

N431 Care Plan # 2

Lakeview College of Nursing

Courtney A. Singleton

**Demographics (3 points)**

<b>Date of Admission</b> 03/25/2023	<b>Client Initials</b> CC	<b>Age</b> 37yo	<b>Gender</b> Male
<b>Race/Ethnicity</b> Black/African-American	<b>Occupation</b> Breakfast Consolidator	<b>Marital Status</b> Single	<b>Allergies</b> No Known Allergies
<b>Code Status</b> FULL	<b>Height</b> 175.3 cm	<b>Weight</b> 68.3 kg	

**Medical History (5 Points)**

**Past Medical History:** Pneumonia

**Past Surgical History:** None

**Family History:** None

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

Smokes 0.50 packs of cigarettes daily for ten years. Drinks 0.50 pint of alcohol a day for five years. No drug use.

**Assistive Devices:** None

**Living Situation:** Currently living with sister and grandmother.

**Education Level:** Freshman year of college completed.

**Admission Assessment**

**Chief Complaint (2 points):** Cough

**History of Present Illness – OLD CARTS (10 points):**

The patient presented to the Carle Emergency Department Saturday, March 25, 2023, with a cough. The patient reported coughing spells that produced phlegm with a clear and, at times, greenish color. The patient complained of exhaustion and fatigue. The patient complained of constant pain in the abdomen, which traveled to the chest. The pain was relieved only by being immobile. The patient was taking antibiotics from a previous ED visit with no relief.

### **Primary Diagnosis**

**Primary Diagnosis on Admission (2 points):** Abscess of lower lobe of right lung with pneumonia

**Secondary Diagnosis (if applicable):** Mediastinitis

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

A lung abscess is a form of liquefactive necrosis of the lung tissue and the development of cavities (more than 2 cm) filled with necrotic fluid or debris brought on by microbial infection. Aspiration, which can happen while under the influence of drugs or alcohol and typically results in a pus-filled hole, is one possible cause. Moreover, the most significant risk factor for lung abscesses is alcoholism. The patient has a history of drinking at least half a pint of liquor daily. The patient's computed tomography scan report found infiltrates related to aspiration. The report also found at least three distinct air and fluid-filled collections measuring approximately 20mm each within the inflammatory process. Being an inflammation of the connective tissues and structures inside the mediastinum, mediastinitis is a rare but severe illness. Mediastinitis is a highly morbid pathological process with a significant mortality risk because it is close to essential structures. Mediastinitis is typically treated in the intensive care unit. The patient is being treated on a medical-surgical unit and is recovering well.

Pneumonia causes the air sacs in one or both lungs to become inflamed. The air sacs may swell with fluid or pus, leading to a cough that produces pus or phlegm, a fever, chills, and breathing difficulties. The patient presented to the emergency department and reported coughing spells that produced clear and, at times, greenish sputum. Several species, including bacteria, viruses, and

fungi, can bring on pneumonia. A sputum culture returned results of mixed upper respiratory flora. The patient's white blood cell count was elevated, indicating infection. The symptoms of pneumonia can range from being so mild that a patient may hardly notice them to being so severe that a patient may need to be hospitalized. Depending on the type of germ causing the infection, age, and general health, the body will react differently to pneumonia. The most typical variety of pneumonia, bacterial pneumonia, is more severe than other varieties and frequently necessitates medical attention. The severity of pneumonia can range from minor to life-threatening. The patients' diagnosis of abscesses of the lower lobe of the right lung with pneumonia is consistent with performed and resulting diagnostic, laboratory, and assessment findings.

### **Pathophysiology References (2) (APA):**

American Lung Association. (n.d.). *What are the symptoms of pneumonia.*

**<https://www.lung.org/lung-health-diseases/lung-disease-lookup/pneumonia/symptoms-and-diagnosis>**

Hinkle, J. L., Cheever, K. H., & Overbaugh, K. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (15<sup>th</sup> ed.). Wolters Kluwer.

Pastene, B., Cassir, N., Tankel, J., Einav, S., Fournier, P.E., Thomas, P., Leone, M. (2020).

Mediastinitis in the intensive care unit patient: A narrative review. *Clinical Microbiology and Infection*, 26(1), 26-34. **<https://doi.org/10.1016/j.cmi.2019.07.005>**

### Laboratory Data (15 points)

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
<b>RBC</b>	4.10-5.70 10 <sup>6</sup> /uL	<b>4.01</b>	Result in process	Pneumonia causes fluid collection in the lungs. Fluid in the lungs causes low oxygen transfer, which causes the expelling of CO <sub>2</sub> to become much more complicated, lowering the number of RBCs in the blood that carries oxygen (Hinkle et al., 2022).
<b>Hgb</b>	12.0-18.0 g/dL	12.7	Result in process	Result within normal limits.
<b>Hct</b>	37.0-51.0%	37.9	Result in process	Result within normal limits.
<b>Platelets</b>	140-400 10 <sup>3</sup> /uL	<b>562</b>	Result in process	The only known function of platelets is homeostasis. Thrombocytopenia is a sign of infection and, in this case, pneumonia (Hinkle et al., 2022).
<b>WBC</b>	4.00-11.00 10 <sup>3</sup> /uL	<b>12.36</b>	Result in process	An increased number of WBCs is one indicator that a bacterial infection, including pneumonia, may be present (Hinkle et al., 2022).
<b>Neutrophils</b>	1.60-7.70 10 <sup>3</sup> /uL	<b>8.37</b>	Result in process	The neutrophil count is elevated due to the bacterial infection present, pneumonia (Hinkle et al., 2022).
<b>Lymphocytes</b>	1.00-4.90 10 <sup>3</sup> /uL	2.16	Result in process	Result within normal limits.
<b>Monocytes</b>	0.00-1.10 10 <sup>3</sup> /uL	<b>1.52</b>	Result in process	The monocyte count is elevated due to the bacterial infection present, pneumonia (Hinkle et al., 2022).
<b>Eosinophils</b>	0.00-0.50 10 <sup>3</sup> /uL	0.20	Result in process	Result within normal limits.
<b>Bands</b>	0-5%	N/A	N/A	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-	136-145 mmol/L	137	139	Result within normal limits.
K+	3.5-5.1 mmol/L	3.7	3.4	Hypokalemia can be caused by penicillin, which is used to treat pneumonia. The patient is taking Zosyn, which is in the penicillin family (Hinkle et al., 2022).
Cl-	98-107 mmol/L	99	103	Result within normal limits.
CO2	22.0-29.0 mmol/L	24.0	23.0	Result within normal limits.
Glucose	74-100 mg/dL	106	114	Stressful stimuli, such as trouble breathing due to pneumonia by the brain, produce metabolic effects that increase blood glucose levels (Hinkle et al., 2022).
BUN	9-21 mg/dL	7	4	Low blood urea nitrogen can be the result of malnutrition. In pneumonia, the body is overcompensating and overworking, which depletes many metabolic functions (Hinkle et al., 2022).
Creatinine	0.70-1.30 mg/dL	0.79	1.41	Elevated creatine can produce protein in the urine, which is an indication of a health problem (Hinkle et al., 2022).
Albumin	3.5-5.0 g/dL	3.3	N/A	Low serum albumin can result from excessive protein loss due to infection. Pneumonia is inflammation of the lungs caused by an infection (Hinkle et al., 2022).
Calcium	8.9-10.6 mg/dL	10.4	9.4	Result within normal limits.
Mag	1.6-2.6 mg/dL	N/A	2.0	Result within normal limits.
Phosphate	2.8-4.5 mg/dL	N/A	N/A	N/A
Bilirubin	0.2-1.2 mg/dL	0.3	N/A	Result within normal limits.

<b>Alk Phos</b>	40-150 u/L	123	N/A	Result within normal limits.
<b>AST</b>	5-34 u/L	15	N/A	Result within normal limits.
<b>ALT</b>	0-55 u/L	10	N/A	Result within normal limits.
<b>Amylase</b>	40-140 U/L	N/A	N/A	N/A
<b>Lipase</b>	8-78 U/L	11	N/A	Result within normal limits.
<b>Lactic Acid</b>	0.5-2.0 mmol/L	2.4	N/A	The elevated lactic acid in the blood indicates that the lungs have increased their breathing rate to rid the body of CO <sub>2</sub> to compensate for high acid (Hinkle et al., 2022).
<b>Troponin</b>	0-4 ng/L	< 3	N/A	Result within normal limits.
<b>CK-MB</b>	3-5%	N/A	N/A	N/A
<b>Total CK</b>	55-170 U/L	N/A	N/A	N/A

**Other Tests** **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
<b>INR</b>	0.9-1.0	1.0	N/A	Result within normal limits.
<b>PT</b>	11.7-13.8 sec	12.7	N/A	Result within normal limits.
<b>PTT</b>	22.4-35.9 sec	31.1	N/A	Result within normal limits.
<b>D-Dimer</b>	< 0.50	N/A	N/A	N/A
<b>BNP</b>	0.0-1.00.0 pg/mL	< 10.0	N/A	Result within normal limits.
<b>HDL</b>	35-65 mg/dL	N/A	N/A	N/A
<b>LDL</b>	100-129 mg/dL	N/A	N/A	N/A
<b>Cholesterol</b>	< 200 mg/dL	N/A	N/A	N/A

<b>Triglycerides</b>	<150 mg/dL	N/A	N/A	N/A
<b>Hgb A1c</b>	< 5.7%	N/A	N/A	N/A
<b>TSH</b>	0.5-5.0 U/L	N/A	N/A	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
<b>Color &amp; Clarity</b>	Colorless/Yellow	Yellow	N/A	Result within normal limits.
<b>pH</b>	4.6-8.0	7.0	N/A	Result within normal limits.
<b>Specific Gravity</b>	1.000-1.030	1.020	N/A	Result within normal limits.
<b>Glucose</b>	Negative mg/dL	Negative	N/A	Result within normal limits.
<b>Protein</b>	Negative mg/dL	30	N/A	Protein in the urine can be a sign of dehydration. Dehydration is common in pneumonia due to fluid loss from sweating due to fever and lung inflammation (Hinkle et al., 2022).
<b>Ketones</b>	Negative mg/dL	Trace	N/A	Ketones are produced when the body burns fat for energy. In pneumonia, the body gets energy from fats to breathe due to low blood oxygen. Ketones will then spill into the urine (Hinkle et al., 2022).
<b>WBC</b>	0-25/uL	3	N/A	Result within normal limits.
<b>RBC</b>	0-20/uL	0	N/A	Result within normal limits.
<b>Leukoesterase</b>	Negative	Negative	N/A	Result within normal limits.

**Arterial Blood Gas** **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
pH	N/A	N/A	N/A	N/A
PaO2	N/A	N/A	N/A	N/A
PaCO2	N/A	N/A	N/A	N/A
HCO3	N/A	N/A	N/A	N/A
SaO2	N/A	N/A	N/A	N/A

**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	No growth	N/A	N/A	N/A
Blood Culture	No growth	No growth at 24 hours	N/A	Result within normal limits.
Sputum Culture	Negative	Mixed upper respiratory flora recovered	N/A	Lung infiltrates identified on the chest CT were related to aspiration, identifying infection in the flora recovered from the sputum culture (Hinkle et al., 2022).
Stool Culture	Negative	N/A	N/A	N/A

**Lab Correlations Reference (1) (APA):**

Carle Database. (2023).

Hinkle, J. L., Cheever, K. H., & Overbaugh, K. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (15<sup>th</sup> ed.). Wolters Kluwer.

**Diagnostic Imaging**

**All Other Diagnostic Tests (5 points):** XR Chest AP or PA only, and CT

Chest/Abdomen/Pelvis w/ contrast

**Diagnostic Test Correlation (5 points):**

XR Chest AP or PA only

Indication: Abdominal Pain

Findings: A single view of the chest was obtained. Mild right basilar capacity likely related to pneumonitis. Mild right-sided pleural effusion. Mediastinal and cardiac contours are within normal limits. Visualized osseous structures appear intact.

Impression: Mild right basilar opacity likely related to pneumonitis. Mild right-sided pleura effusion.

CT Chest/Abdomen/Pelvis w/ contrast

Indication: Right upper quadrant pain with history of right lower lobe pneumonia and recommended repeat CT

Findings:

Chest: Lungs and pleura: There is airspace opacity with patchy reticular nodular densities noted throughout the right lower lobe superior. There are at least three distinct air and fluid collections within this inflammatory process the largest measuring approximately 20 mm on image 126 series 4. Findings consistent with pneumonia with likely multi-focal pulmonary abscesses.

The appearance of the adjacent infiltrates indicated that this finding could be related to aspiration.

There appears to be granulomatous nodules centered within this process. The remainder of the lungs are clear. There are some empty semantic changes in the upper lobes bilaterally.

Mediastinum: Multiple calcified nodes are identified within the mediastinum and right hilar region. There is some questionable fluid density within the subcarinal middle mediastinum which could be the result of mediastinitis given other findings. No other pathological lymphadenopathy identified.

Abdomen and Pelvis:

Spleen: Multiple granulomas noted

Vasculature: There is some atheromatous and calcified plaque in the infrarenal aorta producing minimal luminal narrowing.

Other: Probable reactive mildly enlarged enhancing lymph node in the right lower quadrant measuring 11mm.

Impression:

1. Findings consistent with pneumonia in the right lower lobe with at least 3 distance air and fluid collects within this inflammatory process consistent with multifocal pulmonary abscesses. The appearance of the adjacent infiltrates indicate that this finding could be related to aspiration.
2. There is some questionable fluid density within the subcarinal middle mediastinum which could be the result of mediastinitis given other findings.
3. Probable reactive mildly enlarged enhancing lymph node in the right lower quadrant.

**Diagnostic Test Reference (1) (APA):**

Hinkle, J. L., Cheever, K. H., & Overbaugh, K. (2022). *Brunner & Suddarth's textbook of medical-surgical nursing* (15<sup>th</sup> ed.). Wolters Kluwer.

**Current Medications (10 points, 1 point per completed med)  
\*10 different medications must be completed\***

**Home Medications (5 required)**

\*Patient only had one home medication\*

<b>Brand/Generic</b>	Neurontin/gabapentin	Nicorette/nicotine polacrilex	ferrous sulfate
<b>Dose</b>	600mg	1 piece	300 mg
<b>Frequency</b>	Nightly	Up to 24 times a day	Three times a day
<b>Route</b>	Oral	Oral	Oral
<b>Classification</b>	Pharmacologic class: 1-amino-methyl cyclohexaneacetic acid Therapeutic class: Anticonvulsant	Pharmacologic class: Nicotinic agonist Therapeutic class: Smoking cessation adjunct	Pharmacologic class: Hematinic Therapeutic class: Antianemic, nutritional supplement
<b>Mechanism of Action</b>	Gabapentin is structurally like gamma-aminobutyric acid (GABA), the main inhibitory neurotransmitter in the brain. Although gabapentin's exact mechanism of action is unknown, GABA inhibits the rapid firing of neurons associated with seizures. It also may prevent exaggerated responses to painful stimuli and pain-related responses to a normally innocuous stimulus to account for its effectiveness in relieving postherpetic neuralgia and restless legs syndrome symptoms.	Binds selectively to nicotinic-cholinergic receptors at autonomic ganglia, in the adrenal medulla, at neuromuscular junctions, and in the brain. By providing a lower dose of nicotine than cigarettes, this drug reduces nicotine craving and withdrawal symptoms.	Acts to normalize RBC production by binding with hemoglobin or by being oxidized and stored as hemosiderin or aggregated ferritin in reticuloendothelial cells of the bone marrow, liver, and spleen. Iron is an essential component of hemoglobin, myoglobin, and several enzymes, including catalase, cytochromes, and peroxidase. Iron is needed for catecholamine metabolism and normal neutrophil function.
<b>Reason Client</b>	To manage	As adjunct to	To replace iron in

<b>Taking</b>	postherpetic neuralgia	smoking cessation for the relief of nicotine withdrawal symptoms, including craving	deficiency states
<b>Contraindications (2)</b>	<ol style="list-style-type: none"> <li>1. Suicidal thoughts</li> <li>2. Decreased lung function</li> </ol>	<ol style="list-style-type: none"> <li>1. Angina</li> <li>2. Significant uncontrolled hypertension</li> </ol>	<ol style="list-style-type: none"> <li>3. Anemic conditions</li> <li>4. Hemosiderosis</li> </ol>
<b>Side Effects/Adverse Reactions (2)</b>	<ol style="list-style-type: none"> <li>1. Nausea</li> <li>2. Swollen arms and legs</li> </ol>	<ol style="list-style-type: none"> <li>1. Drowsiness</li> <li>2. Arrhythmias</li> </ol>	<ol style="list-style-type: none"> <li>3. Chest pain</li> <li>4. Metallic taste</li> </ol>
<b>Nursing Considerations (2)</b>	<ol style="list-style-type: none"> <li>1. Monitor renal function test results, as ordered, and expect to adjust dosage, if needed.</li> <li>2. Be aware that routine monitoring of blood gabapentin level isn't needed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use caution when nicotine is given with patients with active gastric or peptic ulcers or who have esophagitis because nicotine delays healing in ulcer disease</li> <li>2. Keep in mind to avoid possible burns, remove patch before patient has an MRI.</li> </ol>	<ol style="list-style-type: none"> <li>3. Monitor patient for CNS anticholinergic effects, especially after beginning fesoterodine therapy or increasing the dose. If present, notify prescriber, as dosage may have to be reduced or drug discontinued.</li> <li>4. Use cautiously in patients taking other drugs with anticholinergic effects, such as antihistamines.</li> </ol>
<b>Key Nursing Assessment(s)/Lab(s) Prior to Administration</b>	<ul style="list-style-type: none"> <li>• Monitor for signs of infection</li> <li>• Review history of seizures</li> <li>• Check CBC counts</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain Fagerstrom Test for Nicotine Dependence</li> <li>• Assess withdrawal symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor respirations</li> <li>• Monitor blood pressure</li> <li>• Monitor liver function labs</li> </ul>
<b>Client Teaching Needs (2)</b>	<ol style="list-style-type: none"> <li>1. Caution patient not to</li> </ol>	<ol style="list-style-type: none"> <li>1. Instruct patient to</li> </ol>	<ul style="list-style-type: none"> <li>• Advise patient to avoid</li> </ul>

	<p>stop taking drug abruptly.</p> <p>2. Instruct patient not to take drug within 2 hours if taking an antacid.</p>	<p>read and follow package instructions to obtain best results with nicotine product.</p> <p>2. Emphasize that patient must stop smoking as soon as nicotine treatment starts to avoid toxicity.</p>	<p>alcohol consumption during fesoterodine therapy.</p> <ul style="list-style-type: none"> <li>• Explain that drug can cause adverse effects such as constipation and urine retention. If they occur and are severe or prolonged, patient should notify prescriber.</li> </ul>
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**Hospital Medications (5 required)**

<b>Brand/ Generic</b>	Lovenox/ enoxaparin sodium	Valium/ diazepam	Vancocin/ vancomycin hydrochloride	Dilaudid/ hydromorphon e hydrochloride	Zosyn/ piperacillin
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<b>Dose</b>	40mg	5mg	1500mg	0.5mg	4.5g
<b>Frequency</b>	Daily	PRN	Every 12 hours	PRN	Every 6 hours
<b>Route</b>	Subcutaneous Injection	Orally	IV Piggy Back	IV Push	IV Piggy Back
<b>Classification</b>	Pharmacologic class: Low-molecular-weight heparin Therapeutic class: Anticoagulant	Pharmacologic class: Benzodiazepine Therapeutic class: Anticonvulsant, anxiolytic, sedative-hypnotic, skeletal muscle relaxant Controlled substance schedule: IV	Pharmacologic class: Glycopeptide Therapeutic class: Antibiotic	Pharmacologic class: Opioid Therapeutic class: Opioid analgesic Controlled substance schedule: II	Pharmacologic class: Penicillin Therapeutic class: Antibiotic
<b>Mechanism of Action</b>	Potentiates the action of antithrombin III, a coagulation inhibitor. By binding with antithrombin III, enoxaparin rapidly binds with and inactivates clotting factors (primarily factor Xa and thrombin).	May potentiate effect of gamma-aminobutyric acid (GABA) and other inhibitory neurotransmitters by binding to specific benzodiazepine receptors in cortical and limbic areas of CNS. GABA inhibits excitatory	Inhibits bacterial RNA and cell wall synthesis; alters permeability of bacterial membranes, causing cell wall lysis and cell death.	May bind with opioid receptors in the spinal cord and higher levels in the CNS. In this way, hydromorphone is believed to stimulate kappa and mu receptors, thus altering the perception of and emotional response to pain.	Binds to specific penicillin-binding proteins located inside the bacterial cell wall, Piperacillin inhibits the third and last stage of bacterial cell wall synthesis. Cell lysis is then mediated by bacterial cell wall autolytic

		stimulation, which helps control emotional behavior.			enzymes such as autolysins; it is possible that Piperacillin interferes with an autolysin inhibitor.
<b>Reason Client Taking</b>	To prevent DVT in medical patients who are at risk for thromboembolic complications due to severely restricted mobility during acute illness.	To relieve anxiety	To treat serious or severe infections caused by susceptible strains of methicillin-resistant Staphylococci	To treat moderate to severe pain for opioid tolerant patients who require higher doses of opioids	To treat nosocomial pneumonia (moderate to severe) caused by beta-lactamase producing isolates of Staphylococcus aureus.
<b>Contraindications (2)</b>	<ol style="list-style-type: none"> <li>Active major bleeding</li> <li>Hypersensitivity to pork products or their components</li> </ol>	<ol style="list-style-type: none"> <li>Acute angle-closure glaucoma</li> <li>Untreated open-angle glaucoma</li> </ol>	<ol style="list-style-type: none"> <li>Bacterial resistance</li> <li>Hypersensitivity to corn or corn products</li> </ol>	<ol style="list-style-type: none"> <li>Gastrointestinal obstruction</li> <li>Severe respiratory depression</li> </ol>	<ol style="list-style-type: none"> <li>History of allergic reaction to penicillin.</li> <li>Previous reaction of shock.</li> </ol>
<b>Side Effects/Adverse Reactions</b>	<ol style="list-style-type: none"> <li>Confusion</li> <li>Diarrhea</li> </ol>	<ol style="list-style-type: none"> <li>Suicidal ideation</li> </ol>	<ol style="list-style-type: none"> <li>Acute kidney injury</li> <li>Dyspnea</li> </ol>	<ol style="list-style-type: none"> <li>Hypertension</li> <li>Respiratory</li> </ol>	<ol style="list-style-type: none"> <li>Severe stomach</li> </ol>

(2)		2. Respiratory depression	a	depression	2. Numbness or tingling
<b>Nursing Considerations (2)</b>	<ol style="list-style-type: none"> <li>1. Keep protamine sulfate nearby in case of accidental overdose.</li> <li>2. Test stool for occult blood</li> </ol>	<ol style="list-style-type: none"> <li>1. Avoid abrupt withdrawal of diazepam, as ordered, when used as part of the patient's seizure control regimen because of transient increase in frequency or severity of</li> </ol>	<ol style="list-style-type: none"> <li>1. Expect to monitor blood vancomycin concentration frequently.</li> <li>2. Observe I.V. infusion site for evidence of extravasation, including necrosis, pain, tenderness, and thrombophlebitis. If extravasation occurs, discontinue infusion immediately and notify</li> </ol>	<ol style="list-style-type: none"> <li>1. Be aware that hydromorphone therapy increases risk of abuse, addiction, and misuse.</li> <li>2. Be aware that hydromorphone should only be used concomitantly with benzodiazepines and other CNS depressants in patients for whom other treatment options</li> </ol>	<ol style="list-style-type: none"> <li>1. Obtain body tissue and fluid samples prior to giving first dose.</li> <li>2. Monitor patient for severe cutaneous adverse reactions. If suspected, notify prescriber, and</li> </ol>

		<p>seizures may occur.</p> <p>2. Avoid abrupt withdrawal of diazepam, as ordered, when used as part of the patient's seizure control regimen because of transient increase in frequency or severity of seizure</p>	<p>prescriber.</p>	<p>are inadequate.</p>	<p>expect drug to be discontinued.</p>
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		res may occur.			
<b>Key Nursing Assessment(s)/Lab(s) Prior to Administration</b>	<ul style="list-style-type: none"> <li>• Cardiac Monitoring</li> <li>• Occult stool test</li> <li>• Monitor factor Xa levels</li> </ul>	<ul style="list-style-type: none"> <li>• Withdrawal symptoms</li> <li>• Respiratory rate</li> <li>• Somnolence</li> </ul>	<ul style="list-style-type: none"> <li>• Vancomycin trough monitoring</li> <li>• Monitor IV site</li> <li>• Monitor for adverse reaction</li> </ul>	<ul style="list-style-type: none"> <li>• Respiratory rate</li> <li>• Blood pressure</li> <li>• Bowel motility</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor IV site for adverse reaction</li> <li>• Monitor respiratory rate</li> </ul>
<b>Client Teaching Needs (2)</b>	<ol style="list-style-type: none"> <li>1. Caution patient not to rub the site after giving the injection to minimize bruising.</li> <li>2. Advise patient to notify prescriber about adverse reaction</li> </ol>	<ol style="list-style-type: none"> <li>1. Advise patient not to take drug to relieve everyday stresses.</li> <li>2. Instruct patient not to take more drug, more often, or</li> </ol>	<ol style="list-style-type: none"> <li>1. Advise patient to notify prescriber if not improvement occurs after a few days.</li> <li>2. Instruct patient to notify prescriber if he develops persistent or severe diarrhea.</li> </ol>	<ol style="list-style-type: none"> <li>1. Alert patient that drug is a controlled substance.</li> <li>2. Inform patient about potentially fatal additive effects of combining hydromorphone with a benzodiazepin</li> </ol>	<ol style="list-style-type: none"> <li>1. Tell patient to notify doctor immediately of adverse effects.</li> <li>2. Urge patients to report respiratory diarrhea.</li> </ol>

	ns, especially bleeding. Inform patient that taking aspirin or other NSAIDs may increase risk for bleeding.	for a longer time than prescribed. Warn him that physical psychological dependence can occur, and teach her to recognize signs.		e. In addition, other serious drug reactions can occur.	
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**Medications Reference (1) (APA):**

Jones & Bartlett Learning. (2022). *2022 Nurse's drug handbook* (21st ed.). Jones & Bartlett Learning.

**Assessment**

**Physical Exam (18 points) – HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS**

<b>GENERAL:</b> <b>Alertness:</b>	Alert and responsive
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<p><b>Orientation:</b>  <b>Distress:</b>  <b>Overall appearance:</b></p>	<p>Person, place, time, location                  No current distress                  Appropriate, well groomed</p>
<p><b>INTEGUMENTARY:</b>  <b>Skin color:</b>  <b>Character:</b>  <b>Temperature:</b>  <b>Turgor:</b>  <b>Rashes:</b>  <b>Bruises:</b>  <b>Wounds:</b>  <b>Braden Score:</b> 22  <b>Drains present:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Type:</b></p>	<p>Brown, usual for ethnicity                  Normal                  Warm                  Elastic                  No rashes noted                  No bruises but many tattoos                  No wounds</p>
<p><b>HEENT:</b>  <b>Head/Neck:</b>  <b>Ears:</b>  <b>Eyes:</b>  <b>Nose:</b>  <b>Teeth:</b></p>	<p>Head symmetrical with head and face, trachea midline                  Ears clear of drainage                  PERRLA                  Nose clear of polyps                  Teeth white and gums dark brown</p>
<p><b>CARDIOVASCULAR:</b>  <b>Heart sounds:</b>  <b>S1, S2, S3, S4, murmur etc.</b>  <b>Cardiac rhythm (if applicable):</b>  <b>Peripheral Pulses:</b>  <b>Capillary refill:</b>  <b>Neck Vein Distention:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Edema</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Location of Edema:</b></p>	<p>S1 and S2 auscultated                  Normal Sinus Rhythm                  3+                  Less than 3 seconds                    None present</p>
<p><b>RESPIRATORY:</b>  <b>Accessory muscle use:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Breath Sounds: Location, character</b></p>	<p>Lower right lobe wheezing</p>
<p><b>GASTROINTESTINAL:</b>  <b>Diet at home:</b>  <b>Current Diet</b>  <b>Height:</b>  <b>Weight:</b>  <b>Auscultation Bowel sounds:</b>  <b>Last BM:</b>  <b>Palpation: Pain, Mass etc.:</b>  <b>Inspection:</b>  <b>Distention:</b>  <b>Incisions:</b></p>	<p>Regular                  Regular                  175.3 cm                  68.3 kg                  Active in all four quadrants                  0300                  No pain or masses noted upon palpation                    None noted on inspection                  No incisions present</p>

<p><b>Scars:</b>  <b>Drains:</b>  <b>Wounds:</b>  <b>Ostomy:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Nasogastric:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Size:</b>  <b>Feeding tubes/PEG tube</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Type:</b></p>	<p>No scars present                  No drains present                  No wounds present</p>
<p><b>GENITOURINARY:</b>  <b>Color:</b>  <b>Character:</b>  <b>Quantity of urine:</b>  <b>Pain with urination:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Dialysis:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Inspection of genitals:</b>  <b>Catheter:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Type:</b>  <b>Size:</b></p>	<p>Yellow                  Painless                  320 mL                    Inspection of genitals contraindicated and not completed.</p>
<p><b>MUSCULOSKELETAL:</b>  <b>Neurovascular status:</b>  <b>ROM:</b>  <b>Supportive devices:</b>  <b>Strength:</b>  <b>ADL Assistance:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Fall Risk:</b> Y <input type="checkbox"/> N <input checked="" type="checkbox"/>  <b>Fall Score:</b> 19  <b>Activity/Mobility Status:</b>  <b>Independent (up ad lib)</b> X  <b>Needs assistance with equipment</b> <input type="checkbox"/>  <b>Needs support to stand and walk</b> <input type="checkbox"/></p>	<p>Active                  No supportive devices in place                  Active motion (5)                    Activity tolerated without restrictions</p>
<p><b>NEUROLOGICAL:</b>  <b>MAEW:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  <b>PERLA:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/>  <b>Strength Equal:</b> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> if no -  <b>Legs</b> <input type="checkbox"/> <b>Arms</b> <input type="checkbox"/> <b>Both</b> <input type="checkbox"/>  <b>Orientation:</b>  <b>Mental Status:</b>  <b>Speech:</b>  <b>Sensory:</b>  <b>LOC:</b></p>	<p>Person, place, time, location                  Normal cognition                  Clear                  No deficit noted                  Alert, awake and communicating well</p>
<p><b>PSYCHOSOCIAL/CULTURAL:</b>  <b>Coping method(s):</b>  <b>Developmental level:</b>  <b>Religion &amp; what it means to pt.:</b></p>	<p>Patient has a family support system which includes a caring grandmother and sister which whom he resides.</p>

<b>Personal/Family Data (Think about home environment, family structure, and available family support):</b>	Patient capable of reading, writing and conversing without hinderance. No religious preference or affiliation. Patient will be discharged home where he feels safe and capable to further manage his health.
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**Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS**

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0800a	91 bpm	121/76	18 breaths/min	97.6 °F	96 room air
1126a	94 bpm	145/92	18 breaths/min	97.5 °F	95 room air

**Vital Sign Trends:**

The patient’s pulse trended upward. The patient was more agitated and treated with Dilaudid closer to the afternoon. The patient’s temperature trended down. The patient’s oxygen on room air decreased. Practiced a few breathing exercises with the patient. The patient’s blood pressure trended upward which could be a reflection of his reported pain.

**Pain Assessment, 2 sets (2 points)**

Time	Scale	Location	Severity	Characteristics	Interventions
0800a	6	Abdomen	Discomfort	Constant, achy	Pain medication administered by prior nurse
1126a	6	Chest, Abdomen	Discomfort	Achy	Administered 0.5mg of Hydromorphone

**IV Assessment (2 Points)**

IV Assessment	Fluid Type/Rate or Saline Lock
<b>Size of IV:</b> 22 gauge <b>Location of IV:</b> Anterior, left lower forearm. <b>Date on IV:</b> 03/27/2023	lactated Ringers (LR) infusion  100mL/hr

<p><b>Patency of IV:</b> Continuous  <b>Signs of erythema, drainage, etc.:</b> None  <b>IV dressing assessment:</b> Clean and dry.</p>	<p>Continuous Infusion</p>
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**Intake and Output (2 points)**

Intake (in mL)	Output (in mL)
<p>200mL Water</p>	<p>320 mL-Urine</p>
<p>200mL Gatorade</p>	
<p>100mL IV lactated ringers</p>	
<p>Total: 500 mL</p>	

**Nursing Care**

**Summary of Care (2 points)**

**Overview of care:** Patient showered independently, performed mouth care independently, Administered Vancocin, Zosyn, Valium, Lovenox, and Dilaudid.

**Procedures/testing done:** None

**Complaints/Issues:** Patient complained of pain when sitting up in abdomen which radiated to his chest.

**Vital signs (stable/unstable):** Stable

**Tolerating diet, activity, etc.:** Patient has a regular diet and ordered his breakfast tray. Patient tolerated diet without issue.

**Physician notifications:** Give pain medications as needed related to inspiratory breathing discomfort.

**Future plans for client:** Discharge home where he resides with his grandmother and sister.

**Discharge Planning (2 points)**

**Discharge location:** Home

**Home health needs (if applicable):** None

**Equipment needs (if applicable):** None

**Follow up plan:** Follow up with primary care physician to follow-up with take-home remainder of antibiotics and lung health.

**Education needs:** Immediately report signs of returned pneumonia to include dyspnea, fatigue, cough, fever, rapid heartbeat and difficulty breathing. Return to the Emergency Department if signs of infection are present such as sweating, shivering and loss of appetite.

**Nursing Diagnosis (15 points)**

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

<p><b>Nursing Diagnosis</b></p> <ul style="list-style-type: none"> <li>• Include full nursing diagnosis with “related to” and “as evidenced by” components</li> <li>• Listed in order by priority – highest priority to lowest priority pertinent to this client</li> </ul>	<p><b>Rationale</b></p> <ul style="list-style-type: none"> <li>• Explain why the nursing diagnosis was chosen</li> </ul>	<p><b>Interventions (2 per dx)</b></p>	<p><b>Outcome Goal (1 per dx)</b></p>	<p><b>Evaluation</b></p> <ul style="list-style-type: none"> <li>• How did the client/family respond to the nurse’s actions?</li> <li>• Client response, status of goals and outcomes, modifications to plan.</li> </ul>
<p>1. Ineffective airway clearance</p>	<p>Patient presented to the ED with coughing spells</p>	<p>1. Mobilize patient to full capacities to</p>	<p>1. Auscultation of</p>	<p>The patient responded in agreement with</p>

<p>related to excessive mucus production as evidenced by production of phlegm when coughing.</p>	<p>which produced phlegm which was clean and greenish in color.</p>	<p>facilitate chest expansion and ventilation.  2. When helping patient cough and deep breathe, use whatever position best ensures cooperation and minimizes energy expenditure, such as raising the head of the bed or sitting on side of bed.</p>	<p>patient's lung fields reveals no adventitious breath sounds.</p>	<p>mobilization. The use of an incentive spirometer was introduced to the patient to assist with deep breathing and coughing techniques, which was well received.</p>
<p>2. Impaired gas exchange related to a decrease in carbon dioxide (CO<sub>2</sub>) level in the blood as evidenced by pleural effusion finding on chest X-ray.</p>	<p>A chest X-Ray was performed and the impression revealed mild right-sided pleural effusion. The accumulation of fluid makes gas exchange difficult in patients with pneumonia.</p>	<p>1. Assess and record pulmonary status every four hours or more frequently if patient's condition is unstable. Poor pulmonary status may result in hypoxemia.  2. Give medications, as ordered, to improve oxygenation. Monitor and record efficacy and adverse reactions to guide treatment.</p>	<p>1. Patient will exercise and perform ADLs without experiencing dyspnea or excessive fatigue.</p>	<p>The patient responded well to this nursing students' actions. The patient agreed to walking safely from bed to restroom with little to no assistance and eventually from his room to the hall for more exercise as tolerated.</p>

<p><b>3.</b> Risk for electrolyte imbalance related to hypokalemia and hypoalbuminemia as evidenced by metabolic chemistry lab results.</p>	<p>Due to the patient being diagnosed with bacterial pneumonia his body is overcompensating and his metabolic lab values are mostly elevated or low</p>	<p>1. Assess patient’s fluid status. Patients who demonstrate fluid volume alterations are likely to have electrolyte alterations as well.</p> <p>2. Monitor patient for physical signs of electrolyte imbalance. Many cardiac, neurological and musculoskeletal symptoms are indicative of specific electrolyte abnormalities.</p>	<p>1. Patients electrolyte levels remain within normal limits.</p>	<p>The patient responded well to this nursing students’ actions. The patient is drinking Gatorade from home, water, and receiving lactated ringers via IV infusion. The patient understands his body must maintain an equilibrium or homeostasis to begin the healing process.</p>
<p><b>4.</b> Insomnia related to alcohol consumption as evidenced by patient drinking half pint or more daily to assist with sleep.</p>	<p>The patient reported drinking a half of pint of alcohol a day. The patient stated, “I drink because I can’t sleep” during assessment.</p>	<p>1. Assess environmental factors that may inhibit patient’s sleep. Sleeping in strange or new environments tends to influence both rapid eye movement and non-REM sleep.</p> <p>2. Create quiet environment conducive to</p>	<p>1. Patient will express feelings of being well rested.</p>	<p>The patient responded well to this nursing students’ actions. The patient expressed understanding that drinking a half a pint daily to sleep was not the best for his health. The patient expressed that he is working on limiting and or stopping the</p>

		sleep; for example, close curtains, adjust lighting, and close door. These measures promote rest and sleep.		habit.
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**Other References (APA):**

Phelps, L.L. (2020). *Sparks and Taylor's nursing diagnosis reference manual* (11<sup>th</sup> ed.). Wolters Kluwer.

**Concept Map (20 Points):**

**Subjective Data**

- The patient was in no acute distress at time of assessment
- The patient was eager to learn and better his symptoms so he can be discharged home with his grandmother and sister.
- The patient displayed and mentioned discomfort in his chest and abdomen when leaning forward.
- Pain was relieved slightly with hydromorphone.

**Nursing Diagnosis/Outcomes**

1. Ineffective airway clearance related to excessive mucus production as evidenced by production of phlegm when coughing.  
Outcome: Auscultation of patient’s lung fields reveals no adventitious breath sounds.
2. Impaired gas exchange related to a decrease in carbon dioxide (co2) level in the blood as evidenced by pleural effusion finding on chest X-ray.  
Outcome: Patient will exercise and perform ADLs without experiencing dyspnea or excessive fatigue.
3. Risk for electrolyte imbalance related to hypokalemia and hypoalbuminemia as evidenced by metabolic chemistry lab results.  
Outcome: Patients electrolyte levels remain within normal limits.
4. Insomnia related to alcohol consumption as evidenced by patient drinking half pint or more daily to assist with sleep.

**Objective Data**

Vital Signs: Height 175.3 cm, Weight 68.3 kg, Temperature: 97.5 °F orally, Pulse: 94, Respiratory Rate: 18, Blood Pressure: 145/92

Hospital Medications: Lovenox, Zosyn, Vancocin, Valium, and Dilaudid

Fall Score: 19  
Braden Score: 22

**Client Information**

37-year-old male admitted from the emergency department for abscess of lower lobe of right lung with pneumonia.  
PMH: Pneumonia in October of 2022  
PSH: None

**Nursing Interventions**

1. Mobilize patient to full capacities to facilitate chest expansion and ventilation.
2. When helping patient cough and deep breathe, use whatever position best ensures cooperation and minimizes energy expenditure, such as raising the head of the bed or sitting on side of bed.
1. Assess and record pulmonary status every four hours or more frequently if patient’s condition is unstable. Poor pulmonary status may result in hypoxemia.
2. Give medications, as ordered, to improve oxygenation. Monitor and record efficacy and adverse reactions to guide treatment.
1. Assess patient’s fluid status. Patients who demonstrate fluid volume alterations are likely to have electrolyte alterations as well.
2. Monitor patient for physical signs of electrolyte imbalance. Many cardiac, neurological and musculoskeletal symptoms are indicative of specific electrolyte abnormalities.
1. Assess environmental factors that may inhibit patient’s sleep. Sleeping in strange or new environments tends to influence both rapid eye movement and non-REM sleep.
2. Create quiet environment conducive to sleep; for example, close curtains, adjust lighting, and close door. These measures promote rest and sleep.





