

ATYPICAL CHEST PAIN FEMALE

Estimated Time: 60 minutes • Debriefing Time: 60 minutes



Scan to Begin



Patient Name: Maria I. Franco

SCENARIO OVERVIEW

Maria I. Franco is a 47-year-old female who just returned from having a cardiac catheterization and angioplasty about 30 minutes ago, after presenting to the ED about two hours ago with atypical chest pain. Students will implement standard post-PCI orders. As the scenario progresses, students should notice a few post-procedural concerns such as chest pain related to the procedure, decreased urine output and PVCs. After managing these concerns and administering pain medication for chest pain related to the procedure, State 2 begins and the patient develops decreased perfusion in her left leg. Students should immediately notify the cardiologist for emergent intervention.

LEARNING OBJECTIVES

1. Provide post-procedural care to a patient post cardiac angioplasty
2. Develop a discharge teaching plan for a patient following STEMI with PCI
3. Recognize and respond to abnormal post-procedure findings
4. Communicate therapeutically with a patient experiencing critical/life threatening situations
5. Report complete, accurate, and pertinent information to the health care team

CURRICULUM MAPPING

WTCS NURSING PROGRAM OUTCOMES

- Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy and quality care
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts
- Integrate social, mathematical, and physical sciences, pharmacology, and pathophysiology in clinical decision making
- Provide patient centered care by utilizing the nursing process across diverse populations and health care settings
- Minimize risk of harm to patients, members of the healthcare team and self through safe individual performance and participation in system effectiveness
- Lead the multidisciplinary health care team to provide effective patient care throughout the lifespan
- Use information and technology to communicate, manage data, mitigate error, and support decision-making

BASIC SKILLS

- Perform mathematical calculations related to clinical practice
- Manage oxygen therapy

- Manage intravenous therapy

NURSING FUNDAMENTALS

- Maintain a safe, effective care environment for adults of all ages
- Use appropriate communication techniques
- Use the nursing process
- Provide nursing care for patients with comfort alterations

COMPLEX HEALTH ALTERATIONS 1

- Evaluate nursing care for patients with coronary artery disease

COMPLEX HEALTH ALTERATIONS 2

- Evaluate nursing care for patients with critical/life threatening situations

SIMULATION LEARNING ENVIRONMENT & SET-UP

ENVIRONMENT

Inside room: Patient on bed, Cardiac Care Unit setting

Inside or outside room: Hand sanitizer or sink, ECG machine/cart

Outside room: Computer or form(s) for documentation, Medications with QR codes

PATIENT PROFILE

Name: Maria I. Franco

Primary Language spoken: English

DOB: 07/16/19XX

Current Medications: None

Age: 47

Allergies: Shellfish

MR#: 1316

Admitting Diagnosis: Heartburn (R12),
Chest Pain (R07.89)

Gender: Female

Height: 157 cm (62 inches)

Medical History: Diabetes Mellitus (E11.9),
HTN (I10), Hyperlipidemia (E78.5),
Smoker, nicotine addiction (F17.210)

Weight: 72 kg (160 lbs)

Code Status: Full code

EQUIPMENT/SUPPLIES/SETTINGS

Patient

- Hospital gown
- ID band with QR code
- Tegaderm over left femoral insertion site from angioplasty; scant blood at site
- Nasal cannula at 1 lpm
- 0.9% NS at 75 ml/hour hanging and running
- Eptifibatid IV hanging but not running (label can be applied from QR code information)

Monitor Settings

- On continuous cardiac monitor and pulse oximetry – initially add about 2 PVCs/minute (PVCs gradually increase to 5/minute during the scenario)

- Vitals: BP 120/85, HR 80, RR 20, O2 sat 91%, T 37.5, Pain 3/10
- Heart sounds with S4 present, Lung sounds normal, Bowel sounds hypoactive

Supplies

- General
 - Equipment to obtain vital signs including pulse oximetry and ECG
 - Phone
 - NS IV flushes
- Medications (realistic labels are available by scanning the QR code)
 - Hydrocodone/acetaminophen 5/325 tablets
 - Morphine 5 mg vial for IV
 - Metoprolol 12.5 mg PO
 - Lisinopril 10 mg PO
 - Atorvastatin 10 mg PO
 - Aspirin 81 mg PO
 - Plavix 75 mg PO

QR CODES

START 	PATIENT 	REPORT 	PATIENT ID 
CHEST  	IV SITE #1 	IV SITE #2 	LEG 
ASPIRIN PO 	HYDROCODONE/ ACETAMINOPHEN 	EPTIFIBATIDE IV 	MORPHINE IV 
METOPROLOL 	LISINOPRIL 	ATORVASTATIN 	CLOPIDOGREL 

TEACHING PLAN

PREBRIEF

The facilitator should lead this portion of the simulation. The following steps will guide you through Prebrief.

- Scan the **QR Code: “Scan to Begin”** while students are in Prebrief
- “Meet Your Patient” (on iPad) and explain how the iPad works in the simulated learning environment including:
 - Explain how to use the iPad scanner and QR codes. Remind students that there are multiple QR codes in the simulation, but they should only scan them if they think it will provide data necessary for their assessment and evaluation of the patient.
 - For some scenarios, it may be helpful to tell students where the QR Code are located. For others, you may want students to “find” the QR Codes during their assessments. This is your choice.
 - Describe how a QR Code sound will work in the scenario. Show them how to use the ARISE “stethoscope” and the symbol on the QR Code that signifies when a QR Code is audio 🎧. Example: **QR Code: Chest** 🎧
 - As the facilitator, you should be aware that throughout the simulation some QR codes are necessary to the programming of the iPad content. Directions for which QR codes are required (to be scanned) in each state are listed under each state of the documentation below. The QR codes are also in **BOLD** type.
 - Level Up tab – This tab “tells” the content in the iPad to change to what is needed for the next state of a simulation. It also helps student know where they are at in a scenario and it may give “clues” as to how to progress.
- Discuss the simulation “Learning Objective(s)” (on iPad) as well as any other Prebrief materials
- Get “Report” (on iPad)
 - Possible Facilitator Questions
 - Elaborate on the procedure that Maria just underwent: what occurred?

- What post-op assessments and interventions receive top priority after this procedure?
 - Do you have any other clinical concerns based on the report you received?
- Play the “Patient” video (on iPad)
 - Possible Facilitator Questions
 - Assess Maria’s coping status with her current situation.
- Advance to the “Patient Profile” screen (on iPad). This will act as a simulated patient chart.
- Students can view the tabbed content on the iPad (see below) prior to entering the patient’s room and throughout the simulation as needed.
 - You should give student some time (5 minutes) to review this content now, prior to entering the patient’s room.
- Now, students can enter the room and begin the next state of the simulation.

HISTORY AND PHYSICAL

Name: Mario I. Franco

MR#: 1316

DOB: 07/16/19XX

CHIEF COMPLAINT: Abdominal pain and indigestion

HISTORY OF PRESENT ILLNESS: Maria presented to the Emergency Room with abdominal pain and indigestion that she related to a sub sandwich that she ate for lunch. However, she also complained of associated symptoms of diaphoresis and dyspnea, so a STAT EKG and cardiac enzymes were ordered.

PAST MEDICAL/SURGICAL HISTORY: Maria has a history of hyperlipidemia, diabetes mellitus Type 2 and hypertension. No previous surgeries.

ER/HOSPITALIZATIONS IN THE LAST 12 MONTHS: None

MEDICATIONS: Metformin, Lisinopril, and Lipitor

ALLERGIES: Shellfish

FAMILY MEDICAL HISTORY: Father had MI age 50

REVIEW OF SYSTEMS: Abbreviated due to acuity of current medical condition.

HEENT: Denies injury, change in level of consciousness, or headaches or change in vision.

Respiratory: Complains of mild shortness of breath that started with feelings of indigestion.

Cardiovascular: Denies chest pain and palpitations. No history of murmur or valve disorder. History of hypertension and hyperlipidemia.

Peripheral Vascular: Denies claudication, leg cramps, parasthesias or edema.

Gastrointestinal: Denies change in appetite, weight gain/loss. New onset indigestion and heartburn that she describes as a “burning sensation above her belly button” that she rates as a 9/10 and relates to a sub sandwich she ate 45 minutes ago

Endocrine: History of diabetes mellitus. Denies polydipsia or polyuria.

PHYSICAL EXAM:

Vital signs: BP= 108/70, T= 37.5C, P= 120, R= 20, O2= 91% on RA

height= 157 cm (5'2), weight= 72 kg

Pain Scale 9/10

General Appearance: 47-year-old female who appears stated age and is well developed, well hydrated, and well nourished. Maintains good eye contact and interacts appropriately. Is alert and oriented x 3.

HEENT: unremarkable

Integument: Normal turgor.

Respiratory/Chest: Breath sounds clear. No wheezes, rales or crackles. Minimal effort. No cyanosis or clubbing.

Cardiovascular: Regular S1S2 rhythm without murmur. S4 present.

Vascular/extremities: Pedal pulses – L 2/4 / R 2/4 Capillary refill time less than three seconds. Extremities normal color. No edema.

Gastrointestinal/abdomen: Epigastric tenderness with mild guarding. Bowel sounds positive in four quadrants.

Genitourinary: No CVA tenderness.

ASSESSMENT/PLAN: STAT EKG and cardiac enzyme results. If positive, STAT cardiac consult.

Electronically Signed - Dr. Bernard, MD

ORDERS

Orders		
Patient Name: Maria I. Franco DOB:07/16/19XX Weight(kg):47 MR#: 1316 Provider: Dr. Bernard Allergies: Shellfish		
Date	Time	Order
Today	Earlier today	CK-MB, Troponin, CBC, Electrolytes, BUN, Creatinine, Glucose, Magnesium, INR, PTT STAT
		Cardiology consult STAT for STEMI
		Continuous cardiac monitoring and pulse oximetry
		Activation of STEMI protocol ----- ----- Dr. Bernard, M.D.
		STEMI Protocol Order Set: <ul style="list-style-type: none"> • ASA 325 mg PO (four 81 chewable non-enteric coded) if not already given • Two peripheral large bore IVs, one in right AC • NPO • 0.9% NS at TKO rate • O2 via NS titrated to keep O2 sat >94% • Portable AP Chest Xray STAT • Nitroglycerine 0.4 mg sublingually q 5minutes for total of 3 doses • Nitroglycerine IV prn for chest pain not resolved by Nitroglycerin sublingual doses. Start at 5 mcg/min and increase by 5 mcg every 5 minutes up to 20 mcg/min until response noted while maintaining SBP >100 • Heparin IV infusion 12 U/kg/hr IV (max 1000 units/hour)
Today	Before procedure	Prepare for cardiac catheterization with probable angioplasty STAT-Dr. Forssmann, MD
		Cardiology consult STAT for STEMI

Today	Before procedure	Prepare for cardiac catheterization with probable angioplasty STAT-Dr. Forssmann, MD
		Cardiology consult STAT for STEMI
		Continuous cardiac monitoring and pulse oximetry
		Activation of STEMI protocol ----- ----- Dr. Bernard, M.D.
		<p><u>Surgical prep: Cardiac Catheterization with Radiographic Contrast Sensitivity Prophylaxis for Emergent Procedure Order Set:</u></p> <ul style="list-style-type: none"> • Confirm signed informed consent in chart • Clippers to remove hair at surgical site: bilateral groin • If patient has a history of minor reaction to iodine or other contrast (hives): <ul style="list-style-type: none"> ◦ Famotidine (Pepcid) 20 mg IVP over 1 minute 15 minutes prior to procedure ◦ Montelukast (Singulair) 10 mg by mouth STAT ◦ Promethazine (Phenergan) 12.5 mg IVP over 1 minute 15 minutes prior to procedure • Renal protection: <ul style="list-style-type: none"> ◦ If serum creatinine greater than 1.5 md/dL or GFR less than 60 or patient sensitive to contrast, use Renal Protective Contrast Media ◦ 0.9% NS 3.5ml/kg/hour over one hour, start one hour prior to procedure and continue at 1.2 ml/kg/hr during the procedure and continue for 6 hours post procedure ◦ Hold Metformin(Glucophage) day of the procedure
Today	Now	Implement Post-PCI Order Set
		Metoprolol 12.5 mg PO daily
		Lisinopril 10 mg PO daily
		Atorvastatin 10 mg PO daily
		ASA 81 mg PO daily
		Plavix 75 mg PO daily
		Morphine 1-2 mg IVP q 2 hours prn for chest pain

		Lipid profile, Hemoglobin A1C in AM
		Smoking cessation referral ----- ----- Dr. Forssman, M.D.
		<p><u>Post-PCI Order Set:</u></p> <ul style="list-style-type: none"> ● Continuous cardiac monitoring and pulse oximetry ● Vital signs every 15 minutes until sheath pulled and then every 15 minutes x 4, then every 30 minutes x2, then every hour x 2, then every 4 hours until discharge ● Bedrest with affected extremity straight until sheath pulled. After sheath removal, bedrest and keep affected extremity straight for 6 hours. After bedrest completed, get patient up with assistance for the first time, then activity as tolerated ● Clear liquids until sheath pulled then carb controlled, diabetic diet ● Observe and palpate insertion site and affected extremity, including distal pulses, color, warmth and sensation every 15 minutes until sheath is pulled, then every 15 minutes x 4, then every 30 minutes x 2, then every hour x 2, then every 4 hours until discharge ● Auscultate for bruit once sheath is removed, then after patient ambulates for the first time, then twice daily ● 0.9% NS at 75 ml/hour ● Discontinue Heparin infusion ● Continue eptifibatide (Integrilin) infusion at 2 mcg/kg/minute and discontinue after current bottle complete ● Hydrocodone/acetaminophen 5/325 tablet 1-2 tabs every 4 hours prn ● Discontinue Nitroglycerin infusion ● CBC, CK, CK MB, Troponin once 6 hours post procedure ● BMP once in AM following procedure ● ECG once post procedure ● STAT ECG prn for chest pain ● Consult Cardiac Rehabilitation ● Notify provider if: <ul style="list-style-type: none"> ○ Significant pain or bleeding at arterial site ○ Excessive pain at arterial puncture site

		<ul style="list-style-type: none">• Change in distal limb color or warmth• Chest pain or shortness of breath• ECG changes or O2 sats less than 92%• Systolic BP greater than 160 or less than 90 mmHg• Heart rate greater than 100 or less than 50 beats/min
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MAR



MAR

Patient Name: Maria I. Franco
DOB:07/16/19XX Weight(kg):72
MR#: 1316
Provider: Dr. Bernard
Allergies: Shellfish

Order	Sch. Time	Dose
Chewable non-enteric coated <u>aspirin</u> 81 mg four tabs PO STAT	Given 4 hours ago	
<u>Nitroglycerin</u> 0.4mg sublingually q5 minutes for 3 doses prn for chest pain	3 doses given 4 hours ago	
<u>Heparin</u> IV infusion 12 U/kg/hr (max 1000 units/hour)	Discontinued; Last received 2 hours ago	
0.9% NS at 75 ml/hour rate	Started 2 hours ago	
<u>Nitroglycerin</u> IV prn for chest pain not relieved by Nitroglycerin subl. Start at 5 mcg/min. Increase by 5 mcg every 5 minutes, up to 20 mcg/min, until response noted while maintaining SBP greater than 100	Discontinued; Last received 2 hours ago	
<u>Famotidine</u> 20 mg IVP 15 minutes prior to procedure	Given prior to procedure	
<u>Montelukast</u> 10 mg PO STAT	Given prior to procedure	
<u>Promethazine</u> 12.5 mg IVP over 1 minute 15 minutes prior to procedure	Given prior to procedure	
Hold Metformin the day of the procedure	Held	
<u>Eptifibatide</u> 2 mcg/kg/minute	Started 2 hours ago	
<u>Hydrocodone/acetaminophen</u> 5/325 mg 1-2 tabs PO every 4 hours prn		
<u>Morphine</u> 1-2 mg IVP q 2 hours prn for chest pain		

<u>Metoprolol</u> 12.5 mg PO daily		
<u>Lisinopril</u> 10 mg PO daily		
<u>Atorvastatin</u> 10 mg PO daily		
<u>ASA</u> 81 mg PO daily		
<u>Plavix</u> 75 mg PO daily		

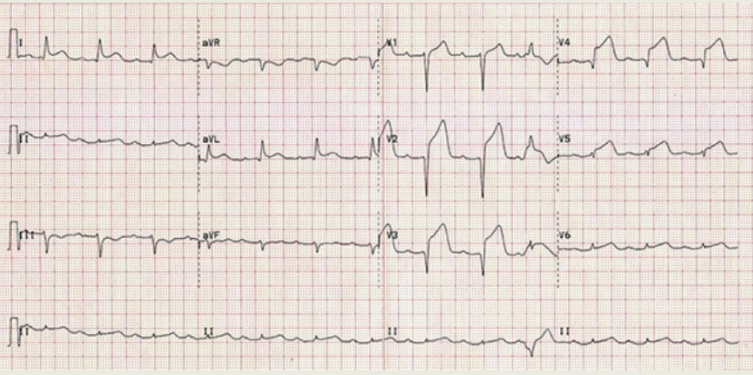
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Students may click on each underlined medication name for a hyperlink to medication information.

DAILY RECORD

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Daily Record




Patient Name: Maria I. Franco
 DOB: 7/16/19xx (Age 47)
 MR# 1316
 Date: Today, Time: 2 hours ago
 MD interpretation: evolving ST elevation. Please correlate clinically.

VITALS

No reports available. You must verify the patient before vitals can be taken.

PROGRESS NOTES


Progress Notes

Patient Name: Maria I. Franco
DOB:07/16/19XX MR#: 1316

Progress Notes

Date & Time	Note
Today - 4 hours ago Cardiologist Consult	Patient presented to ER complaining of heartburn and severe indigestion with mild dyspnea and diaphoresis. STAT ECG shows STEMI and Troponin is elevated. STEMI protocol initiated. Plan: STAT Cardiac catheterization with probable angioplasty. -----Dr. Forssmann, MD.
Today - 2 hours ago Cardiologist	Angioplasty completed via left femoral artery. Drug eluding stent placed. Dictation to follow. -----Dr. Forssmann, MD.

[Continue >](#)

LABS-DIAGNOSTICS



Labs-Diagnostics

Patient Name: Maria I. Franco DOB: 07/16/19YY MR#: 1316

Blood Glucose

Date	Today	Today	Units	Reference Range
Time	Before surgery	30 min ago		
Bedside Glucose	142	210	mg/dL	Fasting 70-105

Chem 7

Date	Today		Units	Reference Range
Time	Before surgery			
Glucose	142		mg/dL	Fasting 70-105
BUN	30		mg/dL	10-25
Creatinine	1.6		mg/dL	F: 0.4-1.4/M: 0.5-1.5
Sodium	144		mEq/L	135-145
Potassium	5.0		mEq/L	3.5-5.3
Chloride	103		mEq/L	98-108
Calcium	9.2		mg/dL	8.5-10.5

CBC with Differential

Date	Today		Units	Reference Range
Time	Before surgery			
WBC	6.0		$\times 10^3/\text{uL}$	4.5-11
RBC	4.2		$\times 10^6/\text{uL}$	F: 4.2-5.4/M: 4.6-6.2
Hgb	13.0		g/dL	F: 13.0-15.0/M: 14.0-17.0
HCT	40		%	F: 38-47/M: 42-52
MCV	85		fL	80-90
MCH	30		pg	27-32
MCHC	34		g/dL	32-36
RDW	12.5		%	11.5-14.5
Platelet	263		$\times 10^9/\text{uL}$	150-450
MPV	8.0		fL	6.0-12.0
Neutro	68		%	40-70
Lymph	26		%	22-40
Mono	2		%	1-10
Eos	4		%	1-7
Baso	0.8		%	0-2

Cardiac Enzymes


Date	Today		Units	Reference Range
Time	Before surgery			
Total CK	120		U/L	10-110
CK-MB	6.0		Ng/ml	0.0-0.5
Troponin - T	2.4		Ug/L	0.0-0.1

Coagulation

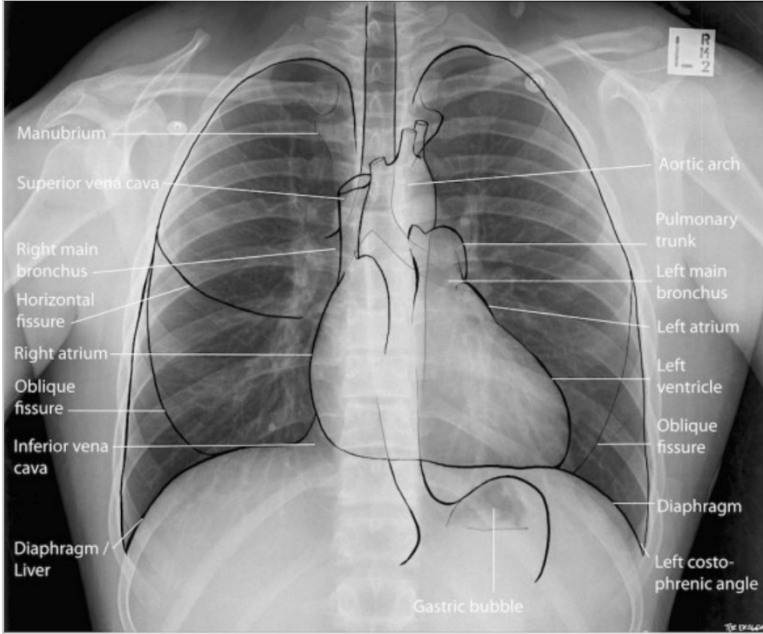
Date	Today	Today	Units	Reference Range
Time	Before surgery	30 min ago		
Activated Clotting Time (ACT)	82	170	minutes	70-120 Therapeutic range: 150-210
PT	12.0		sec	11.0-12.5
INR	1.0			1.0 (non-medicated)
aPTT	30		sec	Less than 35

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IMAGING



Imaging



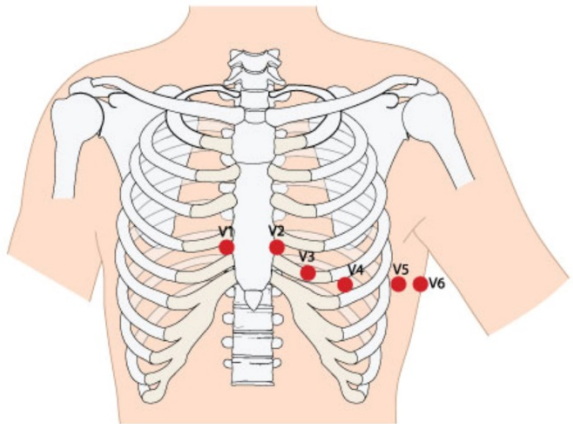
The image is a frontal chest X-ray with various anatomical structures outlined in black. Labels on the left side include: Manubrium, Superior vena cava, Right main bronchus, Horizontal fissure, Right atrium, Oblique fissure, Inferior vena cava, and Diaphragm / Liver. Labels on the right side include: Aortic arch, Pulmonary trunk, Left main bronchus, Left atrium, Left ventricle, Oblique fissure, Diaphragm, and Left costo-phrenic angle. A label at the bottom center points to the Gastric bubble.

Patient Name: Maria I. Franco
 DOB: 07/16/19xx (Age 47)
 MR# 1316
 Results: Normal pre-op chest Xray
 Date: Today, Time: 2 hours ago

[Continue >](#)

ECG

Verify patient ID before obtaining an ECG.

A diagram of a human torso showing the skeletal structure of the chest and upper abdomen. Six red dots represent the standard ECG lead placement sites, labeled V1 through V6. V1 is located in the 4th intercostal space, to the right of the sternum. V2 is in the 4th intercostal space, to the left of the sternum. V3 is in the 4th intercostal space, between V2 and V4. V4 is in the 5th intercostal space, in the midclavicular line. V5 is in the same horizontal level as V4, in the anterior axillary line. V6 is in the same horizontal level as V4, in the midaxillary line.

Verify patient ID before obtaining an ECG.

Continue >

LEVEL UP

Option not available yet.

SCANNER

STATE 1

ASSESS PATIENT & IMPLEMENT ORDERS

- Patient Overview
 - Patient returned from cardiac catheterization and angioplasty about 30 minutes ago. Sheath has already been removed. Patient is feeling sad/anxious about her “heart attack” and is still worried her children will “lose her.” She has chest pain 3/10 related to the procedure. As the scenario progresses, she develops increasing PVCs.
- Expected Student Behaviors
 - Introduce themselves
 - Verify the patient (Scan **QR Code: Patient ID**)
 - Obtain and interpret vital signs every 30 minutes per orders
 - Perform focused assessments on patient post-cardiac catheterization
 - Assess heart sounds
 - Scan **QR Code: Chest** for S4 sound, which is typical post LAD MI
 - Students may scan this at any time during this scenario.
 - Assess insertion site and left leg
 - Students should keep extremity straight for 6 hours post sheath pull; monitor insertion site for bleeding and bruit; scan **QR Code: Leg** to monitor extremity color, warmth, and sensation every 15 minutes per orders. This assessment is normal at this time.
 - Assess voiding status
 - Once patient is asked, the technician can state the need to void. Students should carefully keep the leg straight and use a bedpan. Then, they should document output appropriately on facility forms.
 - Respond therapeutically to patient concerns about recent MI and procedure
 - Assess IV fluids/medications

- 0.9% NS should be running at 75 ml/hour in IV site #1. (**Scan QR Code: IV SITE #1**)
- Eptifibatide is hanging and attached (but not running) to IV site #2. (**Scan QR Code: IV SITE #2**)
 - Students should calculate Eptifibatide dosage at 2 mcg/kg/minute and start IV running (math calculation = 11.5 ml/hr)
- Assess cardiac monitor and pulse oximetry
 - Students should notice occasional PVCs.
 - Pulse oximetry at 91%. Students should increase O2 flow rate and reassess PVC status. (Technician can decrease number of PVCs when this is accomplished.)
- Review previous ECG results and obtain post-procedure ECG per orders
- May offer patient clear liquids and/or meal tray
- Students may notice the patient's glucose level was high, but no sliding scale insulin is available. They should call the provider for an order.
- Administer oral medications
 - **Scan QR Code: Metoprolol, QR Code: Lisinopril, QR Code: Atorvastatin, QR Code: Aspirin, and QR Code: Clopidogrel**
- (Optional): Review chest x-ray
- Once the above tasks are accomplished:
 - The technician should start to complain of increased "chest aching." The patient denies shortness of breath or diaphoresis. Her ECG is stable although it does demonstrate PVC's.
 - Students should assess chest pain, determine it is post-procedural, and decide whether to administer Hydrocodone/Acetaminophen PO (**Scan QR Code: Hydrocodone/Acetaminophen**) or Morphine IV (**Scan QR Code: Morphine IV**).
 - Morphine IV is the best choice at this time due to cardiac condition.
 - Students should perform math calculation, possibly dilute, and administer slowly.

- Technician Prompts
 - Patient is alert and oriented, but sad and concerned, stating “chest aches” for her kids.
 - Initial patient response can include:
 - “How long do I have to keep my leg straight?”
 - When students ask if she is having pain, she relates a “chest heaviness” because she is sad for her kids to see her like this and worry for her. She rates her pain as a 3 and denies shortness of breath. She has “some discomfort” at insertion site.
 - As students prepare to get another ECG:
 - “Why do I have to have another one of those?”
 - “Is something wrong?”
 - After students increase O₂, the number of PVCs/minute should decrease on the monitor
 - After students ask the patient if she needs to void:
 - “Yes.”
 - Students should keep leg straight and use bedpan. The patient voids 300 ml of yellow urine
 - After students ask if she would like something to eat:
 - “Yes. I’m a little hungry.”
 - After students ask about her left leg (where the procedure was performed):
 - “It feels fine.”
 - The patient can feel her toes and wiggle them.
- Possible Facilitator Questions
 - Prioritize orders: what should be done first and why?
 - Organize timeframe for implementing orders.
 - What is ACT and how is it used to determine time of sheath removal?
 - Why is Eptifibatide ordered post PCI?

- What kind of chest pain is “expected” after a PCI? What type of chest pain would indicate another infarction is occurring from mobilization of plaque emboli?
- What pain medication is best for Maria and this time and why?
- Why might her urine output be decreased post PCI? Why are we concerned about urine output?
- As students interpret cardiac monitor and/or ECG: What are PVCs? What are possible causes of PVCs?
- Why are ECG, cardiac enzymes, CBC, BMP, lipid profile and Hemoglobin A1C ordered post-catheterization?
- Review the Chest X ray anatomy
- Review the cause of S4 heard while listening to heart sounds
- What are the indications for Metoprolol, Lisinopril, Atorvastatin, ASA and Plavix for this patient? What are your pre- and post-assessments when administering these medications?
- **Tabbed iPad Prompts & Content Changes**
 - **Vitals**
 - When the Vitals tab is tapped, the iPad will read, “No reports available. You must verify the patient before vitals can be taken.”
 - After the **QR Code: Patient ID** is scanned, students can enter vitals here.
 - They are not tied to any iPad programming.
 - **ECG/ ECG – Lead Placement/ New ECG Result**
 - When the ECG tab is tapped, the iPad reads, “Verify patient ID before obtaining an ECG.”
 - After the **QR Code: Patient ID** is scanned, the “ECG” tab automatically changes to the “ECG – Lead Placement” tab.
 - When the ECG – Lead Placement tab is tapped, the iPad show an image of proper ECG lead placement.
 - Then, the “ECG – Lead Placement” tab automatically changes to the “New ECG Result” tab.

- When the New ECG Result tab is tapped, the iPad shows an ECG with a few PVC's.
 - The iPad ECG results state, “Awaiting MD Interpretation”
 - The image of this ECG is zoomable.
- Level Up
 - When the Level Up tab is tapped, the iPad reads, “Option not available yet.”
 - The iPad content automatically advances to State 2 after **QR Code: Morphine IV** or **QR Code: Hydrocodone/Acetaminophen** are scanned.
 - Now, when the Level Up tab is tapped, the iPad reads, “The iPad is now set to Level 2.”

VITALS

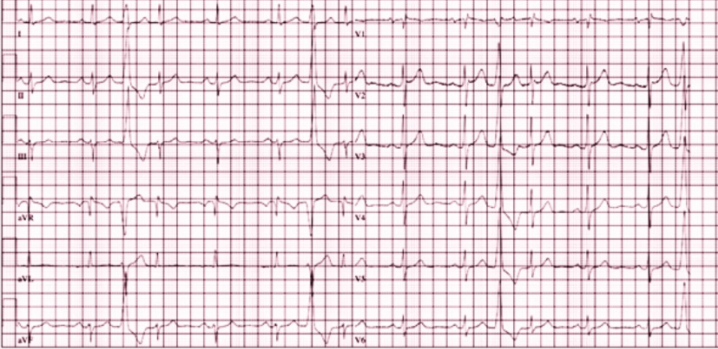
“No reports available. You must verify the patient before vitals can be taken.”

- After the **QR Code: Patient ID** is scanned, students can enter vitals here.

ECG/ ECG – LEAD PLACEMENT/ NEW ECG RESULT

- Before the **QR Code: Patient ID** is scanned:
 - When the “ECG” tab is tapped, the iPad reads, “Verify patient ID before obtaining an ECG.”
- After the **QR Code: Patient ID** is scanned:
 - The “ECG” tab automatically changes to an “ECG – Lead Placement” tab.
 - When the “ECG – Lead Placement” tab is tapped, the iPad show an image of proper ECG lead placement.
 - Then, the “ECG – Lead Placement” tab automatically changes to the “New ECG Result” tab.
- When the ECG Results tab is tapped:

☰
New ECG Result



...

Patient Name: Maria I. Franco
 DOB: 7/16/19xx (Age 47)
 MR# 1316
 Date: Today, Time: Now
 Results: Awaiting MD Interpretation

LEVEL UP

“Option not available yet.”

- The iPad content automatically advances to State 2 after **QR Code: Morphine IV** or **QR Code: Hydrocodone/Acetaminophen** are scanned.
- Now, when the Level Up tab is tapped, the iPad reads, “The iPad is now set to Level 2.”

STATE 2

NO PERFUSION IN LEFT LEG & RAPID NOTIFICATION OF CARDIOLOGIST

- Patient Overview
 - This state begins after students administer Morphine IV or Hydrocodone/Acetaminophen PO (or 30 minutes have passed in the scenario). Patient becomes concerned about pain in her left foot and lack of ability to feel or move her toes.
- Expected Student Behaviors
 - Reassess extremities according to the orders by scanning **QR Code: Leg** while assessing pulses, warmth, sensation, and the movement of left leg
 - Recognize the medical emergency of lack of perfusion and immediately call the cardiologist.
- Technician Prompts
 - Patient is becoming increasingly concerned and anxious about her left foot.
 - Patient responses can include:
 - “What’s wrong?”
 - “What is happening? My grandmother had to have her left foot cut off... is that what’s going to happen to me?”
- Possible Facilitator Questions
 - What could be causing her foot to be cool and painful with decreased sensation and movement?
 - What treatment is required (answer: emergent STAT embolectomy)
- Tabbed iPad Prompts & Content Changes
 - Level Up
 - Before **QR Code: Leg** is scanned:
 - When the Level Up tab is tapped, the iPad reads, “The iPad is now set to Level 2.”
 - After **QR Code: Leg** is scanned:

- When the Level Up tab is tapped, the iPad reads, “Have you called the cardiologist?”
 - If “No” is selected, the iPad will read, “You need to call the cardiologist.”
 - If “Yes” is selected, the iPad will read, “Have you called the OR and given SBAR report about patient condition?”
 - If “No” is selected, the iPad will read, “You need to call the OR and give report.”
 - If “Yes” is selected, the iPad will read, “You have completed the scenario.”

LEVEL UP

- Before **QR Code: Leg** is scanned:
 - When the Level Up tab is tapped, the iPad reads, “The iPad is now set to Level 2.”
- After **QR Code: Leg** is scanned:
 - When the Level Up tab is tapped, the iPad reads, “Have you called the cardiologist?”
 - If “No” is selected, the iPad will read, “You need to call the cardiologist.”
 - If “Yes” is selected, the iPad will read, “Have you called the OR and given SBAR report about patient condition?”
 - If “No” is selected, the iPad will read, “You need to call the OR and give report.”

EXIT

After Level Up tab is tapped, the Exit tab becomes available.

DEBRIEF

Nothing needed from the iPad

QUESTIONS

1. How did you feel this scenario went?
2. Review understanding of learning objective: Provide post-procedural care to a patient post cardiac angioplasty
 - a. What were your priority assessments for Maria when taking over her care post-PCI?
 - b. What were your priority interventions based on the post-PCI order set?
3. Review understanding of learning objective: Develop a discharge teaching plan for a patient following STEMI with PCI
 - a. What teaching topics received priority as you took over the care for Maria?
 - b. What discharge teaching topics are important for a patient who underwent a PCI for a STEMI?
4. Review understanding of learning objective: Recognize and respond to abnormal post-procedure findings
 - a. What abnormal findings did you discover?
 - b. How did you address these findings?
5. Review understanding of learning objective: Communicate therapeutically with a patient experiencing critical/life threatening situations
 - a. What cues did you initially notice that indicated Maria needed therapeutic communication?
 - b. What type of therapeutic communication did you use? Was it effective?
 - c. When Maria's condition changed, how did you address her anxiety?
 - d. If you could "do over," would you change anything about how you communicated with Maria?
6. Review understanding of learning objective: Report complete, accurate, and pertinent information to the health care team

- a. What did you include in the SBAR report to the cardiologist when Maria experienced a change in condition? If you could “do over,” would you change anything about your SBAR report?
 - b. What did you include in the SBAR report to the OR nurse? If you could “do over,” would you change anything about your SBAR report?
 - c. As a group, create a “best response” for both SBAR reports for Maria.
7. Tie the scenario back to the nursing process in a large group discussion. Concept mapping can be used to facilitate discussion.
 - a. Identify 3 priority nursing problems you identified for Ms. Franco at the beginning of the scenario.
 - b. Create a patient centered goal for each nursing problem you identified.
 - c. Discuss focused assessments for each nursing problem.
 - d. Discuss nursing interventions for each nursing diagnosis.
 - e. Re-evaluate the simulation in terms of the nursing process; what was actually accomplished? What could be improved in the future?
8. Summary/Take Away Points
 - a. “Today you cared for a patient post-cardiac catheterization who experience some post-procedural complications. What is one take-away point you learned from participating in this scenario that you will take into your nursing practice?” (Each student must share something different from what the others’ share.)

NOTE: Debriefing technique is based on INASCL Standards for Debriefing and NLN Theory-Based Debriefing by Dreifuerst.

SURVEY

Print this page and provide to students.

Students, please complete a brief (2-3 minute) survey regarding your experience with this ARISE simulation. There are two options:

1. Use QR Code: Survey
 - a. Note: You will need to download a QR Code reader/scanner onto your own device (smartphone or tablet). There are multiple free scanner apps available for both Android and Apple devices from the app store.
 - b. This QR Code will not work in the ARIS app.



2. Copy and paste the following survey link into your browser.
 - a. https://ircvtc.co1.qualtrics.com/SE/?SID=SV_6Mwfv98ShBfRnBX

CREDITS

Medication information from National Library of Medicine: Daily Med at <http://dailymed.nlm.nih.gov/dailymed/>

ECG used from Life in the Fast Lane at www.lifeinthefastlane.com

Heart sounds used with permission from Thinklabs Medical, LLC, Centennial, CO at www.thinklabs.com

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