicillinSaline Lock - Left wrist, flushes finePain - DeniesSystems - 1. Lung sounds diminished in the bases and upper lobes sounds coarse with inspiratory crackles and occasional rhonchi. Productive cough, greenish-yellow tenacious sputum. 2. Alert, orientedMedications - Antibiotic has not been started. Has had 2 nebulizer treatments with albuterol. (Check the MAR.)
Selected Ordering	Code statusArterial blood gas (ABG) valuesLast dose of bronchodilator medication
Rationale	Respiratory insufficiency and failure are life-threatening complications of COPD. Use the priority framework of ABCs; anticipating the client can readily go into respiratory arrest and determining a course of action are priorities. Arterial blood gases establish a client's baseline oxygenation and gas exchange, and are a basis for evaluating a client's respiratory status. Nutrition concerns are relevant to the rehabilitation process of a client who has COPD, not the client in an acute stage of respiratory failure. Activity tolerance would not be a priority concern at this time. Exacerbation of COPD warrants optimization of bronchodilator medications as first-line therapy and identifying the best combination of medications to be given on a regular schedule.

Optimal Decision	
Scenario	Nurse Allyson is assessing Mr. Gomez's respiratory and oxygenation status after his recent admission to the medical-surgical unit.
Question	Nurse Allyson assessed Mr. Gomez's respiratory status. Which of the following actions should Nurse Allyson take?
Selected Option	Decrease the rate of oxygen flow.

Rationale	Decreasing the rate of oxygen flow is the appropriate action because the lowest possible rate maintains oxygen status without depressing the respiratory drive. The client who has COPD with hypoxemia requires lower levels of oxygen delivery, usually in the range of 1 to 2 L/min. Some clients are chronic CO2 retainers (hypercapnia) and can be more oxygen sensitive, so too much oxygen increases CO2 retention and can result in lowered respiratory rates.
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Optimal Decision	
Scenario	Nurse Allyson is preparing to administer an intermittent intravenous (IV) bolus antibiotic medication to Mr. Gomez.
Question	Review the five videos below related to the administration of the IV piggyback ceftriaxone (Rocephin) to Mr. Gomez and reorder the steps into the correct sequence by dragging them into the desired order.
Selected Ordering	Video B: Complete the six rights using the MAR, noting client allergies. Video D: Gather supplies and equipment needed to administer the medication. Video A: Complete client identification using two forms of data, noting client's allergy band. Video C: Inform the client about the procedure and what to expect. Video E: Administer the medication.
Rationale	The correct order for administering the intermittent IV bolus medication is: complete the six rights using the MAR, noting client allergies; gather supplies and equipment needed to administer the medication; complete client identification using two forms of data, noting client's allergy band; inform the client about the procedure and what to expect; administer the medication.

Optimal Decision	
Scenario	Nurse Allyson completes a calculation in order to correctly set the IV controller pump to infuse an intermittent intravenous (IV) bolus medication.
Question	The nurse is preparing to administer ceftriaxone (Rocephin) 1 g IV. Available is ceftriaxone 1 g in 100 mL sterile water. When administering the medication over 30 min, the nurse should set the IV pump to deliver how many mL/hr?
Selected Option	200 mL/hr
Rationale	<p>STEP 1: What is the unit of measurement to calculate? mL/hr</p> <p>STEP 2: What is the volume needed? 100 mL</p> <p>STEP 3: What is the total infusion time? 30 min</p> <p>STEP 4: Should the nurse convert the units of measurement? Yes (min does not equal hr)</p> $60 \text{ min}/30 \text{ min} = 1 \text{ hr}/X \text{ hr}$ $X = 0.5 \text{ hr}$ <p>STEP 5: Set up an equation and solve for X.</p> $\text{Volume (mL)}/\text{Time (hr)} = X \text{ mL/hr}$ $100 \text{ mL}/0.5 \text{ hr} = X \text{ mL/hr}$ $X = 200$ <p>STEP 6: Round if necessary.</p> <p>STEP 7: Reassess to determine if the amount to administer makes sense. If the amount prescribed is 100 mL to infuse over 30 min, it makes sense to administer 200 mL/hr. The nurse should set the IV pump to deliver ceftriaxone at 200 mL/hr every 12 hr.</p>

Optimal Decision	
Scenario	Nurse Allyson responds to a request from Mr. Gomez's daughter related to a change in his condition.
Question	Mr. Gomez's daughter expresses concern to the nurse about her father's skin irritation and itching. Which of the following is a correct response by Nurse Allyson?
Selected Option	"I'll be right there."
Rationale	The nurse knows the client has an allergy to ampicillin (Unasyn) and is now receiving ceftriaxone (Rocephin). Itching and pruritus indicate the presence of an allergic response. The client's report of pruritus should be evaluated promptly.

Optimal Decision	
Scenario	Nurse Allyson reviews the appropriate action to take when a Mr. Gomez demonstrates an allergic response to a medication.
Question	When caring for Mr. Gomez during his allergic reaction, Nurse Allyson assesses his airway. What is the next appropriate nursing intervention?
Selected Option	Assess Mr. Gomez's breathing pattern.
Rationale	The nurse's next action is to monitor the client's breathing pattern for signs of increasing edema and respiratory distress.

Optimal Decision	
Scenario	Nurse Jessica uses therapeutic communication when discussing psychosocial issues with Mr. Gomez and his daughter.
Question	Which of the following nursing intervention is appropriate to meet the needs of Mr. Gomez and his daughter at this time?
Selected Option	Encourage Mr. Gomez and his daughter to further express their emotions.
Rationale	This is the correct response. Using active listening and an expression of the client's feelings helps to validate the feelings and their content. This approach conveys an attitude of caring and fosters ongoing communication.

Optimal Decision	
Scenario	Nurse Jessica recognizes the anatomical and physical changes that are occurring when Mr. Gomez develops a pleural effusion.
Question	Nurse Jessica is caring for Mr. Gomez and is aware that he has a pleural effusion. Which of the following images depicts a pleural effusion?
Selected Option	
Rationale	In a pleural effusion, fluid occupies the space that normally is filled with air in the pleural cavity.

Optimal Decision	
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Scenario	Nurse Jessica assesses Mr. Gomez, who has a chest tube and chest drainage system in place.
Question	Nurse Jessica received report from the AP about Mr. Gomez's difficulty breathing and increased anxiety. Which of the following activities should be included in the nurse's plan of care?
Selected Option	Assess all tube connections between the chest and the drainage system.
Rationale	Securing the chest tube to the drainage system reduces the risk of air leaks in an airtight system.

Optimal Decision

Scenario	Nurse Allyson understands the basis for Mr. Gomez's protein nutrition status.
Question	Nurse Allyson recognizes that Mr. Gomez has an acute protein deficiency. Which of the following laboratory test results is useful in determining a client's protein nutrition status?
Selected Option	Prealbumin
Rationale	Prealbumin is a sensitive indicator of protein nutrition status, more so than albumin.

Optimal Decision

Scenario	Review risk factors that make Mr. Gomez prone to skin breakdown.
Question	Review the list of risk factors to skin breakdown. Which of the following are risk factors that Mr. Gomez exhibit? (Select all that apply.)
Selected Ordering	Alcohol intake History of corticosteroid use Limited mobility Chronic illness (COPD)
Rationale	A risk factor that makes the client prone to skin breakdown includes having a chronic illness such as COPD, which alters oxygenation.

Optimal Decision

Scenario	Nurse Allyson is planning discharge teaching for a client with pneumonia and an acute exacerbation of COPD.
Question	Nurse Allyson is planning discharge teaching for Mr. Gomez. Which of the following should be included in the discharge instructions?
Selected Option	Begin a pulmonary rehabilitation program.
Rationale	Pulmonary rehabilitation can improve the endurance and pulmonary function of a client who has COPD. It increases the client's activity, which reduces dyspnea.

Individual Report – Score Explanation and Interpretation

Reasoning Scenario Information:

Reasoning Scenario Information provides the date, time and duration of use, along with the score earned for each attempt. A Reasoning Scenario Performance score of Strong, Satisfactory, or Needs Improvement is provided for each attempt. This information is also provided for the Optimal Decision Mode if it has been enabled.

Reasoning Scenario Performance Scores:

Strong	Exhibits optimal reasoning that results in positive outcomes in the care of clients and resolution of problems.
Satisfactory	Exhibits reasoning that results in mildly helpful or neutral outcomes in the care of clients and resolution of problems.
Needs Improvement	Exhibits reasoning that results in harmful or detrimental outcomes in the care of clients and resolution of problems.

Reasoning Scenario Performance Related to Outcomes:

A clinical reasoning performance score related to each outcome is provided. Outcomes associated with student responses are listed in the report. The number across from each outcome indicates the percentage of responses associated with the level of performance of that outcome.

NCLEX[®] Client Need Categories:

Management of Care	Providing integrated, cost-effective care to clients by coordinating, supervising, and/or collaborating with members of the multi-disciplinary health care team.
Safety and Infection Control	Incorporating preventative safety measures in the provision of client care that provides for the health and well-being of clients, significant others, and members of the health care team.
Health Promotion and Maintenance	Providing and directing nursing care that encourages prevention and early detection of illness, as well as the promotion of health.
Psychosocial Integrity	Promoting mental, emotional, and social well-being of clients and significant others through the provision of nursing care.
Basic Care and Comfort	Promoting comfort while helping clients perform activities of daily living.
Pharmacological and Parenteral Therapies	Providing and directing administration of medication, including parenteral therapy.
Reduction of Risk Potential	Providing nursing care that decreases the risk of clients developing health-related complications.

Physiological Adaptation	Providing and directing nursing care for clients experiencing physical illness.
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Quality and Safety Education for Nurses (QSEN)

Safety	The minimization of risk factors that could cause injury or harm while promoting quality care and maintaining a secure environment for clients, self, and others.
Patient-Centered Care	The provision of caring and compassionate, culturally sensitive care that is based on a client's physiological, psychological, sociological, spiritual, and cultural needs, preferences, and values
Evidence Based Practice	The use of current knowledge from research and other credible sources, upon which clinical judgment and client care are based.
Informatics	The use of information technology as a communication and information gathering tool that supports clinical decision making and scientifically based nursing practice.
Quality Improvement	Care related and organizational processes that involve the development and implementation of a plan to improve health care services and better meet the needs of clients.
Teamwork and Collaboration	The delivery of client care in partnership with multidisciplinary members of the health care team, to achieve continuity of care and positive client outcomes.

Body Function

Cardiac Output and Tissue Perfusion	The anatomical structures (heart, blood vessels, and blood) and body functions that support adequate cardiac output and perfusion of body tissues.
Cognition and Sensation	The anatomical structures (brain, central and peripheral nervous systems, eyes and ears) and body functions that support perception, interpretation, and response to internal and external stimuli.
Excretion	The anatomical structures (kidney, ureters, and bladder) and body functions that support filtration and excretion of liquid wastes, regulate fluid and electrolyte and acid-base balance.
Immunity	The anatomic structures (spleen, thymus, bone marrow, and lymphatic system) and body functions related to inflammation, immunity, and cell growth.
Ingestion, Digestion, Absorption and Elimination	The anatomical structures (mouth, esophagus, stomach, gall bladder, liver, small and large bowel, and rectum) and body functions that support ingestion, digestion, and absorption of food and elimination of solid wastes from the body.
Integument	The anatomical structures (skin, hair, and nails) and body functions related to protecting the inner organs from the external environment and injury.
Mobility	The anatomical structures (bones, joints, and muscles) and body functions that support the body and provide its movement.

Oxygenation	The anatomical structures (nose, pharynx, larynx, trachea, and lungs) and body functions that support adequate oxygenation of tissues and removal of carbon dioxide.
Regulation and Metabolism	The anatomical structures (pituitary, thyroid, parathyroid, pancreas, and adrenal glands) and body functions that regulate the body's internal environment.
Reproduction	The anatomical structures (breasts, ovaries, fallopian tubes, uterus, vagina, vulva, testicles, prostate, scrotum, and penis) and body functions that support reproductive functions.

Decision Log

Information related to each question answered in a scenario attempt is listed in the report. A brief description of the scenario, question, selected option and rationale for that option are provided for each question answered. The words "Optimal Decision" appear next to the question when the most optimal option was selected.

The rationale for each selected option may be used to guide remediation. A variety of learning resources may be used in the review process, including related ATI Review Modules.

ATI Real Life COPD Virtual Clinical Reflection Questions

- 1) Identify two members of the healthcare team collaborating in the care of this patient:
 - a. **Respiratory Therapist**
 - b. **Provider**
- 2) Did your patient have any abnormal blood work (lab)? If so, *select a priority finding* and discuss why that value is concerning.
 - a. **Yes, the patient did have abnormal blood work. PaCO₂ levels typically range from 35-45 mmHg. The patient's level is high at 54mm Hg, which is concerning because alveolar ventilation is not occurring adequately, and he is retaining CO₂ in the bloodstream.**
- 3) Did your patient have any abnormal clinical diagnostic tests? If so, what were they and what was the abnormal finding? What can that indicate?
 - a. **Initially, the chest x-ray noted hyperinflation of the bilateral lung field and flattened diaphragm. Hyperinflation could be an indicator that air is trapped in the lungs and the patient's inability to expire air. It states that the changes show characteristics of atelectasis, and an abnormal area of density is present in the left lung that could be suspicious of pneumonia. The next day, the chest x-ray was portrayed as an extensive left-sided pleural effusion noted in the lower left field. Since the patient is a smoker, the fluid found in the lungs could be explained by the oxidant found in cigarette smoke.**
- 4) What were some of the teaching topics covered in the scenario? Why were they important to the care of this patient?
 - a. **Educating on the use of the call bell if the patient experiences any discomfort from the medication. This is important because the patient has an allergy to ampicillin and had an allergic reaction. A noted precaution for ceftriaxone is the history of a penicillin allergy.**
 - b. **The nurse was willing to review dietary options to promote adequate nutrition. Malnutrition was seen by the patient through fatigue and a lack of appetite. An appropriate amount of protein and calories is essential to a COPD patient because they are prone to weight loss.**
 - c. **The use of a meter dose inhaler was shown through a video representation and written material. This is important for the patient because it shows him the proper way to retrieve his medication and ensures that it reaches the lower airways.**
- 5) Identify three ways that the nursing team demonstrated the promotion of patient safety?
 - a. **Verified name and DOB before administration of medication**
 - b. **Going over the 6 rights of medication administration and verifying with the MAR**
 - c. **Encouraging the call bell system if he experiences any discomfort or itching from the medication**
- 6) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?
 - a. **If yes, describe: N/A**

- b. If **no**, describe: **There were times when therapeutic communication was used, such as when the nurse was attentive to the patient's allergic reaction. Also, the team worked very well in collaborating and providing updates to one another. However, I feel as though the nurse and medical team were just going through the motions of their roles. It felt like they only addressed the patient by his lab results or diagnostic tests, rather than him as an individual. One thing that stood out to me was when he continued to ask about increasing his oxygen supplementation. The healthcare workers tended to brush off his concerns and just continued to "do their job". Instead, they could have addressed his concern and explained that additional oxygen can increase the risk for hypercapnia.**

Reflection

- 1) Go back to your Preconference Form:
 - a. Indicate (**circle, star, highlight**) the components of your preconference form that you saw applied to the care of this virtual patient.
- 2) Review your Nursing Problem Worksheet: Did you select a correct priority nursing problem?
 - a. If **yes**, write it here: **impaired gas exchange**
 - b. If **no**, write what you now understand the priority nursing problem to be: **N/A**
- 3) Review your Nursing Problem Worksheet: Did you see many of your anticipated nursing assessments and interventions used?
 - a. Indicate (**circle, star, highlight**) the ones you saw utilized during the scenario.
 - b. Were there interventions you included that *were not* used in the scenario that could help this patient?
 - i. If **yes**, describe: **N/A**
 - ii. If **no**, describe: **All of my interventions were used in the scenario. Encouraging the IS, using supplemental oxygen, encouraging PO intake, educating on breathing techniques, and administering ceftriaxone were all ways to promote the health of the patient's respiratory function.**
- 4) Often patient care will take a different direction than we anticipated at the beginning of our shift. Did that happen here? **Yes**
 - a. How did that impact the nursing care delivered? **The patient started to complain about pleuritic chest pain, and he had an increased shortness of breath. So, the provider ordered another chest x-ray to investigate. The diagnostic portrayed a pleural effusion and changed the plan of care to perform a thoracentesis.**
 - b. What new, additional priority nursing problem (diagnosis) did you identify? (Refer to your NANDA list)
 - i. Write it here: **risk for impaired skin integrity**
 - **Risk factors: alcohol intake, history of corticosteroid use, limited mobility, chronic illness (COPD)**

What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice: **My biggest takeaway from participating in the care of this patient is to always listen to the patient. They know themselves better than anyone else. They are the priority source for subjective data and information to base the plan of care on. The continuous mentions of being too tired to address the hospital he was at or to eat served as an indication of respiratory malfunctions. He was also able to identify the pleuritic pain to determine that he developed a pleural effusion. This impacts my nursing practice because I will be able to gather subjective data from the patient to effectively form a plan of care or alter plans if deemed necessary.**