N311 Care Plan #4

Lakeview College of Nursing

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Demographics (5 points)

Date of Admission 12/07/XX	Patient Initials R.D	Age 54	Gender Male
Race/Ethnicity African American	Occupation	Marital Status Married	Allergies Penicillin Peanuts Sulfa Shellfish Allergy Allergy to contrast dye
Code Status Full Code	Height 66 in. (168cm)	Weight 242lbs	

Medical History (5 Points)

Past Medical History: Hypertension, coronary artery disease with angina, asthma

Past Surgical History: **NONE???**

Family History: **NONE???**

Social History (tobacco/alcohol/drugs): Quit smoking 1 month ago and occasionally chews tobacco.

Admission Assessment

Chief Complaint (2 points): Chest tightness that is not relieved with nitroglycerin tablets

History of present Illness (10 points): A distressed African American male presents with complaints of chest pain starting on Monday at 1655 after he was shoveling the driveway. Client described his pain as a squeezing chest pain that caused his breathing to become hard and very intense. Client explained that he felt dizzy and sick to his stomach. The pain worsened on exertion. To relieve the pain, the client's wife had him take 3 doses of Nitroglycerine at 1655 to reduce the chest pain along with 325 mg of aspirin at 1715. After 5 minutes of waiting for the chest pain to decrease the client stated that chest pain did not lighten up which is when they decided to call 911.

Primary Diagnosis

Primary Diagnosis on Admission (3 points): Myocardial Infarction with ST-Elevation (AKA a STEMI)

Secondary Diagnosis (if applicable): N/A

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

A Myocardial Infarction (MI) occurs after prolonged ischemia of cardiac tissue. An MI begins with coronary artery obstruction. When needed oxygen is not being able to circulate correctly to the cells, the myocardial cells become damaged. The damage is usually characterized by three different factors. The first factor being the location or level of occlusion in the coronary artery. The second factor being the length of time that the coronary artery has been occluded. Finally, the third factor being the heart's availability of collateral circulation. When determining how significant the damage is, these three factors will show if the heart muscle will be able to survive an acute MI. The longer a MI lasts, the longer time the cells are without oxygen which can increase the damage. According to the Pathophysiology Introductory Concepts and Clinical Perspectives, “prolonged ischemia of longer than 30 minutes usually causes irreversible cellular damage and necrosis, leading to decreased contractile force and alteration of conduction in the myocardium (Capriotti & Frizzell 2016 page 353).” My client’s location was in the left femoral artery. The length of time for the client was less than 60 minutes by the time the MI was treated, and the heart was able to get adequate blood flow. When checking if a person is having a myocardial infarction, the cellular contents are very important. Usually, if a person is experiencing a MI creatinine phosphokinase (CPK) and cardiac troponin (cTn) will both be released by rupturing necrotic cells. The sodium-potassium ATPase pump begins to fail with a MI present. This is because of the lack of oxygen being administered to the

correct cells which then cause a lack of energy. The potassium increases in the extracellular space and then the sodium is left in the interstitial space. When looking at my client's lab reports, the potassium levels were slightly elevated but not abnormally high. Once we see these certain changes taking place on the ECG, this indicates that a ST segment change is present.

Some expected findings of a MI would be Vital signs will show increased respirations, slowed heart rate, and low BP, Levine's sign, decreased level of consciousness LOC is possible, pallor, diaphoresis, respiratory distress, diminished peripheral pulses (Capriotti & Frizzell 2016 page 366). According to ECG medical training, other signs and symptoms that would indicate a STEMI would be the following: "Chest pain or discomfort Shortness of breath,Dizziness or light-headedness, Nausea or vomiting, Diaphoresis (sweatiness) unexplained by ambient temperature, Palpitations (uncomfortable awareness of the heart beat), Anxiety or a feeling of impending doom (ECG 2015)." If you look at my client's symptoms that he presented, the signs hit head on with the signs and symptoms of a STEMI. Our client first explained his chest pain as squeezing. He then started having complaints of dizziness and light-headedness. These were classic symptoms of a STEMI.

When diagnosing the client will have elevated troponin I and elevated CPK-MB fraction. On the ECG it would show ST elevation or ST depression as well as inverted T waves. Cardiac catheterization with angiography shows coronary artery obstruction. Radionuclide angiogram would be used to diagnose the STEMI. We would also use a CT scan, calcium CT scan, and a stress test. A chest X-ray was also used for our client where we got the results of no fluid or pneumothorax. Heart is situated in the anterior chest under the sternum with no enlarged heart shadows. No rib fractures or tumors. The aorta and aortic arch have calcification and appears intact with no dilation of the artery.

One should treat a MI with morphine and aspirin to help manage pain and regulate the coagulation of blood. Oxygen should be administered to control the breathing of the clients who are experiencing SOB. All three of these treatments were done with my client. In other cases, a thrombolytic agent would also be administered to dissolve the clot. A possible PTCA with a stent placement or CABG may also have to be done to open up the clogged artery.

After treating the MI, the body will start to make changes. About 12-24 hours after a MI occurs, the myocardium undergoes certain changes. 3-5-day post MI, the myocardium begins to look pale and becomes soft and thin because the phagocytic cells begin to remove necrotic debris. About 5 days post MI the fibroblasts begin collagen deposition and scar formation begins to form. The size of the MI will depend on the ischemic zone. The location of the MI is also extremely important for the recovery process.

Pathophysiology References (2) (APA):

Capriotti, T. & Frizzell, J.P. (2016). *Pathophysiology: Introductory concepts and clinical perspectives. (1st* ed.). Philadelphia, PA: F.A. Davis Company.

(2015). *What is a STEMI.* ECG medical training. Retrieved on April 6th, 2020, from https://www.ecgmedicaltraining.com/what-is-a-stemi/

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 Range	Today's Value	Reason for Abnormal Value
RBC	**42.-5.4**	**5.2**	
Hgb	**12.0-16.0**	**15.9**	
Hct	**41-51**	**54 (high)**	**The high levels of Hct indicate that the client's red blood cells in a persons blood is above the upper limits of normal and a low availability of oxygen will cause Hct levels to increase and our client has SOB (Davis 2020)**
Platelets	**140-440**	**220**	
WBC	**4-10 (SBLH Center 2020).**	**6**	

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

Lab	Normal Range	Today's Value	Reason For Abnormal
Na-	**136-145**	**140**	
K+	**3.5-5.1**	**3.6**	
Cl-	**98-107**	**104**	
CO2	**21-31**	**24**	
Glucose	**74-109**	**122(High)**	"Hyperglycaemia can also occur when normal hormonal control of blood glucose concentration is disturbed by the stress associated with acute myocardial infarction. The blood glucose is raised in the immediate period following acute myocardial

			infarction irrespective of diabetes status (Badiger 2009)."
BUN	**7-25**	**18**	
Creatinine	**0.7-1.30**	**0.8**	
Albumin	**3.5-5.7**	**3.6**	
Calcium	**8.6-10.3**	**10.2**	
Mag		**1.6**	
Bilirubin	**0.3-1.0**	**0.8**	
Alk Phos	**40-130 (SBLH Center 2020).**	**68**	

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

Lab Test	Normal Range	Today's Value	Reason for Abnormal
Color & Clarity	**Yellow & clear**	**Clear & yellow**	
pH	**5-7**	**6.8**	
Specific Gravity	**1.010-1.030**	**1.030**	
Protein	**<100**	**4**	
WBC	**0-5**	**2**	
Leukoesterase	**Negative (MerckManual 2020)**	**Negative**	

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

**** No Cultures were done on this Client****

Lab Correlations Reference (APA):

Badiger, S. (2009). *Hyperglycemia and myocardial infarction.* British journal of medical pracitioners. Retrieved on April6th,202, from https://www.bjmp.org/content/hyperglycaemia-and-myocardial-infarction

Davis, C. (2020). *Hematocrit blood test.* Emedicine health. Retrieved on April 6th 2020, from https://www.emedicinehealth.com/fainting_slideshow_reasons_faint/article_em.htm

Sarah Bush Lincoln Health Center (2020.*) Reference range (lab values).* Mattoon, IL.

(2020). *Urine tests: Normal values*. Merck manual professional version. Retrieved on April 6th, 2020, from https://www.merckmanuals.com/professional/resources/normal-laboratory-values/urine-tests-normal-values

Diagnostic Imaging

All Other Diagnostic Tests (10 points):

Chest X-ray: Portable chest x-ray at the bedside demonstrates no fluid or pneumothorax. Heart is situated in the anterior chest under the sternum with no enlarged heart shadows. No rib fractures or tumors. The aorta and aortic arch has calcification and appears intact with no dilation of the artery.

Current Medications (10 points, 2 points per completed med)
5 different medications must be completed

Medications (5 required)

Brand/ Generic	**Lisinopril/ Prinivil**	**Aspirin/ Bayer**	**Potassium/ K+ Care ET**	**Morphine / Roxanol**	**Epinephrine/ Adrenalin**
Dose	**10mg**	**325mg**	**20 mEq**	**2 mg**	**0.25 mg**
Frequency	**Daily**	**Daily**	**Twice a day**	**PRN every 4 hours**	**PRN every 5 to 15 minutes**
Route	**PO**	**PO**	**PO**	**IV**	**IV bolus**
Classification	**Antihypertensive**	**NSAID (Anti-inflammatory, antiplatelet, antipyretic, nonopioid analgesic)**	**Electrolyte replacement**	**Opioid analgesic**	**Antianaphylactic**
Mechanism of Action	**May reduce blood pressure by inhibiting conversion or angiotensin I to angiotensin II. Angiotensin II is a potent vasoconstrictor that also stimulates adrenal**	**Blocks the activity of cyclooxygenase the enzyme needed for Prostaglandin synthesis. Important mediators in the inflammatory response**	**Act as a major cation in intracellular fluid, activating many enzymatic reactions essential for physiologic processes, including nerve impulse transmissio**	**Binds with and activates opioid receptor in brain and spinal cord to produce analgesia and euphoria.**	**Acts on alpha and beta receptors. They dilate arteries, relaxes muscles, prevents mass cells from secreting histamine and other substances, thus reversing the bronchoconstr**

	cortex to secrete aldosterone. Lisinopril may also inhibit renal and vascular production of angiotensin II. Decreased release of aldosterone reduces sodium and water reabsorption and increases their exertion, thereby reducing blood pressure.	**caused local vasodilation with swelling and pain. Prostaglandin plays a role in pain transmission from the periphery to the spinal cord aspirin inhibits platelet aggregation**	**n and cardiac and skeletal muscle contraction. Potassium also helps maintain electroneutrality in cells by controlling exchange of intracellular and extracellular ions. It also helps maintain normal renal function and acid-base balance.**		**iction and edema.**
Reason Client Taking	**To treat client's hypertension**	**To relieve mild pain and to reduce the severity of or prevent acute MI**	**Client had hypokalemia**	**Client was having extreme chest pains and morphine was given to relieve the pain**	**Client had allergic reaction to catheter dye, so this is providing an emergency treatment for the allergic reaction.**
Contraindications (2)	**Concurrent aliskiren use in patients with DM or renal impairment; hereditary or idiopathic angioedema**	**Active bleeding or coagulation disorders current or recent G.I. bleed**	**Acute dehydration, Addison's disease, concurrent use with amiloride or triamterene, or**	**Arrhythmias, brain tumor, heart failure caused by chronic lung**	**Cerebral arteriosclerosis, coronary insufficiency dilated cardiomyopathy, general anesthesia with**

	or history of angioedema related to previous treatment with ACE inhibitor; hypersensitivity to lisinopril, other ACE inhibitors, or their components; use of a neprilysin inhibitor such as sacubitril within 36 hours.	**or ulcers; hypersensitivity to aspirin products, other NSAIDs, tartrazine dye, or their components.**	**potassium-sparing diuretics, crush syndrome, disorder that may delay drug passing through the GI tract, heat cramps, hyperkalemia, hypersensitivity to potassium salts or their components, peptic ulcer disease, renal impairment with azotemia or oliguria, severe hemolytic anemia, UTI**	**disease, seizure disorders**	**halogenated hydrocarbons or cyclopropane, hypersensitivity to epinephrine or its components, organic brain damage, shock**
Side Effects/ Adverse Reactions (2)	**CVA, Arrhythmias, hypotension, MI, PE and infarction**	**CNS depression, GI bleeding, prolonged bleeding time, bronchospasm, thrombocytopenia**	**Arrhythmias, ECG changes, V-fib, Gi bleeding, thrombosis, hyperkalemia**	**Coma, bradycardia, increased intracranial pressure, seizures, shock, adrenal insufficiency, toxic megacolo**	**Seizures, Arrhythmias, including ventricular fibrillation, ventricular ectopy**

				n, intestinal obstruction, allergic reaction, anaphylaxis	**(Jones and Bartlett 2020)**

Medications Reference (APA):

Jones and Bartlett. (2020). Nurses Drug Handbook (19th e.d.)

Assessment

Physical Exam (18 points)

GENERAL: **Alertness:** A & O X3 **Orientation:** Client is able to tell where he is at and what the situation is. Client knows his name DOB and where he is at. **Distress:** Yes **Overall appearance:** Client is well kept.	Client presents with extreme squeezing chest pain and SOB.
INTEGUMENTARY: **Skin color:** Normal for Race **Character:** Ashy and dusty after exposure to the catheter dye, very itchy for the client as well. **Temperature:** Client felt cold and clammy to the touch after the client began to show signs of manifestations of cardiogenic shock. **Turgor:** not assessed **Rashes:** none **Bruises:** Yes a hematoma on his right femoral area **Wounds:** Surgical wound on right femoral puncture site **Braden Score:** 23: no risk **Drains present: Y☐ N ☒** **Type:**	-nail beds are dusty -Client's surgical wound on right femoral groin developed a hematoma and started bleeding enough to make the client feel as if he is lying in a wet spot. The hematoma started at 3 inches and then increased to 6 inches but bleeding was stopped at 2230.
HEENT: **Head/Neck:** Lymph nodes were assessed,	

and all were normal. No neck distention or asymmetrical portions. **Ears:** TM was assessed and was silver looking. Earwax was normal and there was not an excess amount of earwax. Ears were symmetrical. **Eyes:** PERLA was assessed and was normal. Eyes were symmetrical and reacted well. **Nose:** Turbinate's were noted, and no pupils were seen. Client was a little congested after the exposure to the dye after the catheterization. Nose was symmetrical. **Teeth:** Client's teeth were normal, no dentures, oral mucosa was pink and moist.	.
CARDIOVASCULAR: **Heart sounds:** S1 and S2 sounds were assessed and no murmurs or abnormal rhythm was assessed. **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** Pulses were assessed, and all were normal and had adequate rhythm. **Capillary refill:** Normal with a refill of 3 seconds or less. **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema: N/A**	.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character** Client has trouble breathing with decreased breath sounds. Client experiences SOB as well. Client is receiving 2 L or oxygen per nasal canula	- After exposure to catheter dye the client began to wheeze and cough due to his allergic reaction to the dye. Client could not catch his breath, so a non-rebreather mask was given to the client and oxygen supply was increased to 15L/min because of signs of intermittent stridor. - After administering epinephrine, the client was able to use a nasal canula again and not the non-rebreather mask.
GASTROINTESTINAL: **Diet at home:** Client's at home diet needs	.

to decrease sodium intake. Needs to be low in saturated fat and high in fiber **Current Diet:** decrease sodium intake of 1,500 mg of sodium a day or less **Height:** 66 Inches **Weight:** 242 LBS **Auscultation Bowel sounds:** Bowel sounds were heard in all four quadrants **Last BM:** Yesterday **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** none **Incisions:** Right femoral puncture site **Scars:** none **Drains:** none **Wounds:** none on abdomen **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	
GENITOURINARY: **Color:** Yellow **Character:** Clear and slightly aromatic **Quantity of urine:** Normal urine output **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** not assessed **Catheter: Y ☒ N ☐** **Type: Indwelling Urinary Catheter and Central venous catheter** **Size:**	
MUSCULOSKELETAL: **Neurovascular status:** **ROM:** Strong and equal **Supportive devices:** None **Strength:** equal and strong for age **ADL Assistance: Y☐ N ☒** **Fall Risk: Y ☒ N☒** **Fall Score:** 20: low risk **Activity/Mobility Status:** Client is able to do all ADL's. **Independent (up ad lib) ☐ N/A** **Needs assistance with equipment ☐ N/A** **Needs support to stand and walk ☐ N/A**	

NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation:** A&O X3 **Mental Status:** Alert and client knows what the situation is and is willing to cooperate with the healthcare workers. **Speech:** 5-1: 5 Client has no trouble with speech **Sensory:** Client responds to both verbal sensation and pain sensation. Client has normal sensation. **LOC:** A&O X3 : Normal	.
PSYCHOSOCIAL/CULTURAL: **Coping method(s):** No coping methods were identified. Client has a close relationship with his wife and they both rely on each other's support. **Developmental level:** Normal **Religion & what it means to pt.:** No religion was identified **Personal/Family Data (Think about home environment, family structure, and available family support):** Client lives with his wife and they both help each other a great deal with their health.	.

Vital Signs, 1 set (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
1722	**104**	**96/56**	**26**	**99.0 F (37.2 C)**	**94% 4L/min/ NC**

Pain Assessment, 1 set (5 points)

Time	Scale	Location	Severity	Characteristics	Interventions
1725	**numerical**	**Chest pain**	**8/10**	**Squeezing over heart**	

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
300ML	**250ML**

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

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Acute chest pain related to tissue ischemia as evidenced by client's reporting of chest pain and client's Lavine sign.	**This nursing diagnosis was chosen because the client had a sudden onset of severe chest pain and SOB of breath.**	**1.Aspirin to loosen the possible coagulation of blood that may be blocking the flow of blood to the heart.** **2.Morphine to help control the client's pain.**	**The family was happy with these interventions. The client was satisfied with the idea of attempting to control the chest pain with morphine. They were happy with the Aspirin being administered with hopes that it would prevent or loosen blood coagulation.**
2. Activity intolerance related to inadequate blood flow as evidence by elevated heart rate.	**This nursing diagnosis was chosen because the client stated that him and his wife do not do much exercising due to their workload**	**1. Monitor the client's heart rate and BP closely.** **2.Give the client and his family different ways to help better their**	**Both the client and family were happy with these interventions and were open to changing some lifestyle choices for the better.**

	and client stated that they tend to eat more food higher in sodium.	**lifestyle choices and increase activity levels.**	

Other References (APA):

Concept Map (20 Points):

N311 Care Plan

Subjective Data

Client rated pain 8/10
Client said chest was squeezing and client stated he felt dizzy

Nursing Diagnosis/Outcomes

Acute chest pain related to tissue ischemia as evidenced by client's reporting of chest pain and client's Lavine sign. The outcome for this was the client's pain was stopped due to placement of a stent and medication that was given to him.
Activity intolerance related to inadequate blood flow as evidence by elevated heart rate. The outcome for this is that the client and family agreed to changing their diet to less than 1,500mg of sodium a day and being more active.

Objective Data

Client was in distress
Client had SOB
Client had abnormal STEMI signs on ECG which indicated he was having a STEMI MI.

Patient Information

A distressed African American male presents with complaints of chest pain that were described as squeezing chest pain. Client and his wife called 911 and made it to the hospital for treatment.

Nursing Interventions

The nursing intervention for nursing diagnosis number 1 are the following: Aspirin to loosen the possible coagulation of blood that may be blocking the flow of blood to the heart. Morphine to help control the client's pain.
The nursing intervention for the nursing diagnosis number 2 are the following: Monitor the client's heart rate and BP closely. Give the client and his family different ways to help better their lifestyle choices and increase activity levels.

N311 Care Plan

N311 Care Plan