ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2025

Student Name: Nicholas Vitella

ATI Scenario: MI

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: MI

NCLEX IV *(8)*: Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

The right side of the heart receives blood from the body through the superior and inferior vena cava, which enter the right atrium. Blood flows through the tricuspid valve into the right ventricle. Blood leaves the right ventricle through the pulmonary valve into the main pulmonary artery. The pulmonary artery divides into right and left pulmonary arteries to transport deoxygenated blood from the right side of the heart to the right and left lungs. The pulmonary arteries branch further into the pulmonary capillary bed where oxygen and carbon dioxide exchange occurs. The four pulmonary veins, two from the right lung and two from the left lung, carry oxygenated
blood from the lungs to the left side of the heart.
The oxygenated blood flows from the left atrium through the mitral valve and into the left
ventricle and out through the aortic valve and into the aorta and to the body. The heart has three layers the endocardium is the thin innermost layer, myocardium the muscular layer, epicardium outermost layer, heart is covered by the pericardium a fibrotic sac that has 2 layers (visceral and parietal) that contains pericardial fluid between them to lubricate and prevent friction as the heart contracts. The heart contracts by being triggered by an electrical system (depolarization). Systole (S1) myocardium contracts blood ejected from ventricles and aorta fills. Diastole (S2) myocardium relaxes, allowing for filling of ventricles. The coronary arteries are the blood vessels that supply the heart muscles with oxygen and nutrients they branch off from the aorta and run along the surface of the heart, allowing the heart to pump efficiently while also removing waste products from it. The right coronary artery supplies the right side of the heart, including the right atrium, right ventricle, and part of the posterior left ventricle. The left coronary artery supplies the left side of the heart including the left atrium, left ventricle, and part of the posterior side of the left ventricle. This then divides into the left anterior descending artery that supplies the anterior and left side of the heart. The left circumflex artery supplies the posterior and left side of the heart.
The heart supplies the body with oxygenated blood for the body to function as well as picking up deoxygenated blood to help get rid of CO2 and other waste products.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

MI is from an abrupt stoppage of blood flow through a coronary artery with a thrombus caused by platelet aggregation. This causes irreversible myocardial necrosis in the heart muscle beyond the blockage. Serum cardiac biomarkers are released into the blood. Most occur in the setting of preexisting CAD. An MI can be a STEMI caused by an occlusive thrombus resulting in ST-elevation in the ECG leads facing the area of infarction. NSTEMI is caused by a nonocclusive thrombus and does not cause ST segment elevation on the ECG but there may or may not be a ST depression and/or T wave inversion in the leads facing the area of infarction. Whether it is a STEMI or NSTEMI the ECG may show hypokinesis or akinesis in the necrotic area. The degree of LV dysfunction depends on the area of the heart involved and the size of the infarction. The MI process can start with the earliest tissues effected becoming ischemic in the subendocardium. If ischemia persist it takes around 4-6 hours for the entire thickness of the heart muscle to necrose. If the thrombus is not completely blocking the artery, the time to complete necrosis can be as long as 12 hours. The location of the MI and ECG changes correlate wit the involved coronary artery. Blockage of the RCA results in an inferior wall and/or posterior wall MI. Anterior wall infarctions result from blockages in the LAD artery. Blockages in the left circumflex artery causes lateral wall Mis. Danage cab occur in multiple locations. The degree of collateral circulation influences the severity of the MI.

To Be Completed Before the Simulation

Anticipated Patient Problem: Acute Pain

Goal 1: will verbalize a satisfactory pain control at a decreased intensity using a standardized pain scale (3 or below) on a scale of 0-10

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Conduct regular pain assessment using numeric standardized pain scale (0-10) q 4 hr	Administer prescribed analgesics as ordered
Monitor vitals signs q 1 hr	Implement supplemental oxygen and other relevant medications (NTG, ASA, etc.) as prescribed
Assess PQRST of pain q 2 hr	Implement nonpharmacologic strategies in conjunction with pharmacologic measures as needed
Place/assess ECG monitor during pain for evidence of MI as needed	Notify provider of abnormal ECG changes as needed
Monitor serial cardiac biomarkers PRN	Administer anticoagulants/antiplatelet therapy as ordered
Reassess pain and response to medication PRN	Notify provider for evaluation for further treatment/diagnostics PRN

Goal 2: will demonstrate increased comfort such as baseline levels for BP, pulse, respirations, and participation of ADLs.

To Be Completed Before the Simulation

Anticipated Patient Problem: Decreased Cardiac Output

Goal 1: Will maintain effective cardiac output as evidenced by UO ≥ 30 mL hr

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Monitor heart rate and rhythm continuously/PRN	Report any significant changes to provider as needed (prepare to administer medications such as inotropic and vasodilator medications)
Measure blood pressure and oxygen saturation q 1 hr	Administer supplemental O2 as prescribed (or based on their oxygen saturation)
Assess LOC q 1 hr	Reduce unnecessary stimuli and maintain a calm environment q 2 hr PRN
Evaluate for signs of fluid overload q 1 hr	Auscultate lung sounds and administer diuretics as prescribed
Monitor UO q 1 hr and daily weight	Report any significant changes to provider as needed
Assess peripheral pulses and capillary refill q 2 hr	Reposition and perform passive/active ROM exercises as tolerated

Goal 2: will maintain effective cardiac output as evidenced by heart rate WNL (60-100) with regular rhythm, strong pulses, warn/dry skin, clear breath sounds, normal LOC, adequate capillary refill

To Be Completed During the Simulation:

Actual Patient Problem: Decreased Cardiac Output

Clinical Reasoning: CAD with angina, HTN
Goal: will maintain effective cardiac output as evidenced by heart rate WNL (60-100) with regular rhythm, strong pulses, warn/dry skin, clear breath sounds, normal LOC, adequate capillary refill by end of my care Met: ☐ Unmet:☐

Goal: Will maintain effective cardiac output as evidenced by UO ≥ 30 mL/hr by end of my care Met: ☐ Unmet:☐

Actual Patient Problem: Acute Pain

Clinical Reasoning: Chest pain 8 out of 10, SOB, unrelieved pain
Goal: will verbalize a satisfactory pain control at a decreased intensity using a standardized pain scale (3 or below) on a scale of 0-10 by the end of my care Met: ☐ Unmet:☐

Goal: will demonstrate increased comfort such as baseline levels for BP, pulse, respirations, and participation of ADLs. Met: ☐ Unmet:☐

Additional Patient Problems: **risk for bleeding, risk for allergy reaction, deficient knowledge**

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/ Evaluation
Acute Pain	1722	Chest pain started at 1655, "chest being squeezed, hard to breathe" "I feel dizzy, sick to my stomach" unrelieved pain Hx of "blocked arteries" HR- 104 RR- 26, BP- 96/56 O2- 94% on 4L NC		Placed ECG monitoring	1725	Chest pain 8 out of 10 HR- 106, RR- 24, BP- 100/66 O2- 96% 4L NC
Decreased Cardiac Output, Acute Pain	1730	STEMI, Hx of HTN, CAD with agina, asthma	1755	Transferred to Cardiac Cath for a PCA with stent placement in left anterior descending coronary artery then transferred to ICU	2100	HR- 96, RR-14, BP- 112/66. O2 98% on 2L NC, no bleeding or hematoma present at right groin puncture site , indwelling urinary catheter intact, draining clear yellow urine, CVP catheter intact with opaque dressing, scant amount of red drainage around insertion site
Risk for Allergy	2110	HR- 98, RR-20, BP-	2115	Assessed lung	2120	O2- 87%, skin turn

Reaction		118/72. O2 96% on 2L NC, right femoral pressure dressing clean dry and intact, RSR with PVCs, s/sx of allergic reaction at IV site “can’t quite catch my breath” cough, nasal congestion		sounds before administering Diphenhydramine, administered 25 mg of Diphenhydramine IV Bolus, applied nonrebreather facemask increased O2 to 15L		ashen, nail beds dusky, strider, in distress, called provider and rapid response team
Risk for Allergy Reaction	2120	O2- 87%, skin turn ashen, nail beds dusky, strider, in distress, called provider and rapid response team	2200	RN administered one dose of epinephrine 0.3 mg IM STAT	2200	“I feel much better, Ive been breathing much better, and I don’t itch anymore” O2- 100% nonrebreather mask
Risk for Bleeding, Risk for Allergy Reaction	2200	“Nagging cough” O2-100% on nonrebreather mask	2200	Transitioned supplemental O2 to NC, instructed on how to cough properly to not dislodge clot, added shellfish/contrast dye allergies to MHR	2200	Developing hematoma
Risk for Bleeding	2205	Right groin puncture site has saturated dressing with bright red drainage and a 3-inch hematoma	2230	Right groin bleeding stopped, pressure dressing applied, outlined hematoma area with marker, lab work drawn	2230	Hematoma 6 inches in diameter
Decreased Cardiac Output	2230	Potassium 3.2 mEq/L	2235	Administered Potassium 20 mEq PO BID	0600 12/7	Potassium 3.2 mEq/L
Deficient Knowledge	2240	Little physical activity, previous smoking history, unhealthy food habits	2240	Educated on modifiable risk factors and provided handout	2240	Verbalizes understanding about modifiable risk factors
Decreased Cardiac Output	12/7 1900	Damage to portion of left ventricular myocardium, manifestations of cardiogenic shock, aortic pressure 54, SBP- less than 90, UO dropped to 48mL/hr	1900	Increased supplemental O2 to 3L, IV of 0.9 sodium chloride at 250 mL/hr, start dobutamine drip	1930	MAP 54 mmHg, BP-88/54, HR-96
Decreased Cardiac Output	1930	MAP 54 mmHg, BP-88/54, HR-96	1950	Dobutamine continuous bolus infusing, Administered Norepinephrine	2040	BP- 96/56 “less shaky, not as dizzy or sweating anymore”
Deficient Knowledge	1915	Previous medical history and recent cardiac incidence	1915	Educated on low sodium foods, lifestyle changes, and medication administration	1915	Ready for transfer to stepdown unit, verbalizes understanding of education

<u>To Be Completed After the Simulation</u>

The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations

NCLEX IV *(7)*: Reduction of Risk

Actual Labs/ Diagnostics
Potassium
ECG
CXR
Creatinine
Dysrhythmias
Sedum cardiac biomarkers

NCLEX II *(3)*: Health Promotion and Maintenance

Signs and Symptoms
Chest pain (severe, unrelieved)
SOB
Syncope
Cough
High-pitched wheezing
Itching
Ashen skin
Hematoma
Vital Signs not WNL
Epigastric pain

NCLEX II *(3)*: Health Promotion and Maintenance

Contributing Risk Factors
HTN
CAD with angina
Asthma
Smoking hx

Therapeutic Procedures
Non-surgical
ECG monitoring
Pressure on entry site

Surgical
PCA with stent
Emergent PCI

NCLEX IV *(7)*: Reduction of Risk

Prevention of Complications
(Any complications associated with the client's disease process? If not what are some complications you anticipate)
Myocardial necrosis
Anaphylaxis shock
Cardiogenic shock
Dysrhythmias
Heart failure
Papillary Muscle Dysfunction/Rupture
Left Ventricular Aneurysm
Ventricular septal wall rupture/left ventricular free wall rupture
Pericarditis
Dressler syndrome

NCLEX IV *(6)*: Pharmacological and Parenteral Therapies

Medication Management
Supplemental O2 (NC and nonrebreather mask)
Diphenhydramine
Epinephrine
Potassium supplement
Norepinephrine
Dobutamine
Other thrombolytic therapy

NCLEX IV *(5)*: Basic Care and Comfort

Non-Pharmacologic Care Measures
Education, nutrition, Proper coughing technique, therapeutic communication, catheter, pressure dressing

NCLEX III *(4)*: Psychosocial/Holistic Care Needs

Stressors the client experienced?
Pain, fear, anxiety

Client/Family Education

Document 3 teaching topics specific for this client.
- healthy diet
- cardiac medications
- physical exercise

NCLEX I *(1)*: Safe and Effective Care Environment

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)
Rapid Response Team, Pharmacy, Cardiac Cath Team, ICU nursing staff, multiple providers

Patient Resources
Education pamphlet, nutrition resources, providers medication plan, cardiac rehab, follow-up appointment

Reflection Questions

Directions: Write reflection including the following:

1. What was your biggest “take away” from participating in the care of this client?

My biggest takeaway was how important it is to quickly recognize and managing a patient with myocardial infarction and a patient who had an allergic reaction post cardiac intervention. This just happen to be the same patient in this scenario. This showed me that even after a complication seems to be resolved and a patient is now stable, unexpected complications can still arise. This is why accurate, thorough, and timely assessments/interventions are crucial when participating in the acute care of patients.

2. What was something that surprised you in the care of this patient?

I was surprised was how quickly the allergic reaction developed and affected the patient. While I am also surprised with how long the unrelieved chest pain occurred from the initial incident at the patient’s home to intervention in the hospital. I just can’t wrap my head around how surgical intervention for this complication can happen in such a quick timeframe. This also brings up the point how well all the healthcare workers worked and collaborated quickly and efficiently so the patient can have a positive outcome.

3. What is something you would do differently with the care of this client?

After the allergic complication I would make sure monitoring of potential reactions would be more thorough and concise. I am not sure if needs to be done by the Cardiac Cath team before handing the patient off to the ICU or the ICU team doing more frequent assessments. I wonder if closer monitoring was put in place, if the nurse and provider could of put interventions in place before the rapid response team was needed.

4. How will this simulation experience impact your nursing practice?

This experience reinforced to me the importance of continuous and thorough assessment, as well as quick critical thinking followed up by efficient intervention. It seems adequate experienced nurses are firing on all cylinders to give exceptional patient care. Also being able to prioritize assessments/interventions in emergent situations. Going forward I would like to implement more proactive assessments/monitoring for complications. What would go along with this is more advanced critical thinking skills that comes with more experience.