ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2025

Student Name: Ryan Clagett

ATI Scenario: MI Complications

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 heart is a 4-chambered hollow muscular organ; it lies w/n the thorax, in the mediastinal space that separates the right and left pleural cavities; the heart is composed of 3 layers: endocardium (thin), myocardium (muscle), epicardium (outer layer); a fibroserous sac called the pericardium covers the heart; the pericardium consists of 2 layers: visceral (inner) and parietal (outer); pericardial fluid lubricates the space b/t the pericardial layers and prevents friction b/t the surfaces as the heart contracts.
-the septum vertically divides the heart, creating a left and right atrium
-blood flow: RA receives venous blood from the IVC and SVC and the coronary sinus; then RA through the tricuspid valve to the RV; the RV pumps blood through the pulmonic valve into the pulmonary artery and to the lungs; oxygenated blood flows from the lungs to the LA by way of the pulmonary veins; then LA passes through the mitral valve and into the LV; as the heart contracts, blood is ejected through the aortic valve into the aorta and enters the systemic circulation.
-coronary arteries provide myocardium w/ its own blood supply; primarily during diastole (relaxation of the myocardium); arteries supply the left atrium, left ventricle, interventricular septum, and part of the right ventricle; in most peeps, the atrioventricular (AV) node and the bundle of His receive blood supply from the right coronary artery.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

-Myocardial infarction is the necrosis of myocardial muscle due to lack of O2 to myocardial cells as a result of reduced or blocked blood flow through one or more coronary arteries
-Infarction site depends on involved vessels
-Part of acute coronary syndrome, the time between sudden onset of myocardial ischemia and myocardial death, and requires immediate intervention
-Classified into 5 types:
--1. Spontaneous MI r/t decreased myocardial blood flow as a result of an atherosclerotic plaque rupture, dissection, ulceration, fissuring, or erosion of one or more coronary arteries
--2. MI r/t increased O2 demand or decreased O2 supply to the coronary arteries as a result of an embolus, cardiac arrhythmia, anemia, respiratory failure, coronary artery spasm, HTN, or hypotension
--3. MI resulting in sudden death before cardiac biomarkers are obtained or appear in the blood
--4. A. MI r/t percutaneous coronary intervention (PCI). B. MI r/t thrombosis formation in a stent
--5. MI r/t CABG
-If ischemia resulting from coronary artery occlusion lasts >45mins, irreversible myocardial cell damage and muscle death occur
-Every MI has a central area of necrosis, surrounded by an area of hypoxic injury; injured tissue is potentially viable and may be salvaged if circulation is restored, or it may progress to necrosis
-Infarction causes reduced muscle contractility w/ abnormal wall motion, altered L ventricular compliance, reduced SV and EF, and elevated L ventricular end-diastolic pressure

-conduction system creates and transports the electrical impulse, or action potential; impulse starts depolarization of the heart cells, leading to heart muscle contraction; the electrical impulse normally begins in the sinoatrial (SA) node (pacemaker of heart); impulses from the SA node travel through interatrial pathways to depolarize the atria, resulting in a contraction; the electrical impulse travels from the atria to the AV node through internodal pathways; the signal then moves through the bundle of His and the left and right bundle branches; the action potential moves through the walls of both ventricles via Purkinje fibers; this triggers a synchronized right and left ventricular contraction and ejection of blood into the pulmonary and systemic circulations; last, repolarization occurs when the contractile and conduction pathway cells regain their resting polarized condition
-normal ECG pattern: P wave represents depolarization of the atria; the QRS complex indicates depolarization of the ventricles; the T wave represents repolarization of the ventricles; the U wave, if present, may represent repolarization of the Purkinje fibers or be associated w/ hypokalemia.
-systole, contraction of the heart muscle, results in ejection of blood from the ventricles; relaxation of the heart muscle, diastole, allows for filling of the ventricles; cardiac output is the amount of blood pumped by each ventricle in 1 min: CO = SV x HR; it's normally 4-8 L/min; the volume of blood stretching the ventricles at the end of diastole, before the next contraction, is called preload; afterload is the peripheral resistance against which the left ventricle must pump
-3 major blood vessels: arteries, veins, and capillaries; arteries carry oxygenated blood from the heart; veins carry deoxygenated blood toward the heart; small branches of arteries and veins and arterioles and venules, respectively
Regulation of CV System:
-the autonomic nervous system consists of the sympathetic (fight or flight) and

-Arterial occlusion is usually the result of atherosclerotic plaque rupture followed by thrombus formation; the thrombus then occludes a coronary artery, stopping blood flow to the heart and depriving the heart of O2, which causes ischemia that leads to cellular death
-Causes include: atherosclerosis, coronary artery stenosis or spasm, platelet aggregation, thrombosis or embolism, drug use (amphetamines or cocaine), ventricular hypertrophy, carbon monoxide poisoning, acute pulmonary disorders, and congenital coronary anomalies

parasympathetic (rest and digest) nervous systems -baroceptors measure pressure w/n arterial system -chemoreceptors in the medulla stimulate the vasomotor center to increase BP. -arterial BP is a measure of the force exerted by blood against the walls of the arterial system; mean arterial pressure ≥ 65 shows adequate perfusion		

To Be Completed Before the Simulation

Anticipated Patient Problem: **Decreased Cardiac Output**

Goal 1: The pt will have an SBP ≥90 mmHg during my time of care.

Goal 2: The pt will have a UO ≥30 mL/hr during my time of care.

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?
Assess VS (esp. HR and BP) q5-15min and PRN.	Administer isotonic crystalloid IVF STAT and PRN.
Assess rate, rhythm, quality, and sounds of the heart and lungs q1h and PRN.	Obtain a 12-lead EKG STAT and maintain continuous cardiac monitoring at all times.
Assess SpO2 and WOB q1h and PRN.	Apply supplemental O2 (starting w/ NC at 2 L/min) PRN per protocol.
Assess 12-lead EKG STAT and clinical presentation upon arrival.	Collaborate w/ cardiologist and cath lab for reperfusion therapy (PCI or fibrinolytic therapy) STAT.
Assess skin color, temperature, and moisture q1h and PRN.	Maintain bedrest w/ HOB >30° at all times and educate on limited physical activity PRN.
Assess UO q1h and PRN.	Obtain an external urinary catheter or urinal and place at the bedside PRN.

To Be Completed Before the Simulation

Anticipated Patient Problem: **Acute Pain: Chest**

Goal 1: The pt will report 0/10 chest pain during my time of care.

Goal 2: The pt will demonstrate effective use of nonpharmacological pain techniques (deep breathing, guided imagery, meditation, progressive muscle relaxation) by the end of my care.

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?
Assess for S/Sx of MI (diaphoresis, SOB, fatigue, intense CP w/ or w/o radiation) PRN before starting tx.	Obtain a 12-lead EKG STAT and maintain continuous cardiac monitoring at all times while collaborating w/ the provider about the best course of tx.
Assess pain characteristics (onset, provocation, quality, radiation, severity, and timing) q30mins and PRN.	Administer NTG sublingually unless contraindicated PRN for CP and repeat per protocol.
Assess the effectiveness of PRN sublingual NTG after 15 mins or 3 doses for inadequate pain relief.	Administer morphine or fentanyl IVP PRN for CP unrelieved by NTG.
Assess if aspirin dose was administered before arrival and assess for S/Sx of MI PRN.	Administer aspirin as ordered and scheduled PRN for CP.
Assess pain upon changing positions or ambulation PRN.	Educate on bed rest and limiting physical activity, such as changing positions, PRN.
Assess for anxiety or lingering pain after available pharmacological analgesic methods have been used PRN.	Educate on nonpharmacological analgesic methods (deep breathing, guided imagery, meditation, progressive muscle relaxation) PRN.

To Be Completed During the Simulation:

Actual Patient Problem: Decreased Cardiac Output (1)

Clinical Reasoning: STEMI dx, LAD coronary artery occlusion, hematoma formation, development of cardiogenic shock

Goal: RD will have a SBP ≥90 mmHg during my time of care. Met: ☐ Unmet: ☐

Goal: RD will have a UO ≥30 mL/hr during my time of care. Met: ☐ Unmet: ☐

Actual Patient Problem: **Deficient Knowledge: Lifestyle and Prevention of MI (2)**

Clinical Reasoning: obesity, smoking hx, eating unhealthy foods, sedentary lifestyle, many modifiable risk factors, new prescription medications, stent placement requiring antiplatelet therapy

Goal: RD will report eating more fruits, vegetables, and fish by the end of my care. Met: ☐ Unmet: ☐

Goal: RD will verbalize understanding of taking clopidogrel by the end of my care. Met: ☐ Unmet: ☐

Additional Patient Problems: Acute Pain: Chest (3) Risk for Allergy Reaction (4), Risk for Shock (5), Deficient Fluid Volume (6), Readiness for Enhanced Health Management (7), Risk for Bleeding (8), Risk for Electrolyte Imbalance: Potassium (9)

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
1, 3	Day 1 1720	EMS gave report: "chest tightness not relieved with nitroglycerin tablets"; BP 110/82 at 1715 decreased to 100/68 over 5 mins; HR 104; RR 24; EKG showed prolonged P wave, premature ventricular contractions, and ST elevation; ashen skin color; O2 applied via NC at 4 L/min	Day 1 1725	Collaborated w/ EKG tech to obtain 12-lead EKG; maintained NC at 4 L/min; kept NPO for cath lab	Day 1 1730	MD interpreted EKG results as a STEMI; MD educated about cardiac catheterization procedure; SpO2 96% on NC at 4 L/min

3	Day 1 1720	"It feels like my chest is being squeezed right here"; 8/10 CP that is squeezing	Day 1 1745	Administered morphine 2 mg IVP	Day 1 1750	CP reported to have lessened [no number reported]
""	""	""	""	""	Day 3 1900	No reported pain after cath procedure; pain remained 0/10 during time of care
1	Day 1 1745	NPO; BP 102/58, HR 100; troponin T 0.2 ng/mL; troponin I 0.06 ng/mL	Day 1 1745	Administered 300 mL of NS via PIV; set infusion rate of NS to 100 mL/hr	Day 1 1745	UO 600 mL total so far; PIV running at the prescribed rate; dressing clean, dry, and intact; no pain, pallor, erythema, edema, or drainage
1	Day 1 2100	Report from cath lab RN given to ICU RN: percutaneous transluminal coronary angioplasty w/ stent placement in LAD coronary artery; central venous catheter in place; A-line in place; indwelling urinary catheter in place; receiving O2 via NC at 2 L/min; vascular closure device used after the lines were removed from the R femoral puncture site; no bleeding or hematoma present	Day 1 2105	Maintained R neck CVP line, L radial A-line, and pressure dressing; obtained cardiac monitoring from telemetry; maintained IV infusion of NS at 250 mL/hr; maintained HOB flat and educated on covering puncture site when coughing; educated on reported numbness/tingling immediately; maintained NC at 2 L/min	Day 1 2110	Lines are clean, dry, and intact; no pain, pallor, erythema, edema, or drainage from lines or pressure dressing; EKG shows NSR w/ PVCs; no UO since this earlier in the afternoon; verbalized understanding and demonstrated covering puncture site when coughing and verbalized understanding of S/Sx of neurovascular compromise and reporting anything abnormal immediately; SpO2 96% on NC at 2 L/min
""	""	""	""	""	Day 1 2300	UO 175 mL; intake of 250 mL of NS
""	""	""	""	""	Day 3 1900	UO 250 mL; intake of 300 mL of NS

4	Day 1 2110	Reported itching across arms and chest	Day 1 2115	Checked allergies (shellfish), obtained a prescription for diphenhydramine 25 mg IVP and administered; heard wheezing upon auscultation of lung fields; heard slight inspiratory stridor; collaborated w/ MD and charge nurse about next steps; RR 32; increased O2 delivery to nonrebreather mask at 15 L/min; rapid response team called	Day 1 2120	Orders were placed for epinephrine IM; SpO2 87% on NRB at 15 L/min; telemetry shows tachycardia w/ PVCs
""	""	""	Day 1 2125	Administered epinephrine 0.3 mg IM; d/c NRB at 15 L/min once SpO2 reached 100% and replaced w/ NC at 3 L/min; added shellfish and contrast dye allergies to allergy list; educated to report to other healthcare professionals in the future about allergies	Day 1 2200	Anaphylaxis reversed; "I'm breathing much better"; "I don't itch anymore"; wheezing subsided; NSR w/ PVCs on telemetry; RR 14; SpO2 96% on NC at 3 L/min
8	Day 1 2230	Hematoma developing at R groin insertion site	Day 1 2235	Applied pressure to the R groin site w/ a clean glove; outlines hematoma site w/ a marker	Day 1 2300	Hematoma did not get any bigger throughout the night
9	Day 1 2300	K 3.2; telemetry shows NSR w/ PVCs	Day 1 2305	Administered potassium chloride 20 mEq PO; cardiac risk factors education pamphlet provided and placed at the bedside	Day 2 0100	Telemetry shows NSR w/ PVCs; pending AM K lab draw (K 3.2 at 0600; K 3.4 on Day 3 at 0600)

2	Day 2 0115	Verbalized modifiable risk factors (smoking, sedentary lifestyle, eating out, eating red meat, not eating enough healthy foods or drinks)	Day 2 0120	Educated on lifestyle modifications to improve or eliminate modifiable risk factors, eating low-saturated fat and high-fiber foods, adding 4-6 servings of fruits and vegetables, and taking new and existing medications as prescribed	Day 2 0125	Verbalized understanding of modifiable risk factors and ways to curtail an unhealthy lifestyle, including dietary and exercise changes as well as taking medications as prescribed
5, 6	Day 2 1800	Developing S/Sx of cardiogenic shock; L ventricular myocardium damage during cath lab procedure; MAP 54; agitated and restless; arterial BP 88/54; UO 48 mL/hr (drop from previous counts)	Day 2 at 2010	Initiated an infusion of NS at 250 mL/hr, dobutamine drip (250 mg in D5W 250 mL) started at 16.5 mL/hr, and norepinephrine drip (4 mg in D5W 1000 mL) at 0.5 mcg/min through the central line; titrated NC from 4 L/min to 2 L/min	Day 2 2040	"I'm not shaky anymore"; HR 64, SpO2 96% on NC at 2 L/min; BP 96/56; NSR w/ PVCs noted on telemetry
2, 7	Day 3 1900	Wife present at bedside; orders placed for transfer to cardiac step-down unit; reported talking to wife about lifestyle changes once discharged	Day 3 1905	Provided an education pamphlet about food choices regarding sodium content; educated about ¾ cup of shredded wheat for a healthy breakfast; educated about eating more fish, vegetables, fruits, and avoiding eating red meat and fast-food restaurants; educated on clopidogrel action and watching for unusual or abnormal bleeding (bruising, blood in stool), taking two antiplatelet	Day 3 1910	Verbalized understanding of making healthier lifestyle choices and following medication regimen as prescribed

				medications, preventing clots due to implanted stent in coronary artery; reported a persistent, dry cough while taking lisinopril for HTN		

To Be Completed After the Simulation

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
-Troponin T 0.2 ng/mL; troponin I 0.06 ng/mL
-CXR (no significant findings)
-CBC (K 3.2)
-CMP
-Cardiac catheterization (LAD coronary artery occlusion)
-A-line and central line

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

Signs and Symptoms
-Squeezing/crushing CP rated at an 8/10
-Pain unrelieved by 3 doses of NTG
-SOB
-Limited physical activity due to pain and SOB
-Ashen skin color
-Required O2 via NC to maintain oxygenation status above 90%

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

Contributing Risk Factors
-Obesity (height 66 in; weight 242 lbs)
-African-American male aged 54
-Excessive intake of saturated fats, CHO, and salt
-HTN
-Sedentary lifestyle (no exercising)
-Stress from work
-Hx of smoking

Therapeutic Procedures
Non-surgical
-Cardiac catheterization
-Percutaneous transluminal coronary angioplasty w/ stent placement in LAD coronary artery
Surgical
-[CABG]

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)
-Arrhythmias (cath lab tx)
-HF r/t cardiogenic shock (early recognition and infusion of dobutamine and norepinephrine)
-Hematoma formation (applying pressure early and marking site to determine progression)

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

Medication Management
-Aspirin
-Clopidogrel
-NTG
-Morphine
-Potassium chloride
-Norepinephrine
-NS
-Dobutamine

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

Non-Pharmacologic Care Measures
-HOB flat to prevent dislodgement of clot at insertion site for catheterization procedure
-Splinting insertion site when coughing

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

Stressors the client experienced?
-Time away from home
-Hospitalization
-Education regarding major life changes that need to be made to prevent future MIs

Client/Family Education

Document 3 teaching topics specific for this client.
- Increasing intake of fruits, vegetables, and fish.
- Increasing time spent exercising, including going on walks w/ wife.
- Taking medications, such as aspirin and clopidogrel, as prescribed.

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

Multidisciplinary Team Involvement
(Which other disciplines were involved in caring for this client?)
-RN, cardiologist, dietician, rapid response, charge nurse, [RRT, cardiac surgeon, pulmonologist]

Patient Resources
-AHA, activity guidelines, medication reconciliation/management, cardiac rehab, follow-up w/ PCP, emergency preparedness (family learns CPR), NHGBI, CDC, Sudden Cardiac Arrest Foundation

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 from participating in the care of this client was that early nursing assessments and interventions are needed in a time-sensitive dx such as a STEMI. Many moving parts need to move quickly to ensure this client's safety and evidence-based care, including effective pain management, door to balloon time, as well as ensuring that the client is receiving the emotional care they need to be involved in their care and not panic or contribute to their status deteriorating.

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

   Something that surprised me in the care of this client was that the scenario allowed me to see the arrival and the transition to the ICU and eventually the step-down cardiac unit. The scenario also showed what could have gone wrong at every point in the care of this client, including a hematoma formation, cardiogenic shock, and allergy reaction. Seeing this in the scenario makes me feel better prepared to handle these emergencies as a practicing nurse. The scenario reinforced appropriate nursing assessments, using the nursing process to quickly determine what the client is experiencing and finding a solution through collaboration to correct the problem.

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

   Although it may have had to do with the scenario script, there seemed to be less of a sense of urgency between identifying an allergic reaction and the cardiogenic shock and implementing orders and correcting the problem. The videos that were shown in between the answering screens seemed to show that much time was spent deliberating on the client’s status and what needed to be done to correct it; however, I feel that I would have had more of a sense of urgency in contacting the provider and implementing orders while collaborating with the charge nurse to ensure that the client’s condition did not deteriorate rapidly.

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

   This simulation experience will impact my nursing practice by giving me the assessments and quick decision-making needed when caring for a client with a time-sensitive pathophysiology, such as a STEMI. Appropriate and concise communication is paramount to collaborating with the charge nurse, other healthcare professionals, or the provider to initiate orders and improve client outcomes. Also, I learned that double-checking calculations and having a second person verify calculations are necessary and vital to ensure that the client receives the appropriate amount of medication to be therapeutic and not harmful.