*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 Incident

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

Anatomy and Physiology
Normal Structures

Anatomy:
Superior and inferior vena cava, right atrium, tricuspid valve, right ventricle, pulmonic valve, pulmonary arteries, pulmonary veins, right atrium, mitral valve, left ventricles, aortic valve, aorta (left subclavian artery, left common carotid artery, brachiocephalic trunk artery, left and right coronary artery.

Physiology:
Unoxygenated blood returns to right atrium via the superior and inferior vena cava, the right atrium fills with unoxygenated blood during diastole and pushes this blood through the tricuspid valve into the right ventricle, this blood then goes through the pulmonic valve and through the pulmonic arteries that lead to the lungs so gas exchange can occur and the blood becomes oxygenated, this oxygenate blood returns to the heart via the pulmonary veins and goes into the left atrium it then moves through the mitral valve into the left ventricle and when the ventricles contract blood is sent through the aortic valve into the aorta for it to be split between the branches off the aortic arch to flow through the body and provide oxygenated blood to tissues, the coronary arteries are what supplies the hearts tissues with oxygenated blood there is a right and left coronary artery to supply both sides of the heart.

Pathophysiology of Disease

An MI occurs when there is an abrupt stoppage of blood through the coronary arteries due to a thrombus
Most MI's effect the left ventricle but depending on where the thrombus is located is where it will affect the heart. If there was a blockage in the right coronary artery then the inferior and posterior wall of the left ventricle would be mostly effected. Anterior wall infarctions are a result of a thrombus in the LAD artery.
Blockages in the left circumflex artery usually cause lateral wall MI's.
MI's can be classified as a STEMI (occlusive thrombus causing an ST-elevation= emergency the artery needs to be opened within 90min) and NSTEMI (non-occlusive thrombus does not cause ST-elevation).

Causes for a thrombus to occur:
CAD→ atherosclerosis = major cause
Atherosclerosis= fatty deposits
What can cause an increase in fatty deposits:
Smoking
An increase in cholesterol (hyperlipidemia)
Hypertension
Physical inactivity
Obesity
CAD

NCLEX IV *(7)*: Reduction of Risk

Anticipated Diagnostics
Labs

Serum cardiac biomarkers (troponin T <6 indicates low risk >19 indicates high risk, creatine kinase)
CBC
CMP (electrolytes K, Mg, Na)
ABGs

Additional Diagnostics

12 lead EKG
Echo
CXR
H/P

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

Contributing Risk Factors

Smoking
High fat diet (this can increase cholesterol)
Hyperlipidemia
Obesity
Tabaco (smokers, secondhand smoke)
Hypertension
Low physical activity
Diabetes
Men over 45, women over 45
Unstable angina

Signs and Symptoms

Severe chest pain→ pain can radiate to jaw, neck, arms and back, epigastric pain can be present, Increase HR, diaphoresis, cool clammy skin

Loss of appetite jaw and back pain are more common in women.

Confusion restlessness or changes in mental status are more common in elderly.

NCLEX IV *(7)*: Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

Thrombolytics

Surgical
CABG
ICD
Pacemaker (temporary or permanent)
Cardiac catheterization

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

Heart failure
Dysrhythmias
Acute pulmonary edema
Thromboembolism
Pericarditis
Dresslers syndrome
Ventricular septal wall rupture
Papillary muscle rupture
Ventricular aneurysm
Cardiogenic shock

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

Anticipated Medication Management
Nitroglycerin
Morphine
Oxygen
ACE inhibitors
Beta blockers
CCB
positive inotropes (digoxin)
Diuretics

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

Non-Pharmacologic Care Measures
Low sodium diet
Weigh daily
Sit up straight to relieve pain
Fluid maintenance
Exercise once appropriate

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

What stressors might a patient with this diagnosis be experiencing?
Pain
Fear
Lifestyle changes= overwhelming
Guilt
Financial stressors

Client/Family Education

List 3 potential teaching topics/areas

- **If smoking quit to prevent further possibilities of an MI**
- **Eat a diet low in fat and sodium.**
- **Time is tissue if you feel chest pain go to the ER asap.**

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)

Cardiac Cath team
RN
Physician
Lab
Phlebotomy
Nutritionist

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. Pt uses nonpharmacological (deep breathing, position changes, distraction) and pharmacological (morphine, nitroglycerin) mechanisms to relieve pain during my care.

2. Pt will have a pain level under a 3 out of 10 on the pain scale and will physically show signs of relief such as non-grimacing and having a relaxed posture during my time of care.

Assessments:

- Assess the pain using QRST during my care, assess the perception of the pain during my care, determine a pain goal during my care, assess pain q 4 hours or after pain relief measures, assess what the patient uses to relieve pain during my care, assess precipitating factors to the pain during my care.

Interventions (In priority order):

1. Administer nitroglycerin sublingual PRN during my care.
2. Administer morphine IV push PRN during my care.
3. Apply oxygen via NC during episodes of pain or for the first 24-48 hours post MI.
4. Encourage maneuvers to relieve pain such as sitting up straight or deep breathing during my care.
5. Educate about the numeric pain scale and what number stands for what severity during my care.
6. Educate about how to take sublingual medications during my care.

Problem #2: Risk for decreased cardiac output.

Patient Goals:

1. Pt will have proper perfusion to tissues evidenced by warm skin, strong pulses, cap refill < 3 seconds, and a systolic blood pressure greater than 90mmHg during my care.

2. Pt will have an ejection fracture > 60% during my time of care.

Assessments:

- Assess skin, BP(sys >90mmHg), HR (60-100), RR (12-20), cap refill (< 3 seconds), pulses in all extremities(+2/+3), mental status (alert and oriented X4) during my care. Assess baseline ejection fracture. Determine findings on diagnostics such as an echo

during my care, assess oxygen saturation (>95%) during my care, assess urine output (>/ 30ml and hr)

Interventions (In priority order):

1. Place on cardiac monitor during my care.
2. Administer digoxin if appropriate during my time of care.
3. Apply oxygen 2L via NC during my care.
4. Encourage rest and relaxation during my care.
5. Administer diuretics (furosemide) if appropriate during my care.
6. Administer morphine PRN for pain or anxiety during my 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: Impaired gas exchange: (anaphylaxis)

Patient Goals:

1. Rodney will have an SaO2 greater than 95% when on room air during my 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 that's appropriate for ethnicity. Met ☐ Unmet ☐

Problem #2: Acute pain: chest (MI)

Patient Goals:

1. Rodney will have a pain rating <4 out of ten post cardiac catheterization. Met ☐ Unmet ☐
2. Rodney will be free of physical signs of pain such as an elevated BP, HR or RR, no grimacing during my care. Met ☐ Unmet ☐

SOAP Notes Based on Priority Problems

Priority Patient Problem #1: Impaired gas exchange

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: "Feel like my chest is being squeezed and its hard to breathe"** **PMH: HTN CAD with angina, asthma** **Allergies: Shellfish, peanuts, sulfa, penicillin** **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: SaO2 87%** **Labs: ABGs at 1745:** **pH 7.35, PaO2 88mmHg, PaCO2 40mmHg, HCO3 26Eq/L SaO2 95%** **0600: pH 7.40, PaO2 88mmHg, PaCO2 42mmHg, HCO3 26Eq/L SaO2 98%** **0800: pH 7.42, PaO2 88mmHg, PaCO2 40 mmHg, HCO3 26Eq/L, SaO2 98%** **Diagnostics: N/A**
Assessment: *Focused assessment on your priority problem.*	**Audible wheezing upon auscultation, pt states he has been coughing and has nasal congestion along with peritus along his right arm and chest. Currently on 15L non breather. Further assessment of lungs revealed stridor and pt is distressed. Skin is ashen, nail beds are dusky, seems to not be able to catch breath.**
Plan ***Based on priority problem only**	**Plan:** **Experiencing an allergic reaction due to the dye from the cardiac cath. Administer 25mg**

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?	**diphenhydramine via IV bolus for itching. Administer 0.3mg of epinephrine IM. Continue to monitor for improvement with SaO2 and work of breathing, titrate oxygen delivery to maintain SaO2 at 96% or greater via NC or non-rebreather mask. Administer naloxone 0.2mg IV bolus PRN every 2-3 min if RR is below 10/min, albuterol inhaler 2 puff PRN for asthma.** **Teaching/Resources: Educate about shellfish allergy and informing medical staff about allergy when getting medical attention. Educate about shellfish allergies being associated with contrast dye reactions.** **Resources: Respiratory therapist**

Priority Patient Problem #2: Acute Pain: chest (MI)

<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:** Chest tightness that is not relieved from nitroglycerin tablets. Was shoveling snow when chest pain occurred and took a nitroglycerin tablet. The pain did not go away in 5 minutes and continues to feel like chest is tight. Pain feels intense if not worse CO dizziness and nausea.
<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: T: 36.8, HR 68, RR 12, BP 124/72 O2 98% Pain level out of 10= 8** **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** **Diagnostics:** **12 lead EKG results show an elevated ST**

	segment. **Cardiac Catheterization: shows a blockage in the coronary artery→ opened with percutaneous transluminal coronary angioplasty.**
Assessment: *Focused assessment on your priority problem.*	**Pt is grimacing and rubbing at chest over the location where he is experiencing pain. States pain is an 8/10. States the pain started after shoveling snow. He has a hx of CAD and states he took a sublingual nitroglycerin tablet to help relive pain but there was no pain relief.**
Plan ***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?*	**Plan: Apply a 12 lead EKG to patient, Plan to be in the cardiac Cath lab for a percutaneous transluminal coronary angioplasty within 60 minutes upon arrival. Administer morphine IV push 2mg q 4 hours PRN for moderate pain.** **Teaching/Resources: Educate about diet modification and exercise. Educated about keeping Na below 1500mg daily in diet. Resources: cariologist, nutritionist.**

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?

This simulation showed us a situation that occurs quite frequently. Rodney had a history of CAD and had a lot of modifiable risk factors such as smoking, being less physical, eating a higher fat diet. He presented to the ED with chest tightness and says its more intense than he's ever felt prior and won't go away. The EKG showed an ST elevation. These are all classic signs of an MI. He ended up going to the cath lab to open up the blocked coronary artery and he claimed the pain went away. This is the result we hope for and in most cases would be then end of their stay in the hospital. My biggest takeaway with this simulation is that things do not go to plan and continuous monitoring of our patient is super important to identify if the patient is getting worse or not. I will take this information with me throughout my nursing career as a reminder to pay attention to slight changes with my patients and to think proactively and be prepared.

Time Allocation: 8 hours