

N441 Care Plan

Lakeview College of Nursing

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Demographics (3 points)

Date of Admission 1/11/2023	Client Initials S. M.	Age 64	Gender Male
Race/Ethnicity White/Non-Hispanic/ Latino	Occupation Retired	Marital Status Single	Allergies Lisinopril – rash/hives Erythromycin – rash/hives Penicillin – hives/rash
Code Status No CPR	Height 182.9 cm	Weight 78.4 kg	

Medical History (5 Points)

Past Medical History: This patient has a past medical history of COPD, hypertension, lung cancer, and calculi of the kidney.

Past Surgical History: The patient has a past surgical history of a cardiac catheterization which was completed 1/21/2020. The patient also states that he has had a tonsillectomy as a child, but did not know the specific date.

Family History: The patient's father is deceased and died from bladder and prostate cancer. The patient's brother has heart disease. The patient's sister is deceased from ovarian cancer. The patient stated that his mother is deceased and died of natural causes.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): The patient smokes 0.5 packs a day and has done so for 50 years. The patient smokes marijuana approximately 3-4 times per week and has been doing for a few years. The patient also has 1 6-ounce beer daily and has done this for about 20 years.

Assistive Devices: The patient uses a walker with wheels when ambulating.

Living Situation: The patient currently lives in his home in Danville. He lives alone and has a cat. Arrangements are currently being made to transfer him to a temporary restorative care facility.

Education Level: The patient has a high school diploma and is literate.

Admission Assessment

Chief Complaint (2 points): The client complained of dyspnea.

History of Present Illness – OLD CARTS (10 points): On January 11th, 2023, the patient, a 64-year-old, white, male went to the emergency room with complaints of dyspnea. He claimed that the dyspnea was accompanied with a cramping sensation in his chest, specifically on his left side. The patient claims that although it has been happening frequently but never this badly, he feels as like he can't breathe "constantly." The patient added that he was "scared" and "anxious". The patient claims that he felt as though he was "suffocating." The patient additionally mentioned that pressure in the chest accompanied the dyspnea. The patient additionally claims that activity makes the dyspnea worse. The patient attempted to address the dyspnea with a rescue inhaler, but it was unsuccessful. The patient stated he was ambulating which he believed caused the dyspnea to start. The patient claims that the dyspnea is severe.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): The patient was diagnosed with a pleural effusion.

Secondary Diagnosis (if applicable): N/A

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

Pathophysiology References (2) (APA):

The abnormal buildup of fluid in the pleural space is called a pleural effusion, and it happens frequently. According to registry data from the United States, it is predicted that between 400 000 and 500 000 people experience this illness each year. Its causes are extremely diverse, ranging from relatively benign effusions that come along with viral pleuritis to ones that

are extremely crucial in terms of prognosis because of congestive heart failure or malignancy (Berthold & Welte, 2019). This client received lung radiation due to a malignancy, which caused fluid buildup. When it comes to a cellular make-up of pleural effusion, the total white blood cell count in the fluid is 1.716×10^6 cells per milliliter. The cell count breakdown includes 75% macrophages, 23% lymphocytes, 1% to 2% of mesothelial cells, 1% of neutrophils, and 0% of eosinophils. It is noteworthy that smokers have slightly higher neutrophil percentages than nonsmokers (D'Agostino & Edens, 2022). When it comes to vital signs of patients who present with pleural effusions, it is possible for the oxygen saturation to be below 85% depending on the severity, and it is also possible for respiratory rate to increase (Aujayeb, 2022).

Fluid homeostasis in the pleural space is significantly influenced by both the visceral and parietal pleura. The equilibrium of the hydrostatic and oncotic pressure differential between the systemic and pulmonary circulation and the pleural space determines the volume of the pleural fluid. Through lymphatic veins in the parietal pleura, pleural fluid is reabsorbed. If more pleural fluid is produced than usual, the flow in these veins might rise (Berthold & Welte, 2019). This affects surrounding organs like, the intercostal organs and arteries. This is critical because internal thoracic and musculophrenic arteries provide blood supply to the parietal pleura. Common signs and symptoms of a pleural effusion are dyspnea, pleuritic pain, and a dry cough (D'Agostino & Edens, 2022). This client displayed both signs of pleuritic pain, and dyspnea, with a consistent, dry, cough.

When diagnosing a pleural effusion, the fluid's appearance may already contain hints about the diagnosis. Pus is evidence of empyema, milky fluid is indicative with chylothorax, and a bloody effusion is more prevalent when a malignancy is the etiology. Centrifugation can be used to distinguish between chylothorax and empyema (D'Agostino & Edens, 2022). The most

common test to determine whether there is a pleural effusion is a chest radiograph. It should be noted that it can take up to 600 mL of fluid on a standard chest x-ray before it is seen. The most sensitive projection is the lateral decubitus, which can detect even minute amounts of fluid. Supine projections, on the other hand, have the ability to conceal a lot of fluid (El-Feky, 2023). In order to be diagnosed, this particular patient was diagnosed from chest x-ray results.

Depending on the cause of a pleural effusion, different treatment options are available. These include, a thoracentesis, pleural drain, chest tube insertion, pleurodesis, and pleural decortication (Hoffman, 2020). This particular patient was treated by using chest tubes to drain the effusion and the administration of alteplase to thin secretions.

References

- Aujayeb, A. (2022). A reminder of an important clinical lesson: Hypoxaemia in a pleural effusion. *MDPI Journals*, 5(1), 6. <https://doi.org/10.3390/reports5010006>
- Berthold, J., & Welte, T. (2019). Pleural effusions in adults: Etiology, diagnosis, and treatment. *Deutsches Arzteblatt International*, 126(21), 377-386. <https://doi.org/10.1037/rev0000126>
- D'Agostino, H. P., & Edens, M. A. (2022). *Physiology, pleural fluid*. Stat Pearls. <https://www.ncbi.nlm.nih.gov/books/NBK513353/?report=reader>
- El-Feky, M. (2023). *Pleural effusion*. Radiopaedia. <https://radiopaedia.org/articles/pleural-effusion?lang=us>
- Hoffman, M. (2020). *What is a pleural effusion?* Web MD. <https://www.webmd.com/lung/pleural-effusion-symptoms-causes-treatments>

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
RBC	4.5 – 6.2 million/mm ³	3.11 million/mm ³	3.0 million/mm ³	The reason for the decreased RBC could be related to oxidative stress due to pleural injury which results in less RBC in blood circulation (Luo et al., 2022).
Hgb	14-16.5 g/dL	8.0 g/dL	7.6 g/dL	Decreased Hgb is common when there is a decrease in RBCs due to an inflammatory response. This inflammation could be present due to the patient's pleural injury (Jung et al., 2019).
Hct	42 – 52%	24.2%	23.6%	Decreased Hct can occur if there is inflammation which increases any oxidative stress resulting in a decreased amount of RBC in blood circulation. This client has received chest tubes, causing pleural injury. This can cause inflammation (Luo et al., 2022).
Platelets	150000 to 400000 cells/mm ³	268000 cells/mm ³	253000 cells/mm ³	
WBC	4500 to 11,000 cells/mm ³	10200 cells/mm ³	14400 cells/mm ³	An increase in WBC can be related to stress, injury, or inflammation. This patient has received chest tubes, causing the body injury and potential stress (Cleveland Clinic, 2022).
Neutrophils	1800 to 7800 cells/mm ³	8300 cells/mm ³	12500 cells/mm ³	A high number of neutrophils are present due to the body's response to repair tissues. This patient has had recent chest tube placement, causing the body to attempt to repair injury (Cleveland Clinic, 2022).
Lymphocytes	1,000 to 4800 cells/mm ³	800 cells/mm ³	600 cells/mm ³	The patient has undergone chemotherapy in the past which can cause chronic

				lymphocytopenia (Yu, 2022).
Monocytes	0 to 800 cells/mm ³	100 cells/mm ³	100 cells/mm ³	
Eosinophils	0 to 450 cells/mm ³	0.10 cells/mm ³	0.10 cells/mm ³	
Bands	0 to 700 cells/mm ³	N/A	N/A	

References

Cleveland Clinic. (2022). *High white blood cell count*.

<https://my.clevelandclinic.org/health/diagnostics/17704-high-white-blood-cell-count>

Jiang, S. M., Youn-Jung, K., Ryoo, S. M., & Kim, W. Y. (2019). Relationship between low hemoglobin levels and mortality in patients with septic shock. *Acute and Critical Care*, 2, 141-147. <https://doi.org/10.4266/acc.2019.00465>

Luo, M., Chen, Y., Li, N., & Qing, H. (2022). Association between hematocrit and the 30-day mortality of patents with sepsis: A retrospective based on the large scale clinical database. *Plos One*, 17(3), e0265758. <https://doi.org/10.1371/journal.pone.0265758>

Yu, J. (2022). *What is lymphocytopenia?* Healthline.

<https://www.healthline.com/health/lymphocytopenia>

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+	135-145 mEq/L	134 mEq/L	135 mEq/L	Hyponatremia can be caused by a retention of fluid. This patient has fluid retention in the pleural cavity, so hyponatremia is evident (Lewis, 2022).
K+	3.5- 5.0 mEq/L	3.5 mEq/L	3.5 mEq/L	
Cl-	95-105 mEq/L	105 mEq/L	104 mEq/L	
CO2	35-45	22 mmHg	23	Hypocapnia can occur from stress or

	mmHg		mmHg	trauma to the body. This patient has just suffered from dyspnea, causing anxiety and stress, and has had chest tubes placed causing injury and bodily stress (Eng, 2021).
Glucose	Monitoring = 60-110 mg/dL	79 mg/dL	97 mg/dL	
BUN	8-25 mg/dL	22 mg/dL	14 mg/dL	
Creatinine	0.6 to 1.3 mg/dL	0.76 mg/dL	0.9 mg/dL	
Albumin	3.4 to 5 g/dL	N/A	N/A	
Calcium	8.5 to 10.5 mg/dL	7.6 mg/dL	7.6 mg/dL	A possible reason for low calcium levels in this patient can be potentially related to issues with the Vitamin D axis, resulting in hypocalcemia (Saint & Chopra, 2018).
Mag	1.5 to 2.6 mg/dL	N/A	N/A	
Phosphate	2.7 to 4.5 mg/dl	1.07 mg/dL	1.09 mg/dL	
Bilirubin	0.3 – 1.0 mg/dL	0.4 mg/dL	0.3 mg/dL	
Alk Phos	40-150 units/L	N/A	N/A	
AST	10-40 units/L	11 units/L	16 units/L	
ALT	5 to 34 units/L	6 units/L	7 units/L	
Amylase	25 to 151 units/L	N/A	N/A	
Lipase	10/140 units/L	N/A	N/A	
Lactic Acid	4.5 to 19.8 mg/dL	N/A	N/A	
Troponin	0-0.04 mg/dL	N/A	N/A	

CK-MB	5-25 IU/L	N/A	N/A	
Total CK	3-5%	N/A	N/A	

Eng, M. (2021). *Hypocapnia causes and symptoms*. Self Decode.

<https://labs.selfdecode.com/blog/hypocapnia/>

Lewis, J. (2022). *Hyponatremia*. Merck Manual.

<https://www.merckmanuals.com/home/hormonal-and-metabolic-disorders/electrolyte-balance/syndrome-of-inappropriate-secretion-of-antidiuretic-hormone-siadh>

Saint, S., & Chopra, V. (2018). *Hypocalcemia*. Oxford Medicine Online.

<https://oxfordmedicine.com/view/10.1093/med/9780190862800.001.0001/med-9780190862800-chapter-77>

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
INR	1.0 to 1.5 ratio	N/A	N/A	
PT	11-13 seconds	N/A	N/A	
PTT	25-35 seconds	N/A	N/A	
D-Dimer	< 500 ng/mL	N/A	N/A	
BNP	<100 pg/mL	N/A	N/A	
HDL	30/70 mg/dL	N/A	N/A	
LDL	< 130 mg/dL	N/A	N/A	
Cholesterol	<130 mg/dL	N/A	N/A	

Triglycerides	150 mg/dL	N/A	N/A	
Hgb A1c	<5.7%	N/A	N/A	
TSH	0.5 to 5.0 mIU/L	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
Color & Clarity	Yellow, clear	Yellow, clear	Yellow, clear	
pH	4.5 to 7.8	5.5	N/A	
Specific Gravity	1.016 to 1.022	1.018	N/A	
Glucose	>0.5 g/day	Negative	N/A	
Protein	Negative	Trace protein	N/A	Protein levels in the urine results from inflammation (Eske, 2019).
Ketones	Negative	Negative	N/A	
WBC	< or = to 4 cells/HPF	Negative	N/A	
RBC	<3 cells/HPF	Negative	N/A	
Leukoesterase	2-5 cells/HPF	N/A	N/A	

Eske, J. (2019). *What to know about protein test and results*. Medical News Today.

<https://www.medicalnewstoday.com/articles/325320>

Arterial Blood Gas **Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.**

Test	Normal	Value on	Today's	Explanation of Findings
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	Range	Admission	Value	
pH	7.35 – 7.45	N/A	N/A	
PaO2	>90 mmHg	N/A	N/A	
PaCO2	35-45 mmHg	N/A	N/A	
HCO3	22-26 mEq/L	N/A	N/A	
SaO2	>90	95	97	

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	Negative	Trace proteins detected	N/A	Protein in the urine can result from inflammation (Eske, 2019).
Blood Culture	Negative	Negative	N/A	
Sputum Culture	Negative	N/A	N/A	
Stool Culture	Negative	N/A	N/A	

Lab Correlations Reference (1) (APA):

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2018). *Mosby's diagnostic and laboratory test reference* (14th ed.). Mosby.

Diagnostic Imaging

All Other Diagnostic Tests (5 points): The patient received a chest x-ray to determine the cause of the dyspnea the patient also had an EKG done in the emergency room. This was to ensure the patient wasn't suffering from any cardiac issues and allows for a visualization of electric activity.

Prior to this admission, the patient has received numerous MRI and CT scans of the chest and brain. This is due to a previous malignancy.

Diagnostic Test Correlation (5 points): The chest x-ray was performed to determine if there were any pleural abnormalities. On the frontal view of the patient’s chest x-ray there was a noticeable dulling of the lateral costophrenic angle. On the lateral view of the patient’s x-ray there was a meniscus in the posterior costophrenic sulcus, which also indicates that there is a pleural effusion present (Radiology Key, 2019).

Diagnostic Test Reference (1) (APA):

Radiology Key. (2019). *Pleural Effusion*. <https://radiologykey.com/author/drzezo/>

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

Home Medications (5 required)

Brand/Generic	ProAir/albuterol	Tessalon/ Benzonatate	Mucinex/guaifenesin	Tylenol/ acetaminophen	Acetadote/ acetylcysteine
Dose	2.5 mg	100 mg	600 mg	325 mg	2mL
Frequency	Q4H PRN	TID	BID	Q6H PRN	TID
Route	Inhalation	Oral	Oral	Oral	Inhalation
Classification	Adrenergic/ bronchodilators	Antitussives/ non-narcotic cough suppressors	Expectorant/cough/ cold	Antipyretic/ non salicylate	Mucolytic/L- cysteine derivative
Mechanism of Action	Albuterol relaxes the bronchial smooth-muscle cells and stops the release of	Benzonatate works by making the throat less reactive by providing a numbing	Guaifenesin works by thinning respiratory secretions which eases expectoration (Pukey, 2022).	Acts directly on the hypothalamus temperature regulating center and inhibits prostaglandin	Decreased the thickness of pulmonary secretions by breaking up glycoproteins (Jones & Bartlett

	histamine (Jones & Bartlett Learning, 2021).	sensation (Thorton, 2022).		E2 synthesis (Jones & Bartlett Learning, 2021).	Learning, 2021).
Reason Client Taking	The client is taking this medication to open up the airways.	The client is taking this medication to treat his cough (Thorton, 2022).	The client is taking this medication to attempt to thin the respiratory secretions from the pleural effusions and make the client cough up these secretions easier.	The patient is taking to relieve mild pain.	The patient is taking to thin secretions from a pleural effusion.
Contraindications (2)	One contraindication is a patient who is currently taking beta blockers (Jones and Bartlett Learning, 2021). Another contraindication is a patient who is taking tricyclic antidepressants (Jones & Bartlett Learning, 2021).	One contraindication concurrent opioid use (Thorton, 2022). Another contraindication is concurrent muscle relaxer use (Thorton, 2022).	One contraindication is if the patient has had an allergic reaction to this medication (Pukey, 2022). Another contraindication is taking this medication when driving (Pukey, 2022).	One contraindication is a Hypersensitivity to acetaminophen. Another contraindication is the impairment of the hepatic system (Jones & Bartlett Learning, 2021).	One contraindication is if the patient has a hypersensitivity to acetylcysteine. Another contraindication is if the patient has been treated with activated charcoal (Jones & Bartlett Learning, 2021).
Side Effects/Adverse Reactions (2)	One side effect is anxiety (Jones & Bartlett Learning, 2021). Another side effect is arrhythmias (Jones & Bartlett Learning, 2021).	One side effect of benzonatate is constipation (Thorton, 2022). Another side effect of benzonatate is nausea (Thorton, 2022).	One side effect is a headache (Pukey, 2022). Another side effect is drowsiness (Pukey, 2022).	One side effect is abdominal pain (Jones & Bartlett Learning, 2021). Another side effect is nausea (Jones & Bartlett Learning, 2021).	One side effect is wheezing. Another side effect is facial flushing (Jones & Bartlett Learning, 2021).
Nursing Considerations (2)	One nursing consideration is to use cautiously if the patient is hypertensive (Jones & Bartlett Learning, 2021). Another nursing consideration is to use cautiously in those who have a history of	One nursing consideration is to have the patient drink the medication with a full glass of water (Thorton, 2022). Another nursing consideration is to make sure	One nursing intervention is to offer a full glass of water with this medication (Pukey, 2022). Another nursing intervention is ensuring the medication is not chewed or crushed (Pukey, 2022).	One nursing consideration is to make sure the patient takes with food (Jones & Bartlett Learning, 2021). Another nursing consideration is to make sure the	One nursing consideration is to use cautiously in patients with asthma. Another nursing consideration is to watch for signs of easy bruising and prolonged bleeding.

	seizures (Jones & Bartlett Learning, 2021).	the patient is upright when taking the medication.		patient takes less than 4000 mg per day (Jones & Bartlett Learning, 2021).	
Key Nursing Assessment(s)/Lab(s) Prior to Administration	One key nursing assessment prior to administration is to monitor potassium levels (Jones & Bartlett Learning, 2021).	One key nursing assessment prior to assessment is to monitor heart rate to screen for bradycardia (Thorton, 2022).	One key nursing assessment prior to administration is to check the liver panel due to the medication’s tendency to cause liver problems (Pukey, 2022).	Before administration assess AST, ALT and bilirubin levels. Monitor renal function (Jones & Bartlett Learning, 2021).	Before administration a liver panel should be taken due to the medications effects on the liver (Jones & Bartlett Learning, 2021).
Client Teaching needs (2)	One teaching need is to educate the patient about shaking the canister before inhalation (Jones & Bartlett Learning, 2021). Another teaching need is to educate the patient to wait one minute before the second inhalation of medication (Jones & Bartlett Learning, 2021).	The patient should be educated to not swallow the capsule whole. The patient should be educated to stop taking the medication if they develop hives or a rash (Thorton, 2022).	The patient should be educated to avoid operating heavy machinery after taking this medication (Pukey, 2022). The patient should be educated to drink extra fluids while taking this medication to break up mucous (Pukey, 2022).	The client should be educated that acetaminophen may cause reduced fertility (Jones & Bartlett Learning, 2021). The client should be educated about the signs of hepatotoxicity, such as bruising easily (Jones & Bartlett Learning, 2021).	One client teaching need is to tell the patient that facial redness or flushing may occur. Another teaching need is to urge the patient to increase fluids (Jones & Bartlett Learning, 2021).

Hospital Medications (5 required)

Brand/Generic	Tissue plasminogen activator/ alteplase	Maxipime/ cefepime	Flagyl/ metronidazole	Nascobal/ cyanocobalamin	Nicotine patch
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Dose	10mg	500 mg	500 mg	1,000 mcg	21mg
Frequency	TID	TID	TID	Daily	24 hours
Route	intrapleural	IV	IV	Oral	Transdermal patch
Classification	tPa/thrombolytic	4 th generation cephalosporin/Antibiotic	Nitroimidazole/Antiprotozoal	B vitamins/vitamins	Nicoderm/nicotine transdermal
Mechanism of Action	Alteplase breaks down fibrin and clotting factor to dissolve the blood clot (Jones & Bartlett Learning, 2021).	This medication interferes with the infectious bacterial wall and causes the cells to be destroyed (Jones & Bartlett Learning, 2021).	This medication damaging the bacteria's DNA which inhibits cell synthesis causing cell death (Jones & Bartlett Learning, 2021).	Binds to proteins and enters tissue cells (Multum, 2023).	This medication works by replacing the nicotine in cigarettes by absorbing into the skin (Memon, 2022).
Reason Client Taking	The client is taking this to dissolve the thickened pleural secretions.	This patient is taking this medication to fight/prevent infections	The patient is taking this medication to fight/prevent infections.	To aid in RBC production (Multum, 2023).	The client is taking this medication to get nicotine without smoking cigarettes.
Contraindications (2)	One contraindication is active internal bleeding. Another contraindication is a intracranial neoplasm (Jones & Bartlett Learning, 2021).	One contraindication is a sensitivity to penicillins. Another is a sensitivity to beta-lactam antibiotics (Jones & Bartlett Learning, 2021).	One contraindication is alcoholism. Another contraindication is the recent use of disulfiram (Jones & Bartlett Learning, 2021).	One contraindication is a sensitivity to cobalt. Another is a hypersensitivity to B12 vitamins (Multum, 2023).	One contraindication is a hypersensitivity to nicotine gum or the patch. Another contraindication is a hypersensitivity to products with nicotine in them, like cigarettes (Memon, 2022).
Side Effects/Adverse Reactions (2)	One side effect is cerebral edema. Another side effect is cardiac arrest (Jones & Bartlett Learning, 2021).	One side effect is neurotoxicity. Another side effect is erythema (Jones & Bartlett Learning, 2021).	One side effect is encephalopathy. Another side effect is a seizure (Jones & Bartlett Learning, 2021).	One side effect is diarrhea. Another side effect is nervousness (Multum, 2023).	One side effect can be skin irritation. Another side effect can be irregular heartbeats (Memon, 2022).
Nursing Considerations (2)	One nursing consideration is to store the solution at room temperature or refrigeration (Jones & Bartlett Learning, 2021). Another nursing consideration is to monitor for angioedema after	One nursing consideration is to obtain a culture before administering this medication. Another nursing consideration is to monitor frequently for neurotoxicity	One consideration is to use cautiously in patients with central nervous system diseases (Jones & Bartlett Learning, 2021). Another consideration is to not give by direct IV injection (Jones	One nursing contraindication is to assess and monitor for thrombocytosis. Another nursing intervention is to monitor for symptoms of hypokalemia (Multum, 2023).	One nursing consideration is to change location of the patch when placing a new patch. Another nursing consideration is to monitor for decreased

	administration (Jones & Bartlett Learning, 2021).	(Jones & Bartlett Learning, 2021).	& Bartlett Learning, 2021).		wound healing (Memon, 2022).
Key Nursing Assessment(s)/Lab(s) Prior to Administration	One key assessment is to assess blood pressure and heart rate before administration (Jones & Bartlett Learning, 2021).	One key nursing assessment is to monitor BUN and serum creatinine levels (Jones & Bartlett Learning, 2021).	One lab that should be taken before administration is a CBC and culture and sensitivity tests (Jones & Bartlett Learning, 2021).	One key assessment is to assess heart rate and compare after administration (Multum, 2023).	One lab prior to administering a nicotine patch is blood pressure (Memon, 2022).
Client Teaching needs (2)	One client teaching is to teach the patient to report bleeding. Another is to advise the patient to avoid physical activity that can cause injury (Jones & Bartlett Learning, 2021).	One client teaching need is to instruct the patient to report severe diarrhea. Another teaching should be to report difficulty speaking (Jones & Bartlett Learning, 2021).	One client teaching need is to urge the patient to take the medication with food. Another teaching need is to advise the patient to report signs such as numbness or weakness (Jones & Bartlett Learning, 2021).	One patient teaching need is to take this vitamin with a full glass of water. Another teaching method is to take this medication upright (Multum, 2023).	One client teaching need is to educate about notifying the provider if skin irritation doesn't disappear within 4 days (Memon, 2022). Another instruct the patient to report blood in the stool or other signs of stomach ulcer (Memon, 2022).

Medications Reference (1) (APA):

Jones & Bartlett Learning. (2021). *Nurse's drug handbook* (20th ed.). Jones & Bartlett Learning.

Memon, N. (2022). *Nicotine transdermal*. RxList.

https://www.rxlist.com/nicoderm_cq_nicotrol_nicotine_transdermal/drugs-condition.htm

Multum, C. (2023). *Cyanocobalamin*. Drugs.com.

<https://www.drugs.com/mtm/cyanocobalamin.html>

Pukey, M. (2022). *Guaifenesin*. Drugs.com. <https://www.drugs.com/guaifenesin.html>

Thorton, P. (2022). *Benzonatate*. Drugs.com. <https://www.drugs.com/benzonatate.html>

Assessment

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

<p>GENERAL: Alertness: Orientation: Distress: Overall appearance:</p>	<p>Alert and oriented to time, place, person, and situation x4 No distress indicated. Overall appearance is optimistic. Patient appears to look stated age. Patient is clean and well groomed.</p>
<p>INTEGUMENTARY: Skin color: Character: Temperature: Turgor: Rashes: Bruises: Wounds: Braden Score: Drains present: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Type: Size 28 fr</p>	<p>Skin around the left chest tube wound is pinkish. Skin is warm to the touch. Patient has elastic turgor. The patient does not have any rashes present. Patient has small bruise on left lower hand. Patient has a Braden Score of 15 Patient has stage IV ulcer on left lower abdomen. The patient has a chest tube placed in left pleural space between the fourth and fifth intercostal space.</p>
<p>HEENT: Head/Neck: Ears: Eyes: Nose: Teeth:</p>	<p>Head and neck symmetrical, normal cephalic. Neck has no mass and is symmetrical. Patient's ears are free of discharge bilaterally. Patient's eyes are symmetrical with no redness present. No signs of drainage or crusting bilaterally. Pupils are equal in size and reactive to light and accommodation bilaterally Conjunctiva is pink and moist. Nose is symmetrical with no drainage. Some teeth are missing.</p>
<p>CARDIOVASCULAR: Heart sounds: S1, S2, S3, S4, murmur etc. Cardiac rhythm (if applicable): Peripheral Pulses: Capillary refill: Neck Vein Distention: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Edema Y <input type="checkbox"/> N <input checked="" type="checkbox"/></p>	<p>S1 and S2 present. Normal cardiac rhythm. Peripheral pulses equal bilaterally, +2, Capillary refill is approximately 2 seconds. No neck vein distention present. No edema present.</p>

<p>Location of Edema: N/A</p>	
<p>RESPIRATORY: Accessory muscle use: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Breath Sounds: Location, character ET Tube: Size of tube: N/A Placement (cm to lip): N/A Respiration rate: N/A FiO2: N/A Total Volume: N/A PEEP: N/A VAP prevention measures: N/A</p>	<p>No wheezes present in all lung fields. No rhonchi present in all lung fields. The left lower lobe was slightly diminished. Symmetric air entry and normal breathing effort.</p> <p>No ET tube placed.</p>
<p>GASTROINTESTINAL: Diet at home: Current Diet Height: Weight: Auscultation Bowel sounds: Last BM: Palpation: Pain, Mass etc.: Inspection: Distention: Incisions: Scars: Drains: Wounds: Ostomy: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Nasogastric: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Size: Feeding tubes/PEG tube Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Type:</p>	<p>Patient eats a diet at home that is high in carbohydrates and admits to eating not the healthiest, but states an improvement in eating more nutritious foods. The patient states that he tries to also eat a lower sodium diet when he is at home.</p> <p>The patient’s current diet at the hospital is a general diet.</p> <p>Patient’s height is 182.9 cm Patient’s weight is 78.4 kg Normoactive bowel sounds Last bowel movement 1/16/2023 No distention present No incisions present No drains present No ostomy present No nasogastric, feeding tubes or PEG tubes present</p>
<p>GENITOURINARY: Color: Character: Quantity of urine: Pain with urination: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Dialysis: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Inspection of genitals: Catheter: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Type: Size:</p>	<p>Patient has urine that is yellow in color and clear. Quantity of urine is within normal limits. No pain with urination. The patient is not on dialysis. Upon inspection, genitals appear to have no masses or swelling. The patient is does not have a catheter and goes to the bathroom with assistance.</p>
<p>MUSCULOSKELETAL: Neurovascular status:</p>	<p>. Normal neurovascular status.</p>

<p>ROM: Supportive devices: Strength: ADL Assistance: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> Fall Risk: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Fall Score: 45 Activity/Mobility Status: Independent (up ad lib) No Needs assistance with equipment: Yes Needs support to stand and walk: Yes</p>	<p>Normal ROM in upper Limbs. Patient states that he is a bit weak in his lower extremities and needs assistance ambulating sometimes. Patient sometimes uses a walker. Patient has equal strength in both arms The patient's Morse falls Scale scoring is 45 Patient is not currently on bed rest Patient needs assistance getting out of bed and going to the bathroom.</p>
<p>NEUROLOGICAL: MAEW: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> PERLA: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Strength Equal: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> if no - Legs <input type="checkbox"/> Arms <input type="checkbox"/> Both <input checked="" type="checkbox"/> Orientation: Mental Status: Speech: Sensory: LOC:</p>	<p>The patient can move all extremities. Strength is equal in upper extremities. And in the lower extremities. Patient is oriented to time, place, person, and situation. The patient can also follow directions. Patient exhibits typical behaviors and judgements. Patient can speak clearly and at an appropriate pace. No sensory impairment indicated. Patient is alert and aware of their surroundings.</p>
<p>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):</p>	<p>. Patient uses spending time with his cat as a coping mechanism. Developmental level consistent with age Patient is Buddhist and feels close to nature. The patient has recently developed a better relationship with his brother. Patient lives in a positive home environment.</p>

Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
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0800	83	113/85	15	97.8 F (tympanic)	95%
1100	98	123/86	16	97.4 F (tympanic)	97%

Vital Sign Trends/Correlation:

The patient seemed to stay consistent with his vitals. There are no critical changes and the vitals stayed within the normal limits. There was a slight increase in pulse, B/P, respiratory rate, and oxygen saturation and a slight decrease in temperature, but these findings are not concerning at all.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0800	Numeric	Chest	2	The patient states that it is minimally uncomfortable where the tubes were inserted	The patient is on a scheduled pain medication regimen. No interventions were done at the time.
1100	Numeric	Chest	2	The patient still states the tubes feel uncomfortable	The patient was given a scheduled dose of pain medication.

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: Location of IV: Date on IV: Patency of IV: Signs of erythema, drainage, etc.: IV dressing assessment:	20 gauge The IV is located in the right antecubital 1/11/2023 The IV displays patency No signs of drainage or erythema Dressing is clean and intact. The IV is a saline lock.
Other Lines (PICC, Port, central line, etc.)	
Type: Size: Location: Date of insertion: Patency: Signs of erythema, drainage, etc.: Dressing assessment: Date on dressing: CUROS caps in place: Y <input type="checkbox"/> N <input checked="" type="checkbox"/> CLABSI prevention measures: N/A	Chest tube 28 fr Left pleural space between the 4 th and 5 th intercostal space. 1/11/2023 Drainage present Dressing is clean and intact. Some moisture is present on the dressing, but that is expected. 1/11/2023 No CUROS caps present

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
Water 500 mL Water 220 mL IV solution = 200 mL Total = 920 mL	Chest tube drainage = 200 mL Urine = 760 mL Total =965 mL

Nursing Care

Summary of Care (2 points)

Overview of care: The patient had chest tubes put into place and was admitted to the CCU. The patient was having routine alteplase administered every 8 hours, that could only be administered by a physician. The patient did not leave the unit. The client complained of mild pleural pain. The vital signs remained stable. Patient was repositioned every 2 hours and monitored and is set to be discharged as soon as he can find a restorative care facility willing to take him.

Procedures/testing done: The patient has had chest tube insertion before being admitted to the CCU. The patient currently has alteplase administered through the chest tube by a physician.

Complaints/Issues: The patient complains of mild chest discomfort.

Vital signs (stable/unstable): The patient's vital signs are stable.

Tolerating diet, activity, etc.: The patient is tolerating diet well. The patient gets fatigued with activity.

Physician notifications: The physician was notified during briefing about patient's improved condition.

Future plans for client: The client is to be discharged as soon as a restorative care center is willing to take in the client.

Discharge Planning (2 points)

Discharge location: The patient needs to be admitted to a restorative care center, however, the patient has not been placed yet.

Home health needs (if applicable): After rehabilitation the patient may need home health care needs.

Equipment needs (if applicable): The patient will need a walker.

Follow up plan: The patient is to follow up with his primary care doctor or specialty care provider.

Education needs: The patient needs to be educated about energy conservation and to space out tasks to avoid activity fatigue. The patient also needs oxygen safety education.

Nursing Diagnosis (15 points)

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

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

<p>related to thickened fluid in the lung as evidenced by chest tube occlusion.</p>	<p>was chosen because the patient is unable to clear excess secretions around his lungs due to a blockage in the chest tube.</p>	<p>that promotes postural drainage.</p> <p>2. Ensure the patient is adequately hydrated to thin the secretions.</p>	<p>interventions is to ensure the chest tubes are draining effectively and to also ensure that those secretions thin out, which is why hydration is important.</p>	<p>the nursing actions. He understood the importance of posturing and was compliant. The patient was positioned upright slightly leaning towards the left. This promoted more drainage from the chest tube. The patient was also given fluids and educated about the importance of hydration after discharge.</p>
<p>2. Ineffective breathing pattern related to decreased lung expansion from built up fluid as evidenced the presentation of dyspnea.</p>	<p>This nursing diagnosis was chosen because the patient wasn't able to have an adequate amount of oxygen due to difficulty breathing.</p>	<p>1. Assess respiratory vitals every 4 hours and report changes to provider.</p> <p>2. Encourage frequent rest periods when completing activities of daily living.</p>	<p>1. The outcome of these interventions is to catch any signs of breathing difficulties before they worsen and to also maintain normal respirations by not overexerting during activity.</p>	<p>The goal was met. The patient had respirations checked every 4 hours. The respirations were within normal limits and the results were charted in the EMR. The patient was also educated about conserving energy to prevent overexertion and to prevent an increase in respirations.</p>
<p>3. Risk for infection related to chest tube insertion as</p>	<p>This nursing diagnosis was chosen</p>	<p>1. Monitor temperature to screen if the patient</p>	<p>1. The outcomes of these interventions</p>	<p>The goals were met. The patient was receiving</p>

<p>evidenced by a chest tube being a potential portal of entry (Ravi & McKnight, 2022).</p>	<p>because this patient is at risk for infection due to the chest tube being an opening in which bacteria, viruses, or other pathogens can enter.</p>	<p>becomes febrile.</p> <p>2. Ensure the patient, visitors, and medical staff adhere to hand hygiene precautions.</p>	<p>is to prevent the infections from keeping pathogens away from the chest tube opening, and to catch any signs of infection so that early treatment may be initiated.</p>	<p>frequent temperature checks, which were documented. Medical staff involved in the patient’s care followed hand hygiene precautions and the patient was educated about the importance of hygiene and reducing the risk of infection.</p>
<p>4. Activity intolerance related a decrease in oxygen supply as evidenced by dyspnea.</p>	<p>This nursing diagnosis was chosen because the patient is displaying activity intolerance when partaking in activities of daily living.</p>	<p>1. Provide periods of rest.</p> <p>2. Place frequently used items close to the patient.</p>	<p>1. The outcomes of these interventions is to conserve energy by avoiding activity fatigue. The periods of rest can help to build up energy if the patient needs to ambulate. Placing the items close to the patient helps them to not overexert.</p>	<p>The goals were met. The patient rested frequently and items that the patient needed, such as his glasses, his water, and his phone were placed near his bedside.</p>
<p>5. Knowledge deficit related to smoking cessation as evidenced as the patient stating that he survived lung cancer while smoking and didn’t need to</p>	<p>This nursing diagnosis was chosen because the patient doesn’t understand the</p>	<p>1. Explore the patient’s reactions about change.</p> <p>2. Help patient develop a plan about quitting</p>	<p>1. The outcomes of these interventions should be that the patient recognizes that change is necessary for</p>	<p>Goal not met. The patient’s reactions were explored, however, the patient was not ready to change. The patient stated</p>

stop.	importance of smoking cessation.	smoking.	their health and that developing a plan of action can possibly prevent more lung damage.	that he didn't want to quit smoking.
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Ravi, C., & McKnight, C. L. (2022). *Chest tube*. Stat pearls

<https://www.ncbi.nlm.nih.gov/books/NBK459199/>

Other References (APA):

Concept Map (20 Points):

Subjective Data

The patient states that he is feeling “suffocated” and that he can’t breathe. Patient says that his pain crampy. The patient states that he feels “scared”. The patient states that he feels this way “constantly”.

- Ineffective airway clearance related to thickened fluid in the lung as evidenced by chest tube occlusion. The outcome of these interventions is to ensure the chest tubes are draining effectively and to also ensure that those secretions thin out, which is why hydration is important.
- Ineffective breathing pattern related to decreased lung expansion from built up fluid as evidenced the presentation of dyspnea. The outcome of these interventions is to catch any signs of breathing difficulties before they worsen and to also maintain normal respirations by not overexerting during activity.
- Risk for infection related to chest tube insertion as evidenced by a chest tube being a potential portal of entry (Ravi & McKnight, 2022). The outcomes of these interventions are to prevent the infections from keeping pathogens away from the chest tube opening, and to catch any signs of infection so that early treatment may be initiated.
- Activity intolerance related a decrease in oxygen supply as evidenced by dyspnea. The outcomes of these interventions are to conserve energy by avoiding activity fatigue. The periods of rest can help to build up energy if the patient needs to ambulate. Placing the items close to the patient helps them to not overexert.
- Knowledge deficit related to smoking cessation as evidenced as the patient stating that he survived lung cancer while smoking and didn’t need to stop. Goal not met. The patient’s reactions were explored; however, the patient was not ready to change. The patient stated that he didn’t want to quit smoking.

Objective Data

The patient has a heart rate of 83. The patient has a respiratory rate of 15. The patient has a blood pressure of 113/85. The patient has an spO2 of 95%. The patient is 182.9 cm tall. The patient weighs 78.4 kg.

Client Information

The patient is a 64 year old white male who was admitted for a pleural effusion. He lives with his cat, which he as a close bond with. He is a Buddhist and loves nature. He smokes 0.5 packs a day and has for 50 years. He drinks one can of beer a day.

Nursing Interventions

- Place the patient in a position that promotes postural drainage.
- Ensure the patient is adequately hydrated to thin the secretions.
- Assess respiratory vitals every 4 hours and report changes to provider.
- Encourage frequent rest periods when completing activities of daily living.
- Monitor temperature to screen if the patient becomes febrile.
- Ensure the patient, visitors, and medical staff adhere to hand hygiene precautions.
- Provide periods of rest.
- Place frequently used items close to the patient.
- Explore the patient’s reactions about change.
- Help patient develop a plan about quitting smoking.

