Student Name **Marissa Malone**
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

The heart is located between the lungs, behind and slightly to the left of the sternum. The pericardium, a double-layered membrane, surrounds the heart like a "sac". The inner layer of the pericardium is attached to the heart muscle (myocardium) where fluid separates the two layers of the membrane allowing the heart to move as it beats.
-The heart consists of 4 chambers. The upper chambers are the left and right atria, the lower chambers are the left and right ventricles. The septum, a wall of muscle, separates the chambers. The left ventricle is the largest and strongest chamber, containing enough force to push blood through the aortic valve and into systemic circulation.
-Four valves regulate blood flow through the heart. The tricuspid regulated BF between the R atrium and R ventricle. The pulmonary valve controls BF from the R ventricle into the pulmonary arteries, which carry blood to the lungs to become oxygenated. The mitral valve lets the O2 rich blood from the lungs pass from the L atrium to the L ventricle. The aortic valve allows this O2 rich blood to pass from the L ventricle to into the aorta.
-Electrical impulses from the myocardium allow the heart to contract. The signal begins at the SA node (top of the R atrium) where the electrical impulse travels through the muscle fibers of the atria and ventricles- causing contraction.

Pathophysiology of Disease

A myocardial infarction occurs due to an abrupt stoppage of blood flow through a coronary artery with thrombus caused by platelet aggregation, causing irreversible necrosis in the heart muscle beyond the blockage. At this point, serum cardiac markers are released into the blood. Most MI's occur from preexisting CAD.
-A STEMI caused by an occlusive thrombus resulting in ST-elevation in the ECG leads facing the area of infarction. If this elevation is 1mm+ the isometric line in at least 2 contiguous leads except in V2 & V3, where the ST elevation must be 2mm+
STEMI is an EMERGENCY. To limit the infarct size, the artery must be opened within 90min of presentation to restore blood and O2 to the heart muscle. If the patient does not seek treatment quickly, the STEMI will evolve.
-NSTEMI is caused by a nonocclusive thrombus and does not cause ST-elevation. These patients must undergo catheterization within 12 to 72 hrs. Thrombolytics are not indicated for NSTEMI.
Both STEMI and NSTEMIs may show hypokinesis (worsening myocardial contractility) or akinesis (absent myocardial contractility). The acute MI process evolves over time, from hours to days. The earliest tissue to become ischemic is the subendocardium (innermost). If ischemia persists, it takes 4-6 hours for the entire thickness of the heart muscle to necrose. The degree of collateral circulation influences the severity of the MI.

NCLEX IV *(7)*: Reduction of Risk

Anticipated Diagnostics
Labs

Troponin, BNP, CK, CK-MB, Myoglobin, CBC, BMP

Additional Diagnostics

ECG, Cardiac Catheterization, H&P, CXR, echocardiogram, CT, MRI

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-Coronary arteries supply blood to the myocardium. The coronary arteries wrap around the outside of the heart while small branches dive into the heart muscle to deliver blood. The left main coronary artery supplies blood to the L ventricle and L atrium and divides into two branches. The left anterior descending branches off the LMCA and supplies blood to the front of the L side of the heart. The circumflex artery branches off the LMCA and encircles the myocardium- supplying blood to the outer side and back of the heart. The right coronary artery supplies blood to the R ventricle, R atrium, the SA nose and AV node. The RCA divides into small branches, the right posterior descending artery and the acute marginal artery. Together the with LAD, the RCA helps supply blood to the septum.

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

Contributing Risk Factors

CAD, previous MI, unstable angina, ACS, HTN, DM, sedentary lifestyle, obesity, genetics, smoking, uncontrolled LDL, cholesterol

Signs and Symptoms

Severe chest pain unresolved, burning/crushing pain to the substernal or epigastric area radiating to the neck, lower jaw, or back, diaphoresis, HTN, tachycardia, cool/clammy skin, nausea/vomiting, fever

NCLEX IV *(7)*: Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

Thrombolytic therapy, oxygen

Surgical

Cardiac catheterization PCI,

Prevention of Complications

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

Dysrhythmias, heart failure, cardiogenic shock, 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

Anticipated Medication Management

Oxygen, Morphine, Aspirin, Nitroglycerin

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

Non-Pharmacologic Care Measures

Rest, monitoring, frequent VS, follow-up ECG, follow-up cardiac markers, CBC, BMP, continuous ECG monitoring

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

What stressors might a patient with this diagnosis be experiencing?

Fear, pain, environmental stressors, financial stressors, family stressors

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Client/Family Education

List 3 potential teaching topics/areas

- **Healthy lifestyle changes**
- **Management of CAD/preexisting cardiac issues**
- **New medication information/side effects.**

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)

Lab, cardiovascular surgery, cath lab, pharmacy, emergency department staff, dietary, social worker

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. Client will report a pain level of 5 or less on a 0-10 scale during my time of care.
2. Client will maintain a HR of 60-100bpm during my time of care.

Assessments:

- Pain assessment (6 P's) q4hr/PRN, VS (HR, BP, RR) q4hr, LOC q4hr, review labs (cardiac markers, ABG, CBC) PRN

Interventions (In priority order):

1. Administer IV Morphine as ordered.
2. Administer Nitroglycerin as ordered PRN.
3. Administer/titrate O2 via NC PRN.
4. Maintain client in a position of comfort q2hrs or PRN.
5. Maintain a low-stimuli and calming environment q shift.
6. Demonstrate and educate deep breathing techniques q shift.

Problem #2: Activity Intolerance

Patient Goals:

1. Client will achieve a HR (60-100bpm) and BP (110-130/60-80mmHg) during activity during my time of care.
2. Client will report an absence of angina/pain during activities during my time of care.

Assessments:

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- VS (BP, HR, RR, SpO2) q4hrs, I&O q8hr, LOC q8hrs, assess cardiac markers (troponin, CK, myoglobin) PRN, monitor ECG for dysrhythmias PRN, peripheral pulses q8hr, cap refill q8hr, skin color/turgor q8hr, 6 P's of pain PRN.

Interventions (In priority order):

1. Administer antidysrhythmic medications as ordered.
2. Administer/titrate O2 via NC PRN.
3. Maintain cardiac diet (low sodium, heart healthy) at mealtimes.
4. Provide commode to ease activity intolerance to bathroom q shift.
5. Educate importance of gradual increase in activity as tolerated q shift.
6. Assist with light activities such as ambulating to bathroom or to the chair PRN.

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

Patient Goals:

1. RD will report a pain level of 0/10 during my time of care. Met ☐ Unmet ☐
2. RD will achieve a HR of 60-100bpm during my time of care. Met ☐ Unmet ☐

Problem #2: Ineffective Breathing Pattern

Patient Goals:

1. RD will have a RR of 12-20 breaths/min during my time of care. Met ☐ Unmet ☐
2. RD will have an SpO2 of 95-100% on 2L NC during my time of care. Met ☐ Unmet ☐

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SOAP Notes Based on Priority Problems

Priority Patient Problem #1: Acute Pain

Subjective: *This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.*	**Chief Complaint: Chest tightness not relieved by Nitroglycerin tablets; pt comes in complaining of chest tightness/squeeze while shoveling snow. Wife provided Nitroglycerin – calls 911 upon no relief from 3 doses and 325mg Aspirin. Upon ED admission still reports 8/10 pain.** **PMH: HTN, CAD, Angina, Asthma, wife reports hx of "blocked arteries" usually relieved by nitroglycerin tablets.** **Allergies: Penicillin, peanuts, sulfa, shellfish** **Current Medications: Nitroglycerin sublingual tablets, Lisinopril, Albuterol inhaler**
Objective: *This section is your clinical observations. Include, pertinent vital signs, pertinent labs and diagnostics related to priority problem.*	**Vital Signs: @ 17:22- HR104, RR26, pain level 8/10, SpO2 94% on 4L NC, Temp 37.2; @17:25 HR106, pain 8/10 SpO2 96% on 4L NC** **Labs: Troponin T 0.2, Troponin I 0.6, Cholesterol 324, Potassium 3.2** **Diagnostics: ECG shows ST-elevation, CXR shows aortic calcification, pain rating 8/10**
Assessment: *Focused assessment on your priority problem.*	**Reports pain 8/10 unrelieved by 3 doses of Nitroglycerin, reports squeezing and chest tightening feeling- wife reports Nitroglycerin usually helps but today has not relieved chest pain. Diaphoretic upon arrival, tachypneic.**
Plan ***Based on priority problem only** *Include what your plan is for the client. What treatments or medications are needed. You can include*	**Plan: Administer Morphine 2mg IVP q4hr for moderate pain, Titrate O2 delivery to meet 96% SpO2, Albuterol 2 puffs PRN for asthma (relief of chest tightness), prepare for cardiac catheterization- stent in LAD, monitor pain level, continuous VS checks, admission to ICU**

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procedures, consults, labs/diagnostics, etc. What nursing interventions are being performed?	**Teaching/Resources: Conservative medication such as Acetaminophen/Ibuprofen, guided imagery, maintain a low-stimuli environment, splint groin when coughing. Reporting any signs/symptoms of infection, MI, UA.**

Priority Patient Problem #2: <u>Ineffective Breathing Pattern</u>

<u>S</u>ubjective: *This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.*	**Chief Complaint: Shellfish Allergy; Anaphylactic Reaction post Contrast Angiography. Feels like a "cold is coming on", reports stuffy nose, coughing, dyspnea, anxiety.** **-RR <10 after 2mg Morphine IVP**
<u>O</u>bjective: *This section is your clinical observations. Include vital signs, pertinent labs and diagnostics <u>related to priority problem.</u>*	**Vital Signs: SpO2 87% on 15L non-rebreather, RR 32, HR 116** **Labs: ABGs (pH 7.35, PaO2 88, CO2 40, HCO3 26, SaO2 95) Lactic acid 0.6, Potassium 3.2, Creatinine 0.7** **Diagnostics: Reports feeling allergic-type reaction after ingestion of shellfish and "never eating it again". Wheezing & stridor auscultated. Tachycardic with PVCs noted on ECG.**
<u>A</u>ssessment: *Focused assessment on your priority problem.*	**Itching over arms/chest, coughing profusely (auscultated wheezing over lungs), stuffy nose – feels like "coming down with a cold", dyspnea, skin ashen, nail beds dusky, SpO2 87%, RR 32, HR 116, intermittent stridor breath sounds. Appears anxious.**
<u>P</u>lan	**Plan: Diphenhydramine 25mg IV bolus, Rapid**

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***Based on priority problem only** *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?*	**Response, replace NC to 100% O2 15L non rebreather, Epinephrine 0.3mg IV stat, continuous telemetry, titrate O2 back to NC upon relief/tolerance. Educate further shellfish/contrast allergy instruction. 1000mL 0.9% NaCl IV Bolus 300mL then 100mL/hr. Draw blood glucose (122) and troponin (0.07 (I) & 0.4 (T)) to lab. Add contrast dye & shellfish allergy to EMR.** - **Reverse Morphine oversedation with 0.2 mg Naloxone IV bolus, frequent VS checks.** **Teaching/Resources: Informing healthcare professionals of all allergies/reactions, baseline VS, importance of obtaining EpiPen, print-outs of new medication information.**

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 is to anticipate adverse effects regardless of prior history of any patient. What may seem like a small event to them, may be a serious adverse effect long-term. Some patients may not correlate a shellfish allergy with contrast-dye, which is a serious finding. This reiterates the importance of thorough PMH and allergies, as well as anticipating possible adverse reactions. It is significant to be thorough in assessments as well as monitoring our patients post CT and angiography for anaphylactic reactions. In my nursing practice, I will be sure to conduct a thorough investigation of past allergies, reactions, and to ask about anything that has ever caused a reaction in the past. This can

be prophylactic in a patient like Mr. Davis, who has not correlated a shellfish reaction/allergy with contrast dye.

Time Allocation: 8 hours