CINHC Optimizing Health through Nursing Excellence
CALIFORNIA INSTITUTE FOR NURSING & HEALTH CARE

California Simulation Alliance (CSA)
Simulation Scenario Template

The California Simulation Alliance (CSA) is comprised of simulation users from all disciplines from throughout the state. Several regional collaboratives have formed totaling 7 as of March, 2011: The Rural North Area Simulation Collaborative (RNASC), the Capital Area Simulation Collaborative (CASC), the Bay Area Simulation Collaborative (BASC), the Central Valley Simulation Collaborative (CVSC, the Southern California Simulation Collaborative (SCSC), the Inland Empire Simulation Collaborative (IESC), and the San Diego Simulation Collaborative (SDSC). The CINHC, a non-profit organization focused on workforce development in healthcare provides leadership for the CSA.

The purpose of the California Simulation Alliance (CSA) is to become a cohesive voice for simulation in healthcare education in the state, to provide for inter-organizational research on simulation, to disseminate information to stakeholders, to create a common language for simulation, and to provide simulation educational courses. The goals of the alliance will include providing a home within the CINHC for best practice identification, information sharing, faculty development, equipment/vendor pricing agreements, scenario development, sharing and partnership models. More information can be found on the CSA website at www.californiasimulationalliance.org

All scenarios have been validated by subject matter experts, pilot tested and approved by the CSA before they were published online. All scenarios are the property of the CINHC/CSA. The writers have agreed to release authorship and waive any and all of their individual intellectual property (I.P.) rights surrounding all scenarios. I.P release forms can be found at www.bayareanrc.org/rsc and click documents. (Please send signed I.P. release forms to KT at kt@cinhc.org)

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SECTION I: SCENARIO OVERVIEW

Scenario Title:	Symptomatic Bradycardia in the ICU/PCU
Original Scenario Developer(s):	Vicki Casella-Gordon RN, MS, CNS, CCRN Lindsey Shank RN, MS, CNS, CCRN Mary Pieper-Warren RN, BA
Date - original scenario	
Validation:	Anne Lucero, MSN 4/2/2010
Pilot testing:	
Revisions:	1/2015 Melissa Punnoose, MSN, RN-BC, CHSE melissa.punnoose@providence.org

Estimated Scenario Time: 20 minutes Debriefing time: 40 minutes

Target group: New grads or seasoned RNs transitioning to the ICU/PCU

Core case: Management of symptomatic bradycardia in the post PCI patient.

Brief Summary of Case:

This case presents Mr. Turner, who was admitted to the ICU status post PCI of the LCA for an anterior wall MI. On admission his vital signs are stable and he is alert and oriented, denies CP. He has a history of DM and HTN and smokes 1 pack of cigarettes a day for the last 30 years. He begins to complain of chest pain, SOB, and becomes diaphoretic and pale. HR 35. Atropine does not resolve the symptomatic bradycardia and transcutaneous pacing is necessary.

QSEN Competencies

X Patient Centered Care
X Patient Safety
❑ Quality Improvement
X Teamwork and Collaboration

EVIDENCE BASE / REFERENCES (APA Format)

Berg, R.A., Hemphill, R., Abella, B. S., Aufderheide, T. P., Cave, D. M., Hazinski, M. F., Lerner, E. B., Rea, T. D., Sayre, M. R., and Swor, R. A. (2010). 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science. Circulation, 2010; 122, pp. s685-s705.

Bucher, L. (2014). Nursing management: Dysrhythmias. In Dirksen, L. and Bucher, H. (Eds.). Medical surgical nursing: Assessment and management of clinical problems (9th ed.), (pp. 1388-1412). St. Louis: Elsevier.

Dilansky M.A., Moore, S.M. (2013). Quality and safety education for nurses (QSEN) The key is systems thinking. Online Journal of Issues in Nursing, 2013; Vol 18, No. 3, Manuscript 1.

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES
Learning Outcomes
1. Manage patient with symptomatic bradycardia according to current ACLS guidelines
2. Demonstrate timely decision making and initiate emergency procedures
3. Accurate communicate with team members (SBAR and closed loop communication) to assure safety of patient
Specific Learning Objectives
1. Recognize patient is unstable / acute change in condition
2. Focused Assessment to determine priority symptoms
3. Recognize symptomatic bradycardia and intervene appropriately
4. Correctly identifies Second degree AV block Type II
5. Determines when to start Transcutaneous Pacer
6. Keeps team members informed through focused communication
Critical Learner Actions
1. Performs BLS Primary Survey and ACLS Secondary Survey
2. Obtains and reviews 12 lead ECG
3. Administers appropriate bradycardia drugs/doses for treatment of bradycardia including atropine, dopamine, and epinephrine.
4. Initiates ACLS Bradycardia Algorithm
5. Performs role of team leader and directs team appropriately
6.
7.
8.
9.

B. PRE-SCENARIO LEARNER ACTIVITIES	
Prerequisite Competencies	
Knowledge	**Skills/ Attitudes**
❑ Knowledge of current AHA ACLS protocols	❑ Able to apply and troubleshoot transcutaneous pacer equipment
❑ Knowledge of agency based emergency system	❑ Perform BLS primary survey
❑ SBAR communication	❑ Perform ACLS secondary survey
❑ ACLS protocols	❑ Interdisciplinary communication skills (SBAR, Closed loop)
❑	❑ Demonstrate ACLS protocols
❑	❑

SECTION III: SCENARIO SCRIPT

A. Case summary
This case presents Mr. Turner was admitted to the ICU status post PCI of the LCA for and anterior wall MI. On admission his vital signs are stable and he is alert and oriented, denies CP. He has a history of DM and HTN and smokes 1 pack of cigarettes a day for the last 30 years.

B. Key contextual details
At shift change the off-going nurse reports that Mr. Turner is in stable condition, vital signs are stable and O2 sats are at 96% on room air. His monitor shows NSR at 86/min. When the nurse goes into the room to do her initial assessment Mr. Turner is SOB, dyspneic, diaphoretic, and pale. He is complaining of midsternal chest pain. When the RN looks at the monitor she sees a HR of 36 and 2nd degree HB Type II.

C. Scenario Cast		
Patient/ Client	X High fidelity simulator	
	❑ Mid-level simulator	
	❑ Task trainer	
	❑ Hybrid (Blended simulator)	
	❑ Standardized patient	
Role	Brief Descriptor (Optional)	Confederate/Actor (C/A) or Learner (L)
ICU/telemetry RN	Gives report/leaves	C
RN 1/primary RN	Leads patient care	L
RN 2/backup RN	Takes direction from primary RN	L
Family member	Concerned, but not disruptive	A
MD		C
Charge RN		C or L if experienced RN

D. Patient/Client Profile				
Last name:	Turner		First name:	Ronald
Gender:	Age: 68	Ht: 6, 2"	Wt: 187 (85kg)	Code Status: Full
Spiritual Practice: Atheist	Ethnicity: caucasian			Primary Language spoken: english
1. Past history				
Admitted through Emergency Department 8 hours ago. Dx anterior wall MI. Transferred to Cardiac Intervention for successful PCI. No previous history except for hypertension and diabetes Type 2 controlled with diet and exercise.				
Primary Medical Diagnosis	Anterior Wall MI/ post-PCI procedure			

2. Review of Systems	
CNS	VSS, a/o, denies CP
Cardiovascular	S_1S_2, 120/76, HR 96
Pulmonary	WNL
Renal/Hepatic	WNL
Gastrointestinal	WNL
Endocrine	Type 2 DM, diet controlled
Heme/Coag	ASA 81mg daily
Musculoskeletal	WNL
Integument	WNL
Developmental Hx	WNL
Psychiatric Hx	WNL
Social Hx	Married with 2 adult children, smoker
Alternative/ Complementary Medicine Hx	None

Medication allergies:	NKDA	Reaction:	
Food/other allergies:	NKA	Reaction:	

3. Current medications	**Drug**	**Dose**	**Route**	**Frequency**
	ASA	81mg	PO	Daily
	Diovan HCT	320/25	PO	Daily

4. Laboratory, Diagnostic Study Results					
Na: 144	K: 3.5	Cl: 100	HCO3:	BUN: 10	Cr: 0.5
Ca: 9.0	Mg: 2.5	Phos:	Glucose: 127	HgA1C: 7.1	
Hgb: 14	Hct: 40	Plt: 400	WBC: 10.2	ABO Blood Type: O+	
PT 12.5	PTT 30 seconds	INR	Troponin:	BNP:	
ABG-pH: 7.37	paO2: 90	paCO2: 28	HCO3/BE:	SaO2: 98%	
VDRL:	GBS:	Herpes:	HIV:		
CXR:	ECG:				

E. Baseline Simulator/Standardized Patient State (This may vary from the baseline data provided to learners)					
1. Initial physical appearance					
Gender: Male	Attire: hospital gown				
Alterations in appearance (moulage): bandage to R groin from PCI					
x	ID band present, accurate		ID band present, inaccurate		ID band absent or not applicable
	Allergy band present, accurate		Allergy band inaccurate	x	Allergy band absent or N/A

2. Initial Vital Signs Monitor display in simulation action room:					
	No monitor display	Monitor on, but no data displayed	X Monitor on, data displayed		
BP: 120/84	HR: 86	RR: 26	T: 98	SpO_2: 96% RA	
CVP:	PAS:	PAD:	PCWP:	CO:	
AIRWAY:	$ETCO_2$:	FHR:			
Lungs: Sounds/mechanics	Left:	Right:	Clear		
Heart:	Sounds:		S_1S_2		
	ECG rhythm:		SR 2nd degree heart block type 2		
	Other:		Cool, clammy pale skin		
Bowel sounds:	normoactive		Other:		

3. Initial Intravenous line set up							
	Saline lock #1	Site:				IV patent (Y/N)	
	IV #1	Site: RA		Fluid type: NS	Initial rate: 100ml/hr	y	IV patent (Y/N)
x	Main						
	Piggyback						
	IV #2	Site: RA		Fluid type: integrilin	Initial rate: 2mcg/kg/min 170mcg/min	y	IV patent (Y/N)
	Main						
x	Piggyback						

4. Initial Non-invasive monitors set up					
x	NIBP	x	ECG First lead:	x	ECG Second lead:
x	Pulse oximeter	x	Temp monitor/type		Other:

5. Initial Hemodynamic monitors set up					
	A-line Site:		Catheter/tubing Patency (Y/N)	CVP Site:	PAC Site:

6. Other monitors/devices				
	Foley catheter	Amount:	Appearance of urine:	
	Epidural catheter		Infusion pump:	Pump settings: .

Environment, Equipment, Essential props

1. Scenario setting: (example: patient room, home, ED, lobby)
ICU/PCU

2. Equipment, supplies, monitors (In simulation action room or available in adjacent core storage rooms)								
	Bedpan/ Urinal		Foley catheter kit		Straight cath. kit		Incentive spirometer
x	IV Infusion pump		Feeding pump		Pressure bag		Wall suction
	Nasogastric tube		ETT suction catheters		Oral suction catheters		Chest tube kit
x	Defibrillator	x	Code Cart	x	12-lead ECG		Chest tube equip
	PCA infusion pump		Epidural infusion pump		Central line Insertion Kit		Dressing Δ equipment
x	IV fluid Type: NS		IV fluid additives:		IV Piggy back		Blood product ABO Type: # of units:

3. Respiratory therapy equipment/devices							
x	Nasal cannula		Face tent	x	Simple Face Mask	x	Non re-breather mask
x	BVM/Ambu bag		Nebulizer tx kit		Flow meters (extra supply)		

4. Documentation and Order Forms							
x	Health Care Provider orders	x	Med Admin Record	x	H & P	x	Lab Results
	Progress Notes	x	Graphic record		Anesthesia/PACU record		ED Record
	Medication reconciliation		Transfer orders		Standing (protocol) orders	x	ICU flow sheet (if in the ICU)
	Nurses' Notes		Dx test reports		Code Record		Prenatal record
x	Actual medical record binder, constructed per institutional guidelines				Other Describe: Can also use simulated EMR instead of paper chart		

5. Medications (to be available in sim action room)								
#	**Medication**	**Dosage**	**Route**		**#**	**Medication**	**Dosage**	**Route**
2	Nitroglycerine	0.4mg	PO		1	Ativan	2mg/ml	IV
1	Morphine	2mg/ml	IV					
1	Integrilin drip	Per pharmacy	IV					
2	Atropine	1mg/10ml	IV					

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario : Mr. Turner was admitted to the ICU status post PCI of the LCA for an anterior wall MI. He has a history of HTN, and diet controlled type 2 DM. On admission his vital signs are stable at BP 120/84, T. 98, HR 86, RR 20, O_2 sats @ 96%. He is alert and oriented and denies chest pain. Oncoming nurses enter room to begin initial assessment.			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline Patient c/o labored breathing, diaphoretic and pale. c/o mid sternal chest pain.	**Operator** HR – 36 BP - 78/40 RR - 28, dyspneic O_2sats – 92% Monitor: 2nd degree Mobitz Type II **Triggers:** Learner Actions completed in 2-3 minutes	**Learner Actions** 1. Greet patient, identify 2. Recognizes rhythm and alerts 2nd RN calling for help 3. Complete primary survey & focused assessment 4. Directs 2nd RN to obtain Crash Cart (delegation of roles) 5. O_2 to 4 L/min 6. Assure patent IV 7. Maintain airway 8. Give report to backup help using SBAR or other agency specified format 9. Call RRT	**Debriefing Points:** - Significance of clinical findings and patient complaint in Post PCI patient - Decision making in situation - Anticipated nursing interventions for a patient with 2nd degree heart block, type 2 - rationale for not giving nitro for CP in this circumstance - Rationale for calling RRT

STATE / PATIENT STATUS	**DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
2. Continues to be symptomatic. Becomes lethargic, but is still conscious.	**Operator:** HR – 30 RR – 24 BP 80/35 O_2 sats – 92% Monitor: 2nd degree Mobitz Type II **Triggers:** Learner actions completed in 4-5 minutes	**Learner Actions:** 1. RN 1 assumes leadership role 2. Obtains/interprets 12 lead EKG 3. Prepares for TCP- high degree HB – Mobitz Type II - Applies multifunction pacer pads 4. Administers Atropine 0.5 mg IV – can give 0.5 mg every 5 minutes to a total dose of 0.04 mg/kg (max total dose 3 mg) 5. Reassesses 6. Notify MD with SBAR communication- requests immediate response	**Debriefing Points:** - Importance of EKG for diagnosis prior to interventions - Use of pacer pads for monitoring EKG

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
3. No response to Atropine. No change in LOC. Moans occasionally.	**Operator:** Captures @ 80 mA BP 98/45 HR – 60 **Triggers:** Learner Actions completed within 5 minutes	**Learner Actions:** 1. 2nd RN arrives with crash cart. 2. RN's consider epinephrine & dopamine 3. MD arrives 4. orders to administer Ativan 2mg IV and morphine 2mg IV for patient comfort 5. Begins TCP immediately 6. Turns on pacer 7. Sets the demand rate to approx. 60/min 8. Increases mA to captuire - Sets the current mA to 2 mA above the dose at which consistent capture is observed - Checks patient's pulse - Checks vital signs	**Debriefing Points:** - Pacer pads could be turned on by ICU nurse if patient condition deteriorates - Importance of Ativan and morphine for patient comfort IF patient is conscious.

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
4. Patient is alert and oriented. Patient states "I feel better",	**Operator:** Captures @ 80 mA BP 98/45 HR – 60 VS remain stable **Triggers:**	**Learner Actions:** 1. Assesses pain 2. Reassures patient 3. Secures sedation orders from MD appropriately. 4. Repeats order back for clarification.	**Debriefing Points**
Scenario End Point: Patient being prepared for insertion of transvenous pacemaker			
Suggestions to <u>decrease</u> complexity: patient responds to atropine and does not require TCP Suggestions to <u>increase</u> complexity: progress to complete heart block and a full code requiring CPR, hysterical family member or patient becomes completely unresponsive while awaiting TCP.			

APPENDIX A: HEALTH CARE PROVIDER ORDERS

Patient Name: **DOB:** **Age:** **MR#:**		**Diagnosis:**
†No Known Allergies †Allergies & Sensitivities		
Date	Time	**HEALTH CARE PROVIDER ORDERS AND SIGNATURE**
		Admit to telemetry unit Cardiac Monitor Low cholesterol, low saturated fat, no added salt diet IV with 0.9 % Sodium Chloride at 100 ml/hr. Convert to saline lock after infusion is complete. Check vital signs, groin and pedal pulses every 15 minutes x4, every 30 minutes x2, then every hour until ambulating. OOB adlib when groin is stable Chest Pain: STAT 12-Lead ECG and notify physician NTG 0.4 mg SL q 5 minutes prn chest pain, maximum 3 doses. Hold for BP < 90 systolic Morphine Sulphate 2 mg every 5 minutes prn CP or Shortness of Breath not relieved by NTG and notify MD Clopidogrel (Plavix) 75 mg PO daily Clopidogrel (Plavix) 600 mg orally STAT x 1 dose IF NOT GIVEN IN THE CATH LAB. Aspirin enteric-coated 325 mg orally daily. Ranitidine 300 mg orally at bedtime Docusate Sodium 100 mg orally daily Metoprolol 50 mg orally every 8 hours. Hold for heart rate less than 50 beats/minute, systolic blood pressure less than 100 mmHg, or for 2nd or 3rd degree heart block Insulin – (amend so that order reflects your institution) Eptifibatide (Integrilin) continuous IV infusion at 1 mcg/kg/min.
Signature		

APPENDIX B: Digital images of manikin and/or scenario milieu	
Insert digital photo here	Insert digital photo here
Insert digital photo here	Insert digital photo here

APPENDIX C: DEBRIEFING GUIDE

General Debriefing Plan			
☐ Individual	☐ Group	☐ With Video	☐ Without Video
Debriefing Materials			
☐ Debriefing Guide	☐ Objectives	☐ Debriefing Points	☐ QSEN
QSEN Competencies to consider for debriefing scenarios			
☐ Patient Centered Care	☐ Teamwork/Collaboration	☐ Evidence-based Practice	
☐ Safety	☐ Quality Improvement	☐ Informatics	

Sample Questions for Debriefing

1. How did the experience of caring for this patient feel for you and the team?
2. Did you have the knowledge and skills to meet the learning objectives of the scenario?
3. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?
4. What RELEVANT information was missing from the scenario that impacted your performance? How did you attempt to fill in the GAP?
5. How would you handle the scenario differently if you could?
6. In what ways did you check feel the need to check ACCURACY of the data you were given?
7. In what ways did you perform well?
8. What communication strategies did you use to validate ACCURACY of your information or decisions with your team members?
9. What three factors were most SIGNIFICANT that you will transfer to the clinical setting?
10. At what points in the scenario were your nursing actions specifically directed toward PREVENTION of a negative outcome?
11. Discuss actual experiences with diverse patient populations.
12. Discuss roles and responsibilities during a crisis.
13. Discuss how current nursing practice continues to evolve in light of new evidence.
14. Consider potential safety risks and how to avoid them.
15. Discuss the nurses' role in design, implementation, and evaluation of information technologies to support patient care.

Notes for future sessions: