

Student Name Hayley McCabe  
ATI Real Life Scenario: MI

\*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: Myocardial Infarction**

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

**Anatomy and Physiology**  
**Normal Structures**  
Anatomy:  
4 chambers, 2 atrium R/L, 2 Ventricles R/L Aorta, Superior/Inferior Vena Cava, Pulmonary Artery & Vein  
Right atrium → thin wall with low pressure blood is received from the vena cava and flows out through the tricuspid valve (deoxygenated blood comes from Head/neck and rest of the body)  
Right ventricle → thin wall low pressure, receives blood from right atrium, and flows out through the pulmonic valve to the pulmonary artery to the lungs to get oxygenated  
Left atrium → thicker wall, medium pressure, receives oxygenated blood from the pulmonary veins and flows out through the mitral valve  
Left ventricle → thick wall, high pressure, receives blood from left atrium and flow outs through the aortic valve to the aorta then is sent to the rest of the body  
**Electrical System of the heart**  
SA node “pacemaker” (60-100 bpm) (right atrium) – everything starts here these impulses cause the atrium to contract, and travels down internodal pathways, sends signal to AV node (interseptum area) lets delay happen and the valves to close all of the way , sends impulse down through the Bundle of His (interventricular septum) and branches into the right bundle branch and the left bundle branch and these branch off into Purkinje fibers (over ventricular tissue) and helps deliver depolarization of the ventricle (contraction)

**Pathophysiology of Disease**  
Caused by plaque rupture, new coronary artery thrombosis, coronary artery spasm  
Abrupt stoppage of blood flow through a coronary artery that causes irreversible myocardial cell death  
STEMI: caused by an occlusive thrombus, ST elevation in the leads facing the area of infarction, need to open the artery within 90 minutes  
NSTEMI: nonocclusive thrombus, no ST elevation, catheterization within 12-72 hours, thrombolytic therapy not indicated  
  
Hypoxia occurs in 10 seconds to the heart muscle and can withstand this for 20 minutes before cell death  
Mostly affects the LV  
Anerobic metabolism produces lactic acid  
Severity is dependent on the degree of collateral circulation

NCLEX IV (7): **Reduction of Risk**

**Anticipated Diagnostics**  
**Labs**  
Serial Troponin  
Myoglobin (not used often)  
CKMB  
  
**Additional Diagnostics**  
12 Lead EKG  
Cardiac Catheterization

**Layers**

1. Endocardium → thin innermost layer
2. Myocardium → Muscular layer
3. Epicardium → Outermost layer

**Pericardial Sac**

1. Visceral layer → thin inner layer
  2. Parietal layer → tough fibrous layer
- Pericardial fluid (10-15mL) rests between the layers to lubricate the layers and prevent friction during contraction.

**Blood Vessels**

Arteries – thick walls, carry blood away from the heart, elastic tissue  
Arterioles – has little elastic tissue and more smooth muscle  
Capillaries – thin walls of endothelial cells

Venules – small vessels that collect blood from capillary beds

Veins – large diameter, thin wall

**Right coronary artery supplies the right atrium and ventricle, portion of the posterior wall of the left ventricle, SA node, AV node, and Bundle of His**

**Left coronary artery supplies the left atrium and ventricle and the interventricular septum**

**Cardiac Output** → amount of blood pumped by each ventricle in 1 minute,  $CO = SV \times HR$  – best indicator is Urinary output



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

**Contributing Risk Factors**  
 Age  
 Gender  
 Ethnicity  
 Family Hx  
 Smoking  
 Elevated Cholesterol  
 Hypertension  
 Obesity  
 CAD  
 Diabetes  
 Stress/Depression/Anger  
 Substance abuse

**Signs and Symptoms**  
 Heavy, tight, burning, or crushing chest pain, can radiate down the arms, neck or jaw  
 SOB  
 Diaphoresis  
 Initial increase in HR and BP then decreased BP  
 Crackles  
 JVD  
 S3 or S4  
 New Murmur  
 Nausea/Vomitting  
 Fever up to 100.4

**Possible Therapeutic Procedures**  
**Non-surgical**  
 Thrombolytic Therapy  
**Surgical**  
 CABG  
 Cardiac Catheterization  
 Intra-Aortic Balloon Pump  
 Atherectomy

**Prevention of Complications**  
 (What are some potential complications associated with this disease process)  
 Death  
 Stroke  
 Heart Failure  
 Dysrhythmias  
 Cardiogenic Shock

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

**Anticipated Medication Management**  
 Morphine  
 Nitroglycerin  
 Aspirin  
 Oxygen  
 ACE Inhibitors /ARBS  
 Beta Blockers  
 Heparin  
 Glycoprotein IIB/IIA Inhibitors  
 Lipid Lowering Drugs  
 Antidysrhythmic  
 Stool Softeners  
 Thrombolytics – STEMI pts

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

**Non-Pharmacologic Care Measures**  
 Continuous Cardiac Monitoring (telemetry)  
 Oxygen  
 Bed rest  
 NPO  
 Cardiac Diet  
 Calm / relaxing low stimuli environment

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

**What stressors might a patient with this diagnosis be experiencing?**  
 Financial burden – being on bedrest/out of work, new medications, recent hospital stay  
 Guilt – potential modifiable risk factors  
 Fear of future – adapt and maintain a healthy lifestyle

Client/Family Education

NCLEX I (1): Safe and Effective Care Environment

Student Name Hayley McCabe  
ATI Real Life Scenario: MI

<p><b>List 3 potential teaching topics/areas</b></p> <ul style="list-style-type: none"><li>• <b>Cardiac Diet</b></li><li>• <b>Medication management</b></li><li>• <b>Pre/Post Procedure Care</b></li></ul>	<p><b>Multidisciplinary Team Involvement</b> (Which other disciplines do you expect to share in the care of this patient)</p> <p><b>Cardiologist, Dietician, Cardiac Rehab nurse, Cath lab nurse, pharmacist, PT</b></p>
--	--

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

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

**Problem #1: Acute Pain**

Patient Goals:

1. Pt will report a reduction of chest pain as a 0/10 by the end of my shift.
2. Pt will verbalize understanding of reporting chest pain immediately during my time of care.

care.

Assessments:

- Pain location, type, duration, and quality Q2/PRN, pain rating on a numeric scale PRN pain, HR Q4/PRN, BP Q4/PRN, RR Q4/PRN, EKG as ordered/PRN,

Interventions (In priority order):

1. Administer Morphine PRN pain rated 7/10 on numerical pain scale and as prescribed.
2. Administer Nitroglycerin PRN chest pain during my time of care.
3. Administer oxygen via NC PRN SpO2 <93% during my time of care.
4. Teach pt relaxation techniques such as controlled deep breathing prn chest pain.
5. Maintain calm and minimal stress environment during my time of care.
6. Educate pt to report any chest pain immediately during my time of care.

**Problem #2: Decreased Cardiac Output**

Patient Goals:

1. Pt will have a UO of at least 30ml/hr during my time of care.
2. Pt will maintain a HR between 60-100 bpm and a blood pressure within normal limits (120/80) in relation to their baseline, during my time of care.

Assessments:

- HR, BP, RR Q4/PRN, SpO2 Q4/PRN, UO Q4/PRN, capillary refill Q4/PRN, temperature and color of extremities Q4/PRN

Interventions (In priority order):

Student Name Hayley McCabe  
ATI Real Life Scenario: MI

1. Maintain O2 2L NC PRN SpO2 <93% during my time of care.
2. Administer antidysrhythmic medications as prescribed during my time of care.
3. Administer ACE inhibitors as prescribed during my time of care.
4. Maintain a low stimuli environment during my time of care.
5. Encourage frequent rest periods in between medical care during my time of care.
6. Maintain a low fowlers position in bed HOB 30-45 degrees, during my time of care.

**At this time, complete assigned ATI Real Life Simulation**

**Actual Patient Problems & Goals**

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

**Problem #1: Acute Pain: Angina**

Patient Goals:

1. RD will verbalize a pain of 0 on a 0-10 numerical pain scale during my time of care. **Met**   
Unmet
2. RD will have vital signs that indicate pain relief as evidenced by a HR between 60-100bpm and a RR between 12-20 by the end of my care. **Met**   
Unmet

**Problem #2: Impaired Gas Exchange: Anaphylaxis**

Patient Goals:

1. RD will maintain a SpO2 >95% on 2L NC by the end of my care. **Met**   
Unmet
2. RD will have clear and breezy lung sounds in all lobes bilaterally by the end of my care. **Met**   
Unmet

**Problem #3: Decreased Cardiac Output: Cardiogenic Shock**

Patient Goals:

1. RD will maintain a BP with a systolic >90mmHg and a HR 60-100 bpm by the end of my care. **Met**   
Unmet
2. RD will have warm, dry skin free from cyanosis by the end of my care. **Met**   
Unmet

**SOAP Notes Based on Priority Problems**

**Priority Patient Problem #1: Acute Pain: Chest Pain**

<p><b><u>Subjective:</u></b></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><b>Chief Complaint: Chest Pain</b> Dizzy, sick to my stomach, "started around 5:00 still intense, if not worse." Feels squeezing pain" over the heart Wife stated has a hx of blocked arteries, and experiences chest pain but not like this</p> <p><b>PMH:</b> hypertension, coronary artery disease w/ Angina, asthma, Previous smoker, now uses chewing tobacco</p> <p><b>Allergies:</b> Penicillin, Peanuts, Sulfa</p> <p><b>Current Medications:</b> nitroglycerin sublingual tablets, albuterol inhaler, lisinopril</p>
<p><b><u>Objective:</u></b></p> <p><i>This section is your clinical observations. Include, pertinent vital signs, pertinent labs and diagnostics related to priority problem.</i></p>	<p><b>Vital Signs:</b> P: 104, T: 37.2 C, RR 26, BP: 95/56, SpO2: 95% 2L NC, 8/10 Pain</p> <p><b>Labs:</b> Troponin T Trends: 0.02ng/mL (normal), 0.05 ng/ml (normal), 0.06 (elevated), 0.08 ng/mL (elevated) → labs were normal then trended up. Troponin I Trends: 0.06 ng/mL (elevated), 0.07 ng/mL (elevated), 0.08 ng/mL (elevated), 0.09 ng/mL (elevated)</p> <p><b>Diagnostics:</b> 12 lead ECG: shows ST elevation Myocardial Infarction STEMI CXR: no fluid, pneumothorax, heart enlargement, rib fractures, tumors. Aorta &amp; aortic arch have calcification and appear intact with no dilation of artery.</p>
<p><b><u>Assessment:</u></b></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Unrelieved chest pain, described at "tightness and squeezing", HR: 104 bpm, BP: 95/56, Pain: 8/10, RR: 26, pt stated feeling "dizzy and sick to stomach"</p>

<p><b>Plan</b>  <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><b>Plan:</b>          Initiate IV access for med and fluid administration          Morphine 2mg IVP q4 for moderate pain          Transfer to cath lab w/I 90 minutes for PCI – open left anterior descending coronary artery          Serial Lab draws – trend troponin levels          Continuous telemetry monitor          Titrate oxygen to maintain SpO2 &gt; 96% via NC or Non rebreather          Assess VS q15 min, then Q30 min for first hour</p> <p><b>Teaching/Resources:</b> lifestyle changes, medication management and compliance, purpose of the PCI, aftercare of PCI, diet modification, reporting chest pain immediately. Bleeding precautions.</p>

**Priority Patient Problem #2: Impaired Gas Exchange: Anaphalaxis Allergic Reaction**

<p><b>Subjective:</b></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><b>Chief Complaint:</b> runny nose, coughing, and stated “feels like I can’t breathe”, c/o itching over chest and arms.          Shellfish allergy revealed – indicates allergy to IV contrast dye</p>
<p><b>Objective:</b></p> <p><i>This section is your clinical observations. Include vital signs, pertinent labs and diagnostics related to priority problem.</i></p>	<p><b>Vital Signs:</b> HR: 116, RR: 32, BP: 155/98 SpO2 87% 100% nonrebreather</p> <p><b>Labs:</b> N/A</p> <p><b>Diagnostics:</b> Contrast in IV used for the PCI</p>

Student Name Hayley McCabe  
 ATI Real Life Scenario: MI

<p><b>Assessment:</b></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Pt appears anxious, with wheezing with periods of intermittent stridor upon auscultating lung sounds. Skin appeared ashen and nail beds were dusky.</p>
<p><b>Plan</b>  <b>*Based on priority problem only</b></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><b>Plan:</b> Document Allergy to shellfish &amp; contrast dye.        Alert provider of the new allergy. Administer 25 mg diphenhydramine IV bolus Q4 PRN itching &amp; restlessness.        Administer Epinephrine 0.3 mg IM PRN Q10-Q15min        Provide oxygen via nonrebreather keep SpO2 above 96%        Monitor VS Q5 min &amp; Q15 min 4x. Reassess lung sounds.  <b>Teaching/Resources:</b> importance of informing health care providers of all allergies</p>

**Priority Patient Problem #3: Decreased Cardiac Output: Cardiogenic Shock**

<p><b>Subjective:</b></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><b>Chief Complaint:</b>        Restless and agitated        Shaky        Dizzy        Sweating</p>
<p><b>Objective:</b></p> <p><i>This section is your clinical observations. Include vital signs,</i></p>	<p><b>Vital Signs:</b> HR:58, RR: 8, BP: 64/42, SpO2: 92%</p> <p><b>Labs:</b>        Troponin T Trends: 0.02ng/mL (normal), 0.05 ng/ml</p>

<p><u>pertinent labs and diagnostics related to priority problem.</u></p>	<p>(normal), 0.06 (elevated), 0.08 ng/mL (elevated) → labs were normal then trended up.          Troponin I Trends: 0.06 ng/mL (elevated), 0.07 ng/mL (elevated), 0.08 ng/mL (elevated), 0.09 ng/mL (elevated)</p> <p><b>Diagnostics:</b>          PCI: occlusion in LAD – damage to the left side of the heart</p>
<p><b>Assessment:</b></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Skin is Cool and diaphoretic. Pt complains of feeling dizzy. Pt appears agitated and restless. MAP: 54, UO Decreased: 48ml/hr.          Right femoral pressure dressing: clean &amp; dry          Cardiac Rhythm: sinus brady w/ PVCs.</p>
<p><b>Plan</b>  <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><b>Plan:</b>          Administer dobutamine 250 mg in 250ml 5% at 2.5mcg/kg/mL, titrate as needed          Administer 0.9% NaCl 1000mL 250ml/hr, can increase rate to 1000ml over 1hr if BP &lt;90 mmHg          Administer norepinephrine 4mg dextrose 5% 1000 mL at 0.5-1mcg/min (Max 30 mcg/min) if still unstable          Continue to monitor BP, cardiac rate &amp; rhythm during infusion</p> <p><b>Teaching/Resources:</b> pamphlets provided to reinforce healthy diet choices, incorporate exercise throughout the week.</p>

**Reflection:**

1. Go back to your Preconference Template:

Student Name Hayley McCabe  
ATI Real Life Scenario: MI

- 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?

One of the takeaways that I got while participating in the care of this patient is the reality of how chest pain occurs and progresses to a more medically involved event. For example, this patient came in for chest pain that was unrelieved by their at home sublingual nitroglycerin, an ECG revealed the patient was having a STEMI and would need a PCI. However, this rather common event progressed into the patient having an anaphylactic response to the IV contrast used during the PCI, simply because the patient did not disclose an allergy to shellfish because they were unaware of the significance. This then progressed to the patient experiencing cardiogenic shock, a complication of the MI. A significant event that does not always happen, so seeing this common MI develop into cardiogenic shock was a big take away in the sense that just because it may not happen often, doesn't mean it doesn't happen at all, and its important to be knowledgeable of the clinical manifestations and the proper care of this condition. This will impact my nursing care in the future as it is imperative to be continuing education and keeping up with conditions and adverse reactions or disease complications that I may not necessarily see every day, to be able to properly educated and provide my patients with the necessary care.

Time Allocation: 8 hours
--------------------------