

Student Name: Abby Olshenske _____

ATI Real Life Scenario: MI _____

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*Complete and submit to the corresponding dropbox by 1600 on the assigned clinical day.

To Be Completed Before the Simulation

** Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation.

Medical Diagnosis/ Disease: MI _____

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology Normal Structures

-3 layer: endocardium (inner layer), myocardium (middle layer), epicardium (outer layer), covered by pericardium (fibrous sac), lubricated by pericardial fluid to prevent friction as heart contracts.

-Blood flow through the heart: right side (unoxygenated) -> SVC and IVC to right atrium to tricuspid valve to right ventricle to pulmonic valve to pulmonary artery to lungs. Left side (oxygenated) -> Pulmonary veins to left atrium to mitral valve to left ventricle to aortic valve to systemic circulation

-divided into four chambers, two chambers on top = atria, two chambers on bottom = ventricles
-right atria: Two large veins deliver oxygen-poor blood to the RA. The superior vena cava carries blood from the upper body. The inferior vena cava brings blood from the lower body. RA pumps blood to the RV

-Right ventricle: Pumps oxygen-poor blood to the lungs via the pulmonary artery.

Left atrium: After the lungs fill the blood with oxygen, the pulmonary veins carry the blood to the left atrium, and then pump blood to the LV

Left ventricle: pumps oxygen-rich blood to the rest of the body
-valves prevent backflow of blood: mitral (between the left atrium and left ventricle), tricuspid (between the right atrium and right ventricle), pulmonic (opens when

Pathophysiology of Disease

- Occurs when there is an abrupt stoppage of blood flow through the coronary arteries due to a thrombus.
- The location of the thrombus determines where it will affect the heart. Most MI's affect the left ventricle. If there is a blockage in the right coronary artery then the inferior and posterior wall of the left ventricle would be affected. Anterior wall infarctions are the result of a thrombus in the LAD artery. Blockages in the left circumflex artery cause lateral wall MI's.
- MI's can be classified as a STEMI or NSTEMI.
- STEMI = occlusive thrombus causing an ST elevation and is an emergency and needs to be opened within 90 mins.
- NSTEMI is a non-occlusive thrombus that does not cause an ST elevation and needs intervention within 12-72 hours.
- Most thrombosis occurs from CAD which results in atherosclerosis.
- Atherosclerosis = fatty deposits. When the plaque ruptures, it causes a blockage in the coronary artery, which supplies blood to the heart resulting in a MI.
- Abrupt stoppage of blood flow through a coronary artery causes irreversible myocardial cell death

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics Labs

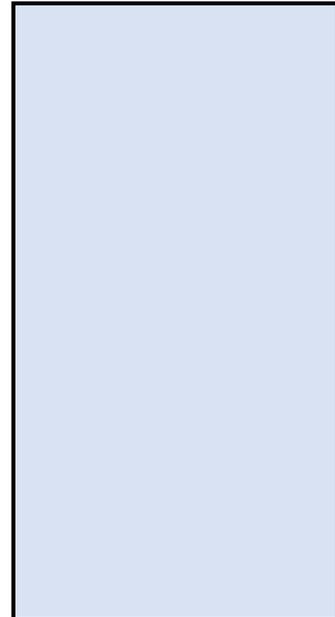
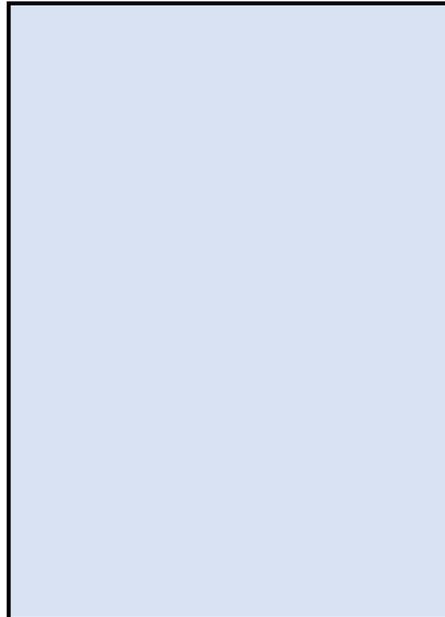
- Serum cardiac biomarkers (troponin, myoglobin, creatinine kinase)
- CBC
- ABG's
- BMP

Additional Diagnostics

- EKG
- Echo
- CXR

blood flows from RV to pulmonary arteries) and aortic (opens when blood flows from LV to the aorta)

- Left coronary artery branches: left anterior descending, and left circumflex, Supply blood to LA, LV, interventricular septum, and part of RV
- Right coronary artery branches: Supplies blood to RA, RV, part of posterior LV
- conduction system: specialized tissue creates and transports electrical impulse (action potential) → depolarization → heart muscle contraction



NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- Greater than 55
- **Smoker**
- **Hypertension**
- High cholesterol or triglycerides
- Obesity
- Diabetes
- Family history
- **Unhealthy diet**
- **CAD**

Signs and Symptoms

- **Chest pain**
- Substernal or epigastric pain
- Arm or back discomfort
- **Lightheaded**
- **Breaking into a cold sweat, ashen, clammy skin**
- Trouble breathing
- **Nausea** and vomiting
- Fever
- Confusion
- Restlessness
- Changes in mental status

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

- thrombolytics

Surgical

- **Cardiac catheterization with balloon angioplasty**
- CABG
- Pacemaker (temporary or permanent)
- ICD

Prevention of Complications

(What are some potential complications associated with this disease process)

- Dysrhythmias
- Heart failure
- **Cardiogenic shock**
- Papillary muscle dysfunction or rupture
- Left ventricular aneurysm.
- Ventricular septal wall rupture
- Acute pericarditis
- Dressler syndrome
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NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management

- **Morphine**
- **Oxygen**
- **Nitroglycerin**

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

- **Cardiac diet**
- **Low sodium**

NCLEX III (4): Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?

- **Pain**
- Not being able to

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- Aspirin
- ACE Inhibitors
- CCB
- Beta blockers
- Diuretics

- Exercising after recovery
- No smoking and alcohol
- Cardiac rehab
- Fluid maintenance
-

- work
- Relying on family for help following recovery
- Anxiety
- Fear
- Lifestyle changes following recovery

Client/Family Education

- List 3 potential teaching topics/areas**
- Eat a heart-healthy diet and cut down on saturated fats and sodium
 - Exercise regularly once cleared by your doctor.
 - you may take NTG every five minutes - no more than three times - at a maximum of three tablets and call 911 if the chest pain persist

NCLEX I (1): Safe and Effective Care Environment

- Multidisciplinary Team Involvement**
(Which other disciplines do you expect to share in the care of this patient)
- Cardiologist, radiologist, nurse, PCP, hospitalist, surgeon, CNA, pharmacist, dietician

Anticipated Patient Problems, Goals, & Interventions Based on Medical Diagnosis

** This worksheet should be completed before you begin the ATI simulation.

Problem #1: Acute Pain: Chest

Patient Goals:

1. Patient will have a pain score of 0 out of 10 on the pain scale at the end of my time of care.
2. Patient will use pharmacological treatment such as morphine, nitroglycerin, and aspirin and nonpharmacological measures such as slow and deep breathing and distraction measures to relieve pain during my time of care.

Assessments:

- Assess PQRST of pain during my time of care, Assess pain goal during my time of care, assess pain score q4 hours and after pain relief measures such as medications administered, assess ways the patient relieves pain during my time of care, assess factors that cause pain during my time of care, assess for nonverbal cues of pain during my time of care, assess vital signs q4 hours.

Interventions (In priority order):

1. Administer nitroglycerin sublingual PRN during my time of care.

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2. Administer Morphine IV push as ordered for pain during my time of care.
3. Administer supplemental oxygen as ordered during my time of care.
4. Instruct the client to do relaxation techniques such as slow, deep breathing, and distraction measures as needed during my time of care.
5. Provide a quiet and calm environment during my time of care.
6. Encourage positions of comfort during my time of care.

Problem #2: Risk for decreased cardiac output

Patient Goals:

1. Patient will have proper perfusion to tissues evidenced by warm skin, strong pulses, cap refill < 3 seconds, and systolic blood pressure greater than 90mmHg during my care.
2. The patient will report decreased episodes of dyspnea and angina by the end of my care.

Assessments:

- Assess skin, BP, HR, RR, SpO₂, cap refill, pulses in all extremities, and mental status during my time of care. Assess for dyspnea and angina during my time of care, determine findings on diagnostics such as an echo during my care, assess cardiac monitoring during my time of care, assess oxygen saturation during my care, and assess urine output during my time of care.

Interventions (In priority order):

1. Maintain cardiac monitoring during my time of care.
2. Administer digoxin as ordered during my time of care.
3. Administer oxygen 2L NC for O₂ sat less than 95% during my time of care.
4. Administer diuretics as ordered during my time of care.
5. Administer morphine PRN for pain or anxiety during my time of care.
6. Encourage rest and relaxation by providing a calm and quiet environment during my time of care.

At this time, complete assigned ATI Real Life Simulation

Actual Patient Problems & Goals

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** The following should be completed after the ATI simulation.

Problem #1: Impaired Gas Exchange

Patient Goals:

1. Rodney will have a SaO₂ greater than 95% when on room air during my time of care. **Met**
Unmet
2. Rodney will show no signs of impaired gas exchange such as RR 12-20, vesicular breath sounds in all lobes bilaterally, no use of accessory muscles, warm skin, and skin color appropriate for ethnicity during my time of care.
Unmet

Problem #2: Decreased Cardiac Output

Patient Goals:

1. Rodney will show adequate cardiac output as evidenced by blood pressure (120/80), heart rate (60-100), and rhythm within normal limits during my time of care.
Unmet
2. Rodney will report decreased episodes of dyspnea and angina by the end of my care. **Met**
Unmet

SOAP Notes Based on Priority Problems

Priority Patient Problem #1: Impaired Gas exchange

<p><u>Subjective:</u></p> <p><i>This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.</i></p>	<p>Chief Complaint: "I feel like my chest is being squeezed and it's hard to breathe", states he has nasal congestion, and coughing along with pruritus along his right arm and chest</p> <p>PMH: HTN, CAD with angina, asthma</p> <p>Allergies: shellfish, peanuts, sulfa, penicillin</p> <p>Current Medications: Nitroglycerin sublingual tablets, Lisinopril, albuterol inhaler</p>
<p><u>Objective:</u></p> <p><i>This section is your clinical observations. Include, pertinent vital signs, pertinent labs and diagnostics related to priority problem.</i></p>	<p>Vital Signs: 1715: BP 110/82, HR 96, RR 28, O2 92% 1718: BP 104/78, HR 98, RR 24, O2 94% 1720: BP 100/68, HR 104, RR 24, O2 95% 1900: 87% on 15L non rebreather</p> <p>Labs:ABG's at 1745: pH 7.35, PaO2 88mmHg, PaCO2 40mmHg, HCO3 26Eq/L SaO2 95% 0600: pH 7.40, PaO2 88mmHg PaCO2 42 mmHg HCO3 26Eq/L SaO2 98% 0800: pH 7.42, PaO288 mmHg, PaCO2 40mmHg, HCO3 26Eq/L, SaO2 98%</p> <p>Diagnostics: N/A</p>
<p><u>Assessment:</u></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Audible wheezing upon auscultation, currently on 15L nonrebreather. Assessment of the lungs revealed stridor and the patient is distressed. His skin is ashen, nail beds are dusky, seems to not be able to catch breath</p>

<p>Plan <u>*Based on priority problem only</u></p> <p><i>Include what your plan is for the client. What treatments or medications are needed. You can include procedures, consults, labs/diagnostics, etc. What nursing interventions are being performed?</i></p>	<p>Plan: Mr. Rodney is experiencing anaphylaxis related to the contrast dye used during the cardiac catheterization. I administered diphenhydramine 25 mg IV bolus, and then applied a nonrebreather face mask at 15 L/min and administered 0.3 mg Epinephrine IM for the anaphylaxis. Continue to monitor oxygen saturation and titrate oxygen to maintain SaO₂ at 96% or greater with NC or nonrebreather as well as assess vital signs and lung sounds frequently.</p> <p>Teaching/Resources: Educated Mr. Rodney that he had a shellfish allergy and to make providers/doctors aware next time due to the contrast dye used in the catheterization containing iodine.</p>

Priority Patient Problem #2: Decreased Cardiac Output

<p>Subjective:</p> <p><i>This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.</i></p>	<p>Chief Complaint: Patient complains of squeezing chest pain that was not relieved with nitroglycerin tablets. He continues to feel chest tightness, c/o dizziness and nausea.</p>
<p>Objective:</p> <p><i>This section is your clinical observations. Include vital signs, pertinent labs and diagnostics related to priority problem.</i></p>	<p>Vital Signs: 1715: BP 110/82, HR 96, RR 28, O₂ 92% 1718: BP 104/78, HR 98, RR 24, O₂ 94% 1720: BP 100/68, HR 104, RR 24, O₂ 95% 1900: MAP dropped to 54, systolic blood pressure has been less than 90 for the last 15 mins.</p>

	<p>Labs: CK 0mEq/L 1745: troponin -> 0.2ng/mL 2145 ->0.4ng/mL, 0100 0.6ng/mL, 0400 -> 0.8ng/mL, 0800 -> 0.6ng/mL. Potassium 1745: 3.6mEq/L, 2230: 3.2mEq/L, 0600: 3.2mEq/L, 0800: 3.4mEq/L</p> <p>Diagnostics: 12 lead EKG show elevated ST segment. Cardiac catheterization shows a blockage In the coronary artery which was opened with percutaneous transluminal coronary angioplasty. Chest x-ray showed no enlarged heart, and no dilation of the artery.</p>
<p><u>Assessment:</u></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Skin feels cold and clammy to the touch, restless and agitated. MAP has dropped to around 54. Systolic pressure has been less than 90 for the last 15 mins. UO has dropped in the last couple of hours, down to 48 ml per hour.</p>
<p><u>Plan</u> *Based on priority problem only</p> <p><i>Include what your plan is for the client. What treatments or medications are needed. You can include procedures, consults, labs/diagnostics, etc. What nursing interventions are being performed?</i></p>	<p>Plan: Mr. Rodney is experiencing a STEMI. He went to the cath lab for a percutaneous transluminal coronary angioplasty with stent placement in the left anterior descending artery, there were no complications. Following the procedure, he developed a hematoma and his blood pressure dropped and he went into cardiogenic shock. I administered Dobutamine 250 mg in 5% dextrose in water at 2.5 mcg/kg/ml, and administered 0.9% NaCl 1000 ml at 250 ml/hr for the low blood pressure and norepinephrine 4 mg dextrose 5% in water 1000 ml at 0.5 mcg/min for the low blood pressure and heart rate. Once he was stable, we discontinued the dobutamine and norepinephrine drip as well as the oxygen and he was transferred to the cardiac step-down unit. Continue to monitor vital signs and the right groin puncture site.</p>

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	Teaching/Resources: Educate about diet modification such as keeping sodium below 1500 mg daily and exercise routine following recovery. Resources: nutritionist, cardiology follow up
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Reflection:

1. Go back to your Preconference Template:
 - a. Indicate (circle, star, highlight, etc.) the components of your preconference template that you saw applied to the care of this virtual patient.

2. What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice?

My biggest take away from participating in the care of this patient was seeing how the nurses used their assessment skills to deliver appropriate nursing care based on the changes that were occurring with the patient. For example, monitoring the patient very closely following his return from the Cath lab helped them recognize that he was experiencing an allergic reaction and then they were able to give him medication and help correct the problem. Additionally, being alert to his blood pressure and heart rate, and overall appearance following the anaphylaxis, helped them determine that he was in cardiogenic shock and that they were able to take good care of him. This simulation impacted my nursing practice because it showed that careful monitoring and good assessment skills are crucial to determining any problems and taking measures to help the patient recover. Additionally, the nurses did a good job educating the patient and the wife on lifestyle changes following discharge which is important in our nursing practice to ensure that not only the patient, but the family is aware of ways to get better and avoid another heart attack in the future. The simulation reinforced how important it is to be observant and know what signs and symptoms to watch out for and reassess to keep everyone safe.

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Time Allocation: 8 hours