N311 Care Plan 4

Benjamin Ruettiger

Lakeview College of Nursing

N311: Foundations of Professional Practice

Travis Whisman

November 3rd, 2024

Demographics (5 points)

Date of Admission	**Client Initials**	**Age**	**Gender**
10/24/2024	D.C.	76	Female
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
Caucasian	Unemployed	Married	Aspirin (swelling) Ibuprofen (trouble breathing) Lisinopril (swelling) Bentyl (intolerance) Prednisone (headache)
Code Status	**Height**	**Weight**	
Full Code	5’3” (160 cm)	217 lbs (98.4 kg)	

Medical History (5 Points)

Past Medical History: Insulin-dependent diabetes mellitus, hypertension, hyperlipidemia, displaced right hip fracture, congestive heart failure, encephalitis, fatty liver disease, gastroesophageal reflux disorder, Guillain-Barré Syndrome, morbid obesity, osteoarthrosis, sleep apnea, uterine cancer, depression

Past Surgical History: Open reduction and internal fixation of right ankle, cataract removal, colonoscopy with polypectomy, hysterectomy, left total knee arthroplasty, right total knee arthroplasty

Family History: No family history noted in EHR, patient unable to give proper family history.

Social History (tobacco/alcohol/drugs including frequency, quantity and duration of use): Patient stated no history of tobacco use, no alcohol use. Patient is married and lives with her husband in a single family home. Patient uses a cane and walker as assistive devices.

Admission Assessment

Chief Complaint (2 points): Fall, Shortness of breath

History of Present Illness – OLD CARTS (10 points): Patient was getting out of bed early this morning when her left leg gave out. Family called emergency services where she was found on the floor post fall, and had decreased oxygenation with a saturation of 88% on room air. Patient was given supplemental oxygen and then taken to the emergency department. Patient did not state pain, but emphasized difficulty breathing and a decline in motility and activities of daily living. Upon emergency department admission she was found to be in respiratory distress, to which the team ordered imaging and bloodwork. Bloodwork showed an elevated troponin level, and the chest xray showed atelectasis and a defect in her pulmonary artery. There was concern for a pulmonary embolism so she was started on a heparin drip before being transferred to the floor.

Primary Diagnosis

Primary Diagnosis on Admission (3 points): Pulmonary embolism (PE)

Secondary Diagnosis (if applicable): Debility (physical weakness)

Pathophysiology

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

The pathogenesis of a pulmonary embolism (PE) is dictated by Virchow's Triad that include venous stasis, endothelial injury, and a hypercoagulable state (Shah et. al, 2022). Typically an embolus forms in the lower extremities and travels to the pulmonary artery, creating a blockage that can be life threatening. The patient presented with shortness of breath post fall, so imagining and lab work ordered and helped to clarify the diagnosis of a PE. According to Shah et. al (2022), hypoxia is common in the setting of PE and the degree of respiratory

compromise is multifactorial and influenced by underlying cardiac function, clot location, and ability to compensate with respiratory mechanics.

In a PE an embolus is blocking blood flow to a portion of the lung which decreases the effectiveness of gas exchange. This results in a ventilation to perfusion mismatch as alveoli remain ventilated but lack adequate blood flow to facilitate oxygen exchange (Mcguire et. al, 2024). This then leads to systemic hypoxia and the obstruction of blood flow can lead to further weakening of the heart tissue.

As evidenced in the lab work obtained upon ED admission, the patient's elevated troponin levels may be caused by the strain on her heart from the obstruction of blood flow. Her history of congestive heart failure coupled with this may indicate cardiac ischemia. According to McGuire et. al (2024) the right ventricle is especially susceptible to failure in response to increases in vascular resistance, as seen in patients with an acute pulmonary embolism.

Pathophysiology References (2) (APA):

McGuire, W. C., Sullivan, L., Odish, M. F., Desai, B., Morris, T. A., & Fernandes, T. M. (2024). Management strategies for acute pulmonary embolism in the ICU. *CHEST*. https://doi.org/10.1016/j.chest.2024.04.032

Shah, I. K., Merfeld, J. M., Chun, J., & Tak, T. (2022). Pathophysiology and Management of Pulmonary Embolism. *The International journal of angiology : official publication of the International College of Angiology, Inc*, *31*(3), 143–149. https://doi.org/10.1055/s-0042-1756204

Laboratory Data (20 points)

If laboratory data is unavailable, values will be assigned by the clinical instructor

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal	Admission	Today's	Reason for Abnormal Value

	Range	Value	Value	
RBC	3.8-5.3	3.96	3.95	N/A
Hgb	12.0-15.8	11.6	11.6	Hgb may be low due to nutritional deficiency or comorbidities (BC Cancer, n.d.).
Hct	36.0-47.0	33.9	35.0	Hct may be low due to nutritional deficiency and dehydration (BC Cancer, n.d.).
Platelets	140-440	159	226	N/A
WBC	4.00-12.00	6.40	6.80	N/A
Neutrophils	47.0-73.0	74.8	Not Done	Neutrophils may be high due to inflammation given pulmonary embolism (BC Cancer, n.d.).
Lymphocytes	18.0-42.0	11.5	Not Done	Lymphocytes may be high due to fighting inflammation given pulmonary embolism (BC Cancer, n.d.).
Monocytes	4-12	10.7	Not Done	N/A
Eosinophils	0.0-5.0	2.7	Not Done	N/A
Bands	0-6	Not Done	Not Done	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	139	140	N/A
K+	3.5-5.1	4.3	4.0	N/A
Cl-	98-107	105	100	N/A
CO2	22-30	29	32	CO2 may be high due to hemodynamic compromise (BC Cancer, n.d.).
Glucose	70-99	192	150	Glucose may be high due to history of

				diabetes (BC Cancer, n.d.).
BUN	10-20	26	50	BUN may be high due to right ventricular dysfunction (Jenab et. al, 2020).
Creatinine	0.6-1.00	0.93	1.11	Creatinine may be high due to acute PE and kidney involvement (Plywaczewska et. al, 2022).
Albumin	3.5-5.0	2.6	2.6	N/A
Calcium	8.7-10.5	8.5	9.1	N/A
Mag	1.6-2.6	2.0	2.4	N/A
Phosphate	40-150	70	71	N/A
Bilirubin	0.1-1.2	0.3	Not Done	N/A
Alk Phos	44-147	70	Not Done	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	Clear + Yellow	Clear + Yellow	Not Done	N/A
pH	5.0-9.0	7.5	Not Done	N/A
Specific Gravity	1.003-1.030	1.020	Not Done	N/A
Glucose	Negative	Trace	Not Done	Glucose may be high due to history of diabetes (BC Cancer, n.d.).
Protein	Negative	3+	Not Done	Protein may be present due to kidneys not filtering efficiently given pulmonary embolism (BC Cancer, n.d.).
Ketones	Negative	Negative	Not Done	N/A

WBC	Negative, 0-5	0-5	Not Done	N/A
RBC	Negative, 0-5	0-5	Not Done	N/A
Leukoesterase	Negative	Trace	Not Done	Leukoesterase may be present due to urinary tract infection (BC Cancer, n.d.).

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	Negative	Not Done	N/A
Blood Culture	Negative	Not Done	Not Done	N/A
Sputum Culture	Negative	Not Done	Not Done	N/A
Stool Culture	Negative	Not Done	Not Done	N/A

Lab Correlations Reference (1) (APA):

BC Cancer Foundation. (n.d.) *Lab test confirmation table.* http://www.bccancer.bc.ca/pharmacy-site/Documents/Clinical_Pharmacy_Guide/cpg3e-lab-test-table.pdf

Jenab, Y., Haji-Zeinali, A. M., Alemzadeh-Ansari, M. J., Shirani, S., Salarifar, M., Alidoosti, M., Vahidi, H., Pourjafari, M., & Jalali, A. (2020). Does Baseline BUN Have an Additive Effect on the Prediction of Mortality in Patients with Acute Pulmonary Embolism?. *The journal of Tehran Heart Center*, *15*(2), 57–63. https://doi.org/10.18502/jthc.v15i2.4184

Pływaczewska, M., Pruszczyk, P., & Kostrubiec, M. (2022). Does kidney function matter in pulmonary thromboembolism management?. *Cardiology journal*, *29*(5), 858–865. https://doi.org/10.5603/CJ.a2021.0005

Diagnostic Imaging

All Other Diagnostic Tests (10 points):

Chest xray (x2), Computed tomography angiogram of the chest with and without contrast (CT angio w & w/o contrast).

Diagnostic imaging is performed to help in the identification of the underlying cause of this patient's low oxygen saturation and respiratory distress. The chest xray showed a defect in her pulmonary artery, and the computed tomography angiogram of her chest with and without contrast confirmed the diagnosis of a pulmonary embolism. Understanding of the frequency of PE and the relationship between d-dimer levels and the degree of pulmonary artery obstruction may aid in the diagnosis and management of this disease (Kwee et. al, 2020).

Diagnostic Imaging Reference (1) (APA):

Kwee, T. C., & Kwee, R. M. (2020). Chest CT in COVID-19: What the radiologist needs to know. *Radiology: Cardiothoracic Imaging*, *2*(2), e200308. https://doi.org/10.1148/ryct.2020200308

Current Medications (10 points, 2 points per completed med)

5 <u>different</u> medications must be completed

Medications (5 required)

Brand/ Generic	Coreg/ Carvedilol	Lantus/ Insulin Glargine	Rivaroxaban/ Xarelto	Remeron/ Mirtazapine	Sertraline/ Zoloft
Dose	6.25 mg	25 units	15 mg	7.5 mg	100 mg
Frequency	Twice a day	Once every	Twice a day	Once every night	Once a day

		morning			
Route	Oral	Subcutaneous	Oral	Oral	Oral
Classification	Beta blocker/ Antihypertensive	Long-acting insulin/Antidiabetic Agent	Factor Xa Inhibitor/Anticoagulant	Noradrenergic and serotonergic antidepressant/Antidepressant	Selective serotonin reuptake inhibitor/Antidepressant
Mechanism of Action	Alpha-1 and Beta-1 adrenergic blockade	Mimics body's natural insulin by using analog	Direct inhibition of Factor Xa (coagulation process)	Enhances transmission of norepinephrine and serotonin	Creates modulation of serotonin levels in the brain
Reason Client Taking	To treat hypertension	To treat diabetes with a slow release to maintain normal range of blood sugar (Hedrington et. al, 2011)	To treat and inhibit further clotting of the PE found in her pulmonary artery	To treat depression and aid in sleep at night	To treat depression
Contraindications (2)	Severe bradycardia, Decompensated heart failure	Hypoglycemia, Intravenous administration	Active bleeding, Severe renal impairment	Use of monoamine oxidase Inhibitors, Liver impairment	Hypersensitivity, history of heart arrhythmias
Side Effects/Adverse Reactions (2)	Lightheadedness, bradycardia, dizziness, diarrhea	Injection site reactions, Hypokalemia	Severe bleeding, Thrombocytopenia	Sedation, Increased appetite/weight gain	Sexual dysfunction, constipation

Medications Reference (1) (APA):

Hedrington, M. S., Pulliam, L., & Davis, S. N. (2011). Basal insulin treatment in type 2 diabetes. *Diabetes technology & therapeutics*, *13 Suppl 1*(Suppl 1), S33–S42. https://doi.org/10.1089/dia.2011.0062

Assessment

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

General, Psychosocial/Cultural, and TWO focused assessment specific to the client.

GENERAL:

Alertness: Alert & Awake

Orientation: Alert and oriented to person, place, time, and event (x4)

Distress: Calm & cooperative, no acute distress noted

Overall appearance: Weak, calm and cooperative, not well groomed

INTEGUMENTARY:

Skin color: Pale

Character: Warm and dry

Temperature: Warm upon palpation

Turgor: Quick to return to original state

Rashes: No rashes noted, bed bug bites present on trunk

Bruises: Ecchymotic on abdomen near injection site for insulin

Wounds: Right upper abdomen, lower medial right abdomen, right upper abdomen, left lower medial abdomen, left lower abdomen, distal lower right leg

Braden Score: 18

Sensory perception: 4

Moisture: 3

Activity: 3

Mobility: 3

Nutrition: 3

Friction & Shear: 2

Drains present: **Y☐** **N✔**

Type: N/A

HEENT:

Head/Neck: Head and neck symmetrical, tongue is midline, tongue is midline, no nodules palpable

Ears: No bumps, lesions, or deformities, Bilateral canals clear

Eyes: PERRLA Intact, EOM intact bilaterally, bilateral sclera white, no visible drainage

Nose: Septum is midline, no visible bleeding or polyps. Bilateral frontal sinuses nontender to palpation

Teeth: Teeth missing, tooth decay

CARDIOVASCULAR:

Heart sounds: Clear S1 and S2 heart sounds, murmur detected

S1, S2, S3, S4, murmur etc.

Cardiac rhythm (if applicable): normal rhythm, bradycardic at 47 bpm

Peripheral Pulses: Left dorsalis 1+, Right dorsalis 1+, bilateral radial pulses 2+

Capillary refill: <3 seconds

Neck Vein Distention: **Y ☐ N ✔** **Edema Y ✔ N ☐**

Location of Edema: Bilateral lower extremities, Left foot & right foot

RESPIRATORY:

Accessory muscle use: **Y☐ N ✔**

Breath Sounds: Location, character: Left upper lung: clear, left lower lung: diminished, right upper lung: clear, right middle lung: diminished, right lower lung: diminished

GASTROINTESTINAL:

Diet at home: General/Regular

Current Diet: General/Regular

Height: 5'3" (160 cm)

Weight: 217 lbs (98.4 kg)

Auscultation Bowel sounds: Audible normoactive bowel sounds in all four quadrants

Last BM: Today 10/31/2024

Palpation: Pain, Mass etc.: Abdomen is soft, non-tender. No organomegaly, large apron noted

Inspection:

Distention: No distention

Incisions: No incisions

Scars: Abdominal scar from healing wound

Drains: No drains

Wounds: Multiple wounds noted on abdomen as seen under integumentary assessment

Ostomy: **Y** ☐ **N** ✔

Nasogastric: **Y** ☐ **N** ✔

Size: N/A

Feeding tubes/PEG tube **Y** ☐ **N** ✔

Type: N/A

GENITOURINARY:

Color: Yellow

Character: Clear, without foul odor

Quantity of urine: Normal quantity during void, not measured

Pain with urination: **Y** ☐ **N** ✔

Dialysis: **Y** ☐ **N** ✔

Inspection of genitals: Normal pink color for female genitalia, no wounds or deformities noted

Catheter: **Y** ☐ **N** ✔

Type: N/A

Size: N/A

MUSCULOSKELETAL:

Neurovascular status: Generalized weakness

ROM: Active ROM encouraged and done during physical and occupational therapy sessions

Supportive devices: Gait belt, walker, wheelchair

Strength: Generalized weakness, moderately impaired

ADL Assistance: **Y**✔ **N** ☐

Fall Risk: **Y** ✔ **N**☐

Fall Score: 94 (high)

Activity/Mobility Status: Up with 1 assistance

Independent (up ad lib) ☐

Needs assistance with equipment ✔

Needs support to stand and walk☐

NEUROLOGICAL:

MAEW: Y ☐ N✔

PERLA: Y ✔ N☐

Strength Equal: Y ✔ N ☐ if no - Legs ☐ Arms ☐ Both ☐

Orientation: Alert and oriented x4

Mental Status: Appropriate for age, able to verbalize needs

Speech: Clear and spontaneous speech

Sensory: RASS - alert & calm

LOC: Awake, easy to arouse, opens eyes spontaneously

PSYCHOSOCIAL/CULTURAL:

Coping method(s): Family, diversional activities

Developmental level: Appropriate for age

Religion & what it means to pt.: Presbyterian, does not actively participate

Personal/Family Data (Think about home environment, family structure, and available family support): Family is supportive, but home environment was found to be not suitable for hygiene. Bed bugs are present in the home, and the family has difficulty with helping the patient take care of herself.

Vital Signs, 1 set (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0732	47	132/73	17	97.7 (oral)	91% on Room air

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0732	Word 0-10	None	0	N/A	N/A

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
736 mL (orally)	3 voids, 2 bowel movements

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

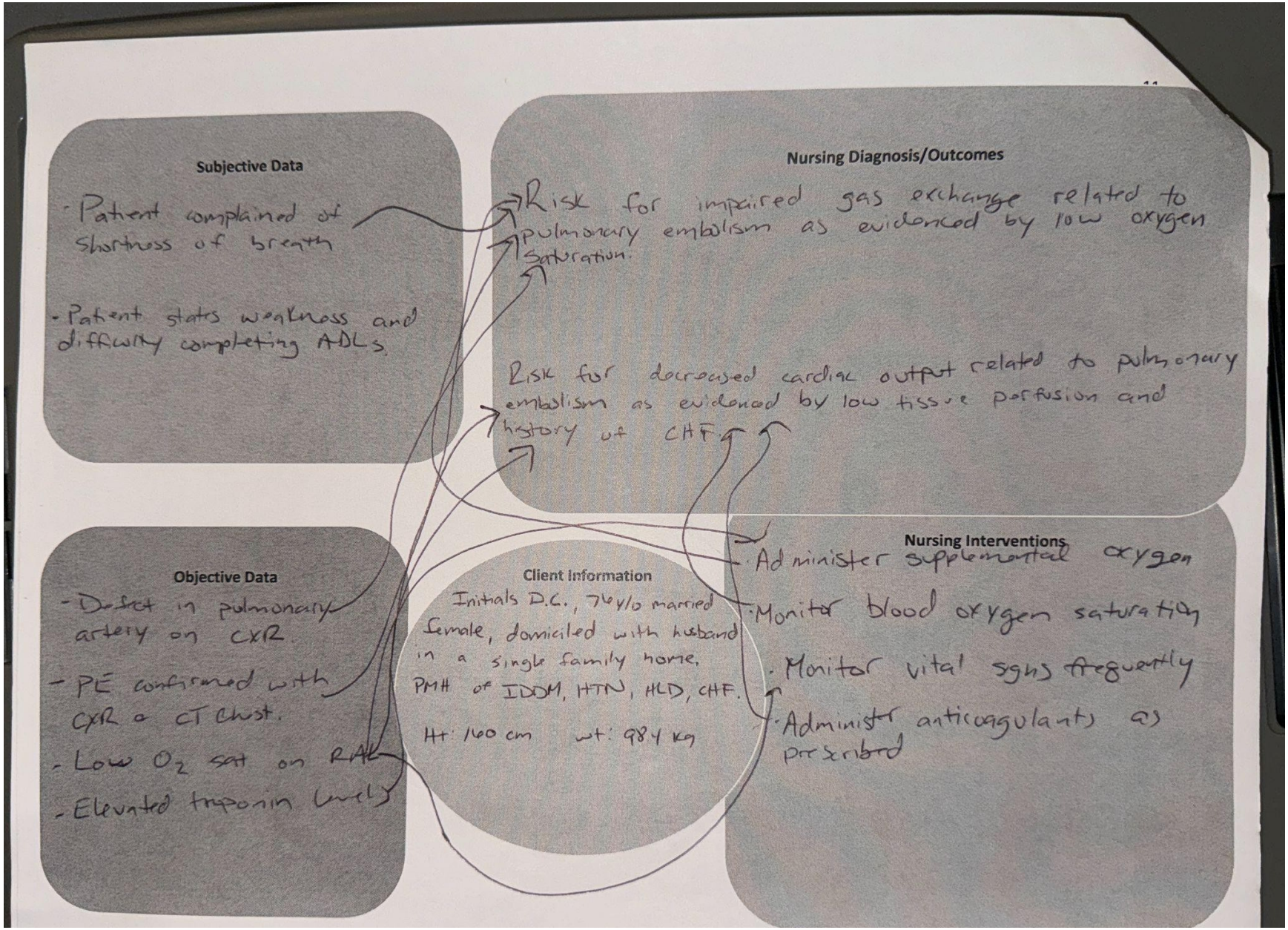
Nursing Diagnosis ● Include full nursing diagnosis with "related to" and "as evidenced by" components ● Listed in order by priority – highest priority to lowest priority pertinent to this client	Rationale ● Explain why the nursing diagnosis was chosen	Interventions (2 per dx)	Outcome Goal (1 per dx)	Evaluation ● How did the client/family respond to the nurse's actions? ● Client response, status of goals and outcomes, modifications to plan.
1. Risk for impaired gas exchange related to pulmonary embolism as evidenced by low oxygen saturation.	Chosen because there is a direct correlation between artery obstruction and oxygen saturation & it can be life threatening.	**1.** Administer supplemental oxygen **2.** Monitor blood oxygen saturation	**1.** Maintain adequate oxygen levels	The patient shows no signs of low oxygenation. If levels were dipping below average, supplemental oxygen delivery patient position changes help in lung expansion.
2. Risk for decreased cardiac output related to	Chosen because RV dysfunction is the primary	**1.** Monitor vital signs frequently	**1.** Maintain adequate cardiac output for tissue perfusion	The patient shows no signs of decreased cardiac output, and her vital signs have

pulmonary embolism as evidenced by a history of congestive heart failure and low tissue perfusion.	cause of death in PE (Shah et. al, 2022).	**2.** Administer anticoagulants as prescribed		been stable since starting on anticoagulants.

Other References (APA):

Shah, I. K., Merfeld, J. M., Chun, J., & Tak, T. (2022). Pathophysiology and Management of Pulmonary Embolism. *The International journal of angiology : official publication of the International College of Angiology, Inc*, *31*(3), 143–149. https://doi.org/10.1055/s-0042-1756204

Concept Map (23 Points)


Subjective Data
- Patient complained of shortness of breath
- Patient states weakness and difficulty completing ADLs.
Objective Data
- Defect in pulmonary artery on CXR.
- PE confirmed with CXR & CT Chest.
- Low O_2 sat on RA
- Elevated troponin levels
Client Information
Initials D.C., 76y/o married female, domiciled with husband in a single family home.
PMH of IDDM, HTN, HLD, CHF.
Ht: 160 cm wt: 98.4 kg
Nursing Diagnosis/Outcomes
Risk for impaired gas exchange related to pulmonary embolism as evidenced by low oxygen saturation.
Risk for decreased cardiac output related to pulmonary embolism as evidenced by low tissue perfusion and history of CHF.
Nursing Interventions
· Administer supplemental oxygen
· Monitor blood oxygen saturation
· Monitor vital signs frequently
· Administer anticoagulants as prescribed