N311 Care Plan #3

Lakeview College of Nursing

Ashley Matusiak

## Demographics (5 points)

| Date of Admission 10/26/20 | Patient Initials M. S. | Age 64 | Gender Male |
|---|---|---|---|
| Race/Ethnicity Caucasian | Occupation Agriculture | Marital Status Married | Allergies No Known Allergies |
| Code Status Full Code | Height 6' (182.9 cm) | Weight 119.3 Kg (263 lbs) | |

## Medical History (5 Points)

**Past Medical History:** Arthritis, Gout, Hypertension, Pulmonary Embolism, Hyperlipidemia,

Cancer, Congestive Heart Failure, COPD, Diabetes, Asthma

**Past Surgical History:** Carpal Tunnel Release (Left), Cystoscopy, Kidney Removal (Left),

Total Knee Replacement (Right)

**Family History:** Mother's Side: Cancer, Father's Side: Heart Disease

**Social History (tobacco/alcohol/drugs):** Former Tobacco smoker: Quit in 2003, used to smoke

half a pack a day, Years since quitting: 17.8, Smokeless Tobacco: Former User, Alcohol: 3.3

Standard drinks a week, 2 cans of beer a week, no recreational drug use

## Admission Assessment

**Chief Complaint (2 points):** Dyspnea (Shortness of Breath)

**History of present Illness (10 points): Onset:** On October 26th, a 64 y/o white, married, male

was admitted to St. Anthony's Hospital for increasing shortness of breath. **Location:** Pt reported

dyspnea, and tightness in his chest. **Duration:** Pt noted some mild shortness of breath over the

last few mornings, but on the morning of the 26th his shortness of breath seemed to be worse.

**Characteristics:** Pt reports his chest feeling tight, dyspnea, and mild palpations. Pt also stated, "I

had a PE before and my pain feels the same as when that happened". **Aggravating Factors:**

Moving too much exacerbates his pain. **Relieving Factors:** Sitting up in his chair makes it easier

to breath. **Treatment:** Pt reports taking his coumadin which was prescribed after his last PE

episode.

<div align="center">

**Primary Diagnosis**

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**Primary Diagnosis on Admission (3 points):** Ineffective Breathing Pattern

**Secondary Diagnosis (if applicable):** N/A

**Pathophysiology of the Disease, APA format (20 points):** Pulmonary Embolisms (PE) can occur

when a venous thrombus travels from the leg vein into the inferior vena cava and then continues upward

into the right side of the heart, which is then pumped into the pulmonary arterial circulation (Capriotti,

2020, p. 461). As soon as the blood clot enters the pulmonary circulation it is considered a PE, which is

frequently fatal because PE's block blood flow to the lungs (Capriotti, 2020, p. 461). A PE can also

obstruct the diffusion of oxygen into the bloodstream. A PE in the pulmonary artery can also raise the

pressure in that artery which can cause an overwhelming amount of resistance against the right ventricle

(Capriotti, 2020, p. 410). This pressure can rapidly weaken the right ventricular muscle, and can

eventually lead to acute right ventricular failure, if the PE is not resolved in time (Capriotti, 2020, p. 410).

Pulmonary embolisms are a serious risk to the pt, because 30% of pts with a PE die within the first year

following the diagnosis of their PE (Capriotti, 2020, p. 461). The formation of deep vein clots is

contributed to Virchow's triad, which has to do with venous stasis, vessel injuries, and the

hypercoagulability of blood (Caproitti, 2020, p. 461). Venous stasis refers to the poor return of venous

blood, which if not moved properly tends to pool in the lower extremities and causes the stagnant blood to

form clots (Caproitti, 2020, p. 461). The pt I treated had swelling in his legs which is a symptom of poor

venous return. Vessel injuries can cause a thrombus due endothelial injuries, inflammation, and platelet

aggregation causing a coagulation cascade, which makes the blood thicken and form clots (Caproitti,

2020, p. 461). Certain conditions like cancer or an increase in estrogen can also cause the blood to clot

(Caproitti, 2020, p. 461). On a cellular level blood clots inside of veins due to activated endothelial cells

releasing glycoprotein which causes platelet and neutrophil adhesion (NCBI, 2013). Platelets then recruit tissue-factor microparticles and generate fibrin, which is a fibrous mesh that impedes the flow of blood (NCBI, 2013). Neutrophils release extracellular traps, which are fibers made of neutrophil DNA meant for trapping pathogens, but in a clot this mechanism produces an additional scaffold, enhancing thrombus growth (NCBI, 2013). Clots in the pulmonary arteries affect each body system because they cause lack of blood flow and oxygen to the rest of the body which can cause sudden death.

Signs and symptoms of a PE can vary greatly depending on how much of the lung is involved, the size of the thrombus, and underlying health conditions such as heart and lung disease. Pulmonary embolisms are dangerous because symptoms often are not present, or they are subtle and resemble other clinical disorders (Capriotti, 2020, p. 462). Some major symptoms of a PE include chest pain, shortness of breath, and coughing sometimes accompanied with coughing up blood (Mayo Clinic, 2020). Other symptoms can include heart palpations, light headedness, sweating, fever, leg pain or swelling, and discolored skin (Mayo Clinic, 2020). The pt I treated had chest pain, heart palpitations, leg swelling, and shortness of breath.

Diagnosis of a PE cannot be based off signs and symptoms because symptoms are often not present, or very similar to other clinical disorders, so tests for a PE are required (Capriotti, 2020, p. 462). A D-dimer test should be done to detect the presence of fibrin in the blood, along with the Wells criteria to evaluate the signs of a deep vein thrombosis if leg pain is present (Capriotti, 2020, p. 462). However the best test to detect a PE is a high-resolution multidetector CT pulmonary angiography along with a ventilation-perfusion scan that detects a lack of circulation in the lungs where a PE is located (Capriotti, 2020, p.462). A troponin quant test is also done to see if the heart has been damaged, because troponin is a cardiac specific protein that is in the blood following a PE, or any other heart damaging injuries (Capriotti, 2020, p. 462). The pt I treated had an elevated troponin level, and a CTA done on his chest to diagnosis his PE.

Treatment of a PE is mostly preventative care to not have another. Sequential venous compression devices such as antiembolism stockings should be used to promote venous return of blood to limit pooling in the legs (Capriotti, 2020, p. 462). Pts with a history of PE should also elevate feet, and never sit or stand too long to promote venous return to the heart (Capriotti, 2020, p. 462). Anticoagulants such as heparin or warfarin should also be used to thin the blood and prevent clots from forming in the first place (Capriotti, 2020, p. 462). A green filter can also be placed in the IVC to trap clots from moving up and becoming a PE (Capriotti, 2020, p. 462). To treat a PE, clot busters should be used to dissolve existing clots (Capriotti, 2020, p. 462). The patient I treated was given warfarin to dissolve his clot, which eventually cured his PE and restored blood flow to his lungs.

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

Alias, S., & Lang, I. (2013, December). Coagulation and the vessel wall in pulmonary embolism. Retrieved October 29, 2020, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4070824/

Capriotti, T. (2020). *Davis advantage for pathophysiology: Introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis.

Pulmonary embolism. (2020, June 13). Retrieved October 29, 2020, from https://www.mayoclinic.org/diseases-conditions/pulmonary-embolism/symptoms-causes/syc-20354647

Pulmonary Embolism. (n.d.). Retrieved October 29, 2020, from https://www.hopkinsmedicine.org/health/conditions-and-diseases/pulmonary-embolism

**Laboratory Data (20 points)**
***If laboratory data is unavailable, values will be assigned by the clinical instructor***

**CBC** <mark>Highlight All Abnormal Labs</mark>**—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 | 4.40-5.50 x10^6 | 5.12 | 5.27 | |
| Hgb | 13.1-16.0 | 15.5 | 15.9 | |
| Hct | 39.8-48.5% | 48.2 | <mark>48.8</mark> | Higher than normal levels of Hct can indicate dehydration, and also lung or heart disease (Mayo Clinic, 2019). |
| Platelets | 145-358 x10^3 | 230 | 225 | |
| WBC | 4.6-9.1 x10^3 | 6.4 | 6.1 | |
| Neutrophils | 2.30-5.70 x10^3 | 4.59 | 4.28 | |
| Lymphocytes | 1.10-3.30 x10^3 | <mark>.81</mark> | <mark>.74</mark> | Low lymphocyte levels could be a sign of infection, or be caused by pts arthritis (Healthline, 2019). |
| Monocytes | 0.30-0.80 x10^3 | .72 | <mark>.83</mark> | High monocyte levels could be a sign of infection (Healthline, 2019). |
| Eosinophils | 0.03-0.45 x10^3 | .21 | .19 | |
| Bands | N/A | | | |

**Chemistry** <mark>Highlight All Abnormal Labs</mark>**—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 | 139 | 137 | |
| K+ | 3.5-5.1 | 4.4 | 3.8 | |
| Cl- | 98-107 | <mark>110</mark> | 106 | High Cl- levels may indicate a problem with Pts kidney |

| | | | | (Healthline, 2018). |
|---|---|---|---|---|
| CO2 | 21-32 | 23 | 26 | |
| Glucose | 74-106 | <mark>129</mark> | <mark>123</mark> | High glucose could be caused by pts diabetes (Mayo Clinic, 2020). |
| BUN | 7-18 | 15 | <mark>22</mark> | High BUN levels may indicate kidney is not functioning properly (Mayo Clinic, 2019). |
| Creatinine | 0.70-1.30 | 1.11 | 1.20 | |
| Albumin | 3.4-5.0 | 3.4 | N/A | |
| Calcium | 8.5-10.1 | 8.8 | 8.9 | |
| Mag | 1.6-2.6 | 1.7 | 2.0 | |
| Phosphate | N/A | | | |
| Bilirubin | 0.2-1.0 | 0.8 | N/A | |
| Alk Phos | 45-117 | 99 | N/A | |

Urinalysis <mark>Highlight All Abnormal Labs</mark>—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 | N/A | |
| pH | 5.0-9.0 | 8.0 | N/A | |
| Specific Gravity | 1.003-1.030 | 1.008 | N/A | |
| Glucose | Normal | Normal | N/A | |
| Protein | Negative | Negative | N/A | |
| Ketones | Negative | Negative | N/A | |
| WBC | 0-5 HPF | 0-5 | N/A | |
| RBC | 0-5 HPF | 0-5 | N/A | |

| Leukoesterase | Negative | Negative | N/A | |
|---|---|---|---|---|

**Cultures <mark>Highlight All Abnormal Labs</mark>—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** | **N/A** | | | |
| **Blood Culture** | **N/A** | | | |
| **Sputum Culture** | **N/A** | | | |
| **Stool Culture** | **N/A** | | | |

**Lab Correlations Reference (APA):**

Blood urea nitrogen (BUN) test. (2019, July 02). Retrieved October 29, 2020, from https://www.mayoclinic.org/tests-procedures/blood-urea-nitrogen/about/pac-20384821

Cafasso, J. (2018, September 18). Hyperchloremia (High Chloride Levels): Treatment and Causes. Retrieved October 29, 2020, from https://www.healthline.com/health/hyperchloremia

Hematocrit test. (2019, February 12). Retrieved October 29, 2020, from https://www.mayoclinic.org/tests-procedures/hematocrit/about/pac-20384728

Hyperglycemia in diabetes. (2020, June 27). Retrieved October 29, 2020, from https://www.mayoclinic.org/diseases-conditions/hyperglycemia/symptoms-causes/syc-20373631

Lymphocytopenia: Causes, Symptoms, and Treatment. (n.d.). Retrieved October 29, 2020, from https://www.healthline.com/health/lymphocytopenia

Monocytes High: What Does It Mean If Monocytes Are Elevated? (n.d.). Retrieved October 29, 2020, from https://www.healthline.com/health/monocytes-high

**Diagnostic Imaging**

**All Other Diagnostic Tests (10 points):**

**Troponin quant test: <0.015 ng/ml**

**CTA Chest: Improving left-sided pulmonary emboli, thrombus burden now minimal, there**

**is no evidence of a new pulmonary embolism**

**XR Chest Portable: Stable chest no acute findings**

**Current Medications (10 points, 2 points per completed med)**
***5 <u>different</u> medications must be completed***

**Medications (5 required)**

| **Brand/** | | | | | |
|---|---|---|---|---|---|

| Generic | Zyloprim | Pepcid | Cozaar | Lopressor | Warfarin |
|---|---|---|---|---|---|
| Dose | 100 mg | 40 mg | 50 mg | 100 mg | 6 mg |
| Frequency | Daily | Daily | Daily | 2 times Daily | Daily |
| Route | Oral | Oral | Oral | Oral | Oral |
| Classification | Xanthine oxidase inhibitor | H2 Blocker | Angiotensin receptor blockers | Beta Blocker | Anticoagulant |
| Mechanism of Action | Reduces both the serum and urinary uric acid levels by inhibiting the formation of uric acid | Decreases amount of acid stomach makes | Metabolically blocks the vasoconstrictor and aldosterone-secreting effects of angiotensin II by selectively blocking the binding of angiotensin II to the $AT_1$ receptor found in many tissues | Blocks the action of certain natural chemicals in your body, such as epinephrine, on the heart and blood vessels | Inhibits the vitamin (VKORC1), which is an essential enzyme for activating the vitamin K available in the body. Through this mechanism, warfarin can deplete functional vitamin K reserves and therefore reduce the synthesis of active clotting factors |
| Reason Client Taking | Control pts Gout | For pts heart burn | For pts hypertension | Treats high blood pressure | Reduce blood clots |
| Contraindications (2) | prolongs the half-life of the anticoagulant, dicumarol, ampicillin | Other products that contain famotidine or other H2 blockers (cimetidine, nizatidine, ranitidine) | Potassium, NSAIDs | Fingolimod, lumefantrine | Hemorrhagic tendencies, reduced renal function |

| Side Effects/Adverse Reactions (2) | Diarrhea, rash | Headache, constipation | Nausea, Constipation | Drowsiness, dizziness | Bleeding, Nausea |
|---|---|---|---|---|---|

**Medications Reference (APA):**

Cozaar (Losartan Potassium): Uses, Dosage, Side Effects, Interactions, Warning. (2020, July 14). Retrieved October 30, 2020, from https://www.rxlist.com/cozaar-drug.htm

Lopressor Oral : Uses, Side Effects, Interactions, Pictures, Warnings & Dosing. (n.d.). Retrieved October 30, 2020, from https://www.webmd.com/drugs/2/drug-6879/lopressor-oral/details

Patel, S. (2020, September 28). Warfarin. Retrieved October 30, 2020, from https://www.ncbi.nlm.nih.gov/books/NBK470313/

Pepcid Oral : Uses, Side Effects, Interactions, Pictures, Warnings & Dosing. (n.d.). Retrieved October 30, 2020, from https://www.webmd.com/drugs/2/drug-1821-2033/pepcid-oral/famotidine-oral/details

Zyloprim (allopurinol) for Gout and Kidney Stones: Uses, Dosage, Side Effects, Interactions, Warnings. (n.d.). Retrieved October 30, 2020, from https://www.rxlist.com/zyloprim-drug.htm

**Assessment**

**Physical Exam (18 points)**

| | |
|---|---|
| **GENERAL:**<br>**Alertness:**<br>**Orientation:**<br>**Distress:**<br>**Overall appearance:** | **Alert and oriented**<br>**X4**<br>**No distress**<br>**Well-groomed and appropriately dressed** |
| **INTEGUMENTARY:**<br>**Skin color:**<br>**Character:**<br>**Temperature:**<br>**Turgor:**<br>**Rashes:**<br>**Bruises:**<br>**Wounds:** .<br>**Braden Score:**<br>**Drains present:  Y☐       N ☒**<br>   **Type:** | **Pink**<br>**Dry/Normal**<br>**Warm**<br>**Normal Turgor 2+**<br>**None**<br>**Rt arm bruise at IV site**<br>**21** |
| **HEENT:**<br>**Head/Neck:**<br>**Ears:**<br>**Eyes:**<br>**Nose:**<br>**Teeth:** | **Head and neck symmetrical, normal cephalic, pts ears free of discharge, difficulty hearing: no hearing aids, eyes symmetrical, EOM, nose symmetry, no deviation, teeth normal, gums pink**<br><br>. |
| **CARDIOVASCULAR:**<br>**Heart sounds:**<br>**S1, S2, S3, S4, murmur etc.**<br>**Cardiac rhythm (if applicable):**<br>**Peripheral Pulses:**<br>**Capillary refill:**<br>**Neck Vein Distention:   Y ☐   N ☒**<br>**Edema Y ☒    N ☐**<br>**Location of Edema:** | **S1 and S2 sounds heard, rhythm is irregular, no gallops or rubs detected, Capillary refill less than 3 seconds, peripheral pulses 2+ symmetric, no neck vein distention, edema in feet** |
| **RESPIRATORY:**<br>**Accessory muscle use:   Y☐       N ☒**<br>**Breath Sounds: Location, character** | **Respirations are regular, even and nonlabored, symmetrical, no wheezes or crackles noted** |
| **GASTROINTESTINAL:**<br>**Diet at home:**<br>**Current Diet**<br>**Height:**<br>**Weight:**<br>**Auscultation Bowel sounds:**<br>**Last BM:** | **No special diet at home tries to limit fats sodium**<br>**No current diet in hospital**<br>**6'**<br>**263 lbs**<br>**Bowel sounds normoactive in all 4 quadrants**<br>**This morning** |

| | |
|---|---|
| **Palpation: Pain, Mass etc.:**<br>**Inspection:**<br>   **Distention:**<br>   **Incisions:**<br>   **Scars:**<br>   **Drains:**<br>   **Wounds:**<br>**Ostomy:  Y ☐    N ☒**<br>**Nasogastric:   Y ☐   N ☒**<br>   **Size:**<br>**Feeding tubes/PEG tube   Y ☐    N ☒**<br>   **Type:** | **No CVA tenderness**<br>**No abnormalities found upon inspection for distention, incisions, scars, drains, or wounds** |
| **GENITOURINARY:**<br>**Color:**<br>**Character:**<br>**Quantity of urine:**<br>**Pain with urination:  Y ☐    N ☒**<br>**Dialysis:  Y ☐    N ☐**<br>**Inspection of genitals:**<br>**Catheter: Y ☐   N ☒**<br>   **Type:**<br>   **Size:** | **Yellow**<br>**Not cloudy, clear**<br>**Voided 1x** |
| **MUSCULOSKELETAL:**<br>**Neurovascular status:**<br>**ROM:**<br>**Supportive devices:**<br>**Strength:**<br>**ADL Assistance:  Y☐  N ☒**<br>**Fall Risk:    Y ☐  N☒**<br>**Fall Score:**<br>**Activity/Mobility Status:**<br>**Independent (up ad lib) ☐**<br>**Needs assistance with equipment ☐**<br>**Needs support to stand and walk ☐** | **Normal ROM**<br>**Strength in upper and lower extremities**<br>**No supportive devices**<br>**Strength in arms and legs strong**<br><br>**Fall score: 2**<br><br>**Can ambulate alone** |
| **NEUROLOGICAL:**<br>**MAEW:  Y ☒      N☐**<br>**PERLA:   Y ☒      N☐**<br>**Strength Equal:  Y ☒  N ☐  if no -**<br>**Legs ☐  Arms ☐   Both ☐**<br>**Orientation:**<br>**Mental Status:**<br>**Speech:**<br>**Sensory:**<br>**LOC:** | **Cognitive of space, time, and location**<br>**Articulative speech**<br>**Mature and cognitive**<br>**Alert**<br>**No gross focal neurological deficits** |

| 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): | Friends/wife Mature Protestant Pt cares for himself, wife also helps him at home |
|---|---|

## Vital Signs, 1 set (5 points)

| Time | Pulse | B/P | Resp Rate | Temp | Oxygen |
|---|---|---|---|---|---|
| 11:00am | 72 | 130/70 | 18 | 97.6 | 95 |

## Pain Assessment, 1 set (5 points)

| Time | Scale | Location | Severity | Characteristics | Interventions |
|---|---|---|---|---|---|
| 11:00am | Numeric 0-10 | chest | 0/10 | Pt feeling much better, ready to go home | N/A |

## Intake and Output (2 points)

| Intake (in mL) | Output (in mL) |
|---|---|
| Breakfast: Cereal, toast 100% 400 ml | 400 ml 200 ml BM:1 |

**Nursing Diagnosis (15 points)**
***Must be NANDA approved nursing diagnosis***

| Nursing Diagnosis<br>• Include full nursing diagnosis with "related to" and "as evidenced by" components | Rational<br>• Explain why the nursing diagnosis was chosen | Intervention (2 per dx) | Evaluation<br>• How did the patient/family respond to the nurse's actions?<br>• Client response, status of goals and outcomes, modifications to plan. |
|---|---|---|---|
| 1. **Ineffective Breathing Pattern** | **Related to PE symptoms, as evidenced by "I couldn't catch my breath that morning"** | **1.Place pt upright for maximum breathing pattern.**<br><br>**2.Encourage deep breathing exercises.** | **Goal met, pt sat up in chair most of the day**<br><br>**Goal met, pt was feeling much better when I left pain was 0/10** |
| 2. **Acute Pain** | **Related to PE symptoms, as evidenced by "My chest feels tight" And "my legs feel sore"** | **1. Put pts feet up on pillow.**<br><br>**2.Make pt ambulate to increase blood circulation.** | **Goal met, feet put on pillow to elevate, pain was 0/10**<br><br>**Goal met, pt walked around room, legs feel much better.** |

**Other References (APA):**

**Concept Map (20 Points):**

**Subjective Data**

Pt states "I couldn't catch my breath that morning"
Pt states "My chest feels tight"
Pt states "my legs feel sore"

**Nursing Diagnosis/Outcomes**

Ineffective Breathing Pattern, Related to PE symptoms, as evidenced by "I couldn't catch my breath that morning"
-Goal met, pt sat up in chair most of the day
-Goal met, pt was feeling much better when I left pain was 0/10, did deep breathing exercises
2. Acute Pain, Related to PE symptoms, as evidenced by "My chest feels tight", And "my legs feel sore"
-Goal met, feet put on pillow to elevate, pain was 0/10
-Goal met, pt walked around room, legs feel much better.

**Objective Data**

Clients chief complaint is shortness of Breath. He is later diagnosed with PE
BP:130/70
RR: 18
Temp:98.6
SpO2: 95
Pulse: 72

**Patient Information**

CTA Chest shows improving left-sided pulmonary emboli, thrombus burden is now minimal, there is no evidence of a new pulmonary embolism

**Nursing Interventions**

1.Put pts feet up on pillow.
2.Make Pt ambulate
3.Encourage deep breathing exercises
4.Sit client up in chair