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 (CVBSC, 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.cinhc.org/programs.

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:	Acute Coronary Syndrome–Case B Hypokalemia, ventricular tachycardia
Original Scenario Developer(s): (name and credentials)	Anne Bolter Lucero, RN, MSN anlucero@cabrillo.edu Validated by: Gina Galluchi, RN, CCRN
Date - original scenario	7-08-07
Validation:	8-01-07
Revision Dates:	11-15-07, 6-26-09
Pilot testing:	10-15-07
QSEN revision:	10-06-11- Marjorie Miller, MA, RN

Estimated Scenario Time: 15-20 min **Debriefing time:** 30-40 min

Target group: Advanced Medical Surgical Nursing students, new grads, orientees to Telemetry
Core case: Acute Coronary Syndrome; Clinical Decision Making in evolving case

QSEN Competencies:

- ❑ Patient Safety
- ❑ Teamwork and Collaboration
- ❑ Patient Centered Care

Brief Summary of Case: 2nd part of a 4 part scenario occurring 6 hours after the first scenario. 58 year old female admitted from the ED to telemetry for observation, with new onset chest pain and diagnosis of Acute Coronary Syndrome (ACS). NTG, ASA and O^2 relieved the Chest pain in the ED. Learners receive report from nurse going off shift; told that labs are probably on the chart now. Learners are expected to introduce themselves and role; identify patient using 2 identifiers. Shortly after learners enter the room, patient complains of acute chest pain followed by a run of v tach. Learners divide the tasks and function as a team to manage the patient. Learners perform rapid, focused assessment, treat the chest pain, make decisions re. pain options, recognize hypokalemia, v tach and need for further orders, report to physician using SBAR communication tool and receive, read back and verify new orders. Learners should further correctly implement IV K-riders and Amiodarone demonstrating safe medication

EVIDENCE BASE / REFERENCES (APA Format)

American Heart Association, (2010) Advanced Cardiovascular Life Support Provider Manual

Black, J.M. & Hawks, J.H., (2009) Medical Surgical Nursing, Clinical Management for Positive Outcomes, Vol 2, 8th edition. St Louis: Elsevier Saunders.

Deglin, J.H. & Vallerand, A.H., (2009) Davis Drug Guide for Nurses, 10th edition. Philadelphia

Cronenwett, L., Sherwood, G., Barnsteiner, J. et al. (2007). Quality and safety education for nurses. Nursing Outlook, 55(3), 122-131. doi:10.1016/j.outlook.2007.02.006

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES
Learning Outcomes
1. Provide nursing care that promotes safety and minimizes risk of error.
2. Apply clinical decision making skills in interpreting and analyzing data in evolving situations.
3. Prioritize interventions based on accurate interpretation of assessment data
4. Communicate effectively with members of the inter-professional team.
Specific Learning Objectives
1. Applies principles of hand hygiene, infection control and personal protection.
2. Correctly identifies patient and introduces team.
3. Demonstrates situational awareness and immediately assesses c/o chest pain and relevant chart forms.
4. Gathers relevant patient and contextual data to identify patient's current problem.
5. Recognizes laboratory abnormalities and need for physician orders
6. Communicates effectively with patient to decrease anxiety and inform about care.
7. Recognizes abnormal rhythms and alerts team members.
8. Initiates call to physician with SBAR communication. Receives, reads back and verifies new orders.
9. Implements new IV medications following safety principles for specific medications.
10. Communicates status to charge nurse using standardized SBAR tool.
Critical Learner Actions
1. Introduces self and role on entering room, wash hands; identify patient with 2 identifiers.
2. Divide tasks among learners, one for patient care, one for meds, one for checking labs and orders.
3. Recognize change in priority with patient's c/o of chest pain, intervenes appropriately, reassesses.
4. Recognize arrhythmia of v tach, hypokalemia, ↑ cardiac markers and communicate to team members
5. Initiates call to physician giving accurate SBAR. Takes, verifies and reads back orders.
6. Administers IV medications recognizing incompatibilities.
7. Continuous monitoring with call outs of changing condition.
8. Keeps patient informed of situation and treatment that is occurring.

B. PRE-SCENARIO LEARNER ACTIVITIES	
Prerequisite Competencies Required prior to participating in the scenario	
Knowledge	Skills/ Attitudes
❑ Risk factors, pathophysiology and collaborative management of Acute Coronary Syndrome	❑ Assessment of Cardiovascular system ❑ Basic introductory monitor placement skill
❑ Recognition of normal/abnormal cardiac rhythms.	❑ Interpretation of basic cardiac monitor rhythms
❑ Pharmacology of basic cardiac medications	❑ Safe administration of medications, O^2 admin.
❑ Current National Patient Safety Goals	❑ Therapeutic communication in acute situations
❑ Structured communication tools (SBAR)	❑ Situation monitoring techniques
❑ Protocols for taking telephone orders	

SECTION III: SCENARIO SCRIPT

A. Case summary
(unfolding case) 2nd part of a 4 part scenario occurring 6 hours after the first scenario. 58 year old female admitted from the ED to telemetry for observation, with new onset chest pain and diagnosis of Acute Coronary Syndrome (ACS). NTG, ASA and O^2 relieved the Chest pain in the ED. Learners receive report from nurse going off shift; Patient had one episode of chest pain several hours ago relieved by 1 nitro and O^2. She has been stable, pain free since then. Afternoon labs were not available prior to report but are likely back on the chart now. Shortly after learners enter the room, patient complains of acute chest pain followed by a run of v tach. Learners divide the tasks and function as a team to manage the patient. Learners perform rapid, focused assessment, treat the chest pain, make decisions re. pain management options, recognize hypokalemia, v tach and need for further orders, report to physician using SBAR communication tool and receive, read back and verify new orders. Learners should further correctly implement IV K-riders and Amiodarone demonstrating safe medication administration. Patient has no further problems.

B. Key contextual details
Acute care telemetry unit. Patient lying in semi Fowlers position in patient gown; stable since episode of chest pain in the morning. Off going nurse gives accurate and complete report.

C. Scenario Cast		
Patient/ Client	❑ High fidelity simulator	
	❑ Mid-level simulator	
	❑ Task trainer	
	❑ Hybrid (Blended simulator)	
	❑ Standardized patient	
Role	Brief Descriptor (Optional)	Actor/Confederate or Learner
RN 1		Learner
RN 2		Learner
Charge Nurse	Answers phone, gets new orders	Actor
Monitor tech ?	Takes monitor strip and meds in room	Actor

D. Patient/Client Profile				
Last name:	Jones		First name:	Barbara
Gender: Fe	Age: 58	Ht: 5'5"	Wt: 186#	Code Status: Full
Spiritual Practice: Christian		Ethnicity: Caucasian		Primary Language spoken: English

1. History of present illness

No previous diagnosis of ACS was noted. She has not been under the care of any general physician. Risk factors include: overweight, smokes 1 pack per day. She is married; works full time outside the home as a bank manager, has three full grown children and two grandchildren that she cares for on weekends.

Primary Medical Diagnosis	Acute Coronary Syndrome

2. Review of Systems	
CNS	Alert, oriented, cooperative
Cardiovascular	Regular sinus rhythm, no gallops, rubs or murmurs, apical clear, pulses +4 radial/ pedal
Pulmonary	Breath sounds clear, effortless, O2 sat 98% on room air
Renal/Hepatic	WNL Renal: voids well without incontinence; Hepatic: liver non-tender, non-palpable
Gastrointestinal	WNL GI = normal bowel sounds X 4 quads
Endocrine	WNL post-menopausal
Heme/Coag	WNL
Musculoskeletal	Well-developed muscle mass, moves all extremities equally and well
Integument	Good tone, intact, no bruises,
Developmental Hx	Middle age adult WNL
Psychiatric Hx	WNL
Social Hx	Married, mother of 3, Professional
Alternative/ Complementary Medicine Hx	None noted; occasional visit to chiropractor for low back pain.

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

3. Current medications	Drug	Dose	Route	Frequency
	(from Scenario A)			

4. Laboratory, Diagnostic Study Results					
Na: 136	K: 2.6	Cl: 102	HCO3:	BUN: 15	Cr: 0.08
Ca: 9.0	Mg:	Phos:	Glucose: 101	HgA1C:	
Hgb: 12.4	Hct: 40	Plt: 320	WBC: 11.6	ABO Blood Type:	
PT: 13	PTT: 25	INR: 1.0	Troponin: 0.16	BNP:	
Ammonia:	Amylase:	Lipase:	Albumin:	Lactate:	
ABG-pH:	paO2:	paCO2:	HCO3/BE:	SaO2:	
VDRL:	GBS:	Herpes:	HIV:		
CXR:		ECG: NSR; no ST elevation			
CT:		MRI:			
Other:					

E. Baseline Simulator/Standardized Patient State
(This may vary from the baseline data provided to learners)

1. Initial physical appearance	
Gender: Female	Attire: patient gown
Alterations in appearance (moulage): short brown, grey, age appropriate wig, light eye, lip make-up	

x	ID band present, accurate information		ID band present, inaccurate information		ID band absent or not applicable
	Allergy band present, accurate information		Allergy band present, inaccurate information	x	Allergy band absent or not applicable

2. Initial Vital Signs Monitor display in simulation action room:							
	No monitor display	x	Monitor on, but no data displayed		Monitor on, standard display		

BP: 148/85	HR: 92	RR: 24	T: 99.2 F.	SpO^2: 98%
CVP:	PAS:	PAD:	PCWP:	CO:
AIRWAY:	ETC02:	FHR:		
Lungs: Sounds/mechanics	Left: clear		Right: clear	
Heart:	Sounds:	S^1, S^2 no murmurs or ectopy		
	ECG rhythm:	sinus		
	Other:			
Bowel sounds:	ABS x 4 quadrants		Other:	

3. Initial Intravenous line set up							
	Saline lock #1	Site:					IV patent (Y/N)
	IV #1	Site:	RA	Fluid type: Normal Saline	Initial rate: 20 mL/hour		IV patent (Y/N) Yes
x	Main						
	Piggyback						
	IV #2	Site:		Fluid type:	Initial rate:		IV patent (Y/N)
	Main						
	Piggyback						

4. Initial Non-invasive monitors set up					
x	NIBP	x	ECG First lead: Lead II	x	ECG Second lead: V1
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:	
	Fetal Heart rate monitor/tocometer			Internal	External

Environment, Equipment, Essential props

Recommend standardized set ups for each commonly simulated environment

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

Telemetry unit, monitored

2. Equipment, supplies, monitors (In simulation action room or available in adjacent core storage rooms)							
x	Bedpan/ Urinal		Foley catheter kit		Straight cath. kit	x	Incentive spirometer
x	IV Infusion pump		Feeding pump		Pressure bag	x	Wall suction
	Nasogastric tube		ETT suction cath		Oral suction cath		Chest tube insertion kit
x	Defibrillator	x	Code Cart	x	12-lead ECG		Chest tube equip
	PCA infusion pump		Epidural inf. pump		Central line Kit		Dressing Δ equipment
x	IV fluid Type: Normal Saline w/primary tubing Amiodarone w/filter tubing KCl Riders 10 mEq in 100 mL D5W w/PB tubing						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		Flowmeters (extra supply)		

4. Documentation and Order Forms							
x	Health Care Provider orders	x	Med Admin Record	x	H & P	x	Lab Results
	Progress Notes		Graphic record		Anesthesia/PACU record		ED Record
x	Medication reconciliation		Transfer orders		Standing (protocol) orders		ICU flow sheet
	Nurses' Notes	x	Dx test reports		Code Record		Prenatal record
x	Actual medical record binder, constructed per institutional guidelines			x	Other: 12 lead EKG, monitor strip showing runs of ventricular tachycardia 5-6 beats		

5. Medications (to be available in sim action room)								
#	**Medication**	**Dosage**	**Route**		**#**	**Medication**	**Dosage**	**Route**
3	Nitroglycerin	0.4mg	SL		3	Acetaminophen	650 mg	PO
2	Morphine Sulfate	2 mg	IV		3	Lorazepam	1 mg	PO
2	Morphine Sulfate	4 mg	IV		2	EC ASA	325 mg	PO
2	Colace	100 mg	PO					
Available in Control Room w/orders & MAR's								
1	Amiodarone in 100 mL D5W	150 mg	IV		3	KCl in 100 mL D5W	10 mEq	IV

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario : Shift Report – 2:45 pm Ms. Barbara Jones was admitted to the Tele unit six hours ago from home via the ED after an episode of severe mid-sternal chest pain that lasted at least 5 minutes. The routine workup for acute MI was done with no substantial EKG changes or elevated cardiac markers at that time. The patient's first episode of chest pain for us was relieved by 1 NTG. She is still in observation she has some risk factors with her weight and smoking. She has had the 2nd set of labs drawn and EKG has been done. The lab results could be on the chart now. Sats- 94% on 2 liters of O^2/NC. Vital Signs: B/P 148/85, HR 106, RR 28, T 99.4° F.			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline *(may want to delay onset of pain for approximately one minute to allow learners to begin assessment and engage with patient)* Pt sitting up 30 ° in bed - O^2 off Pt. States: "I am having more chest pain and it is worse than it was earlier today … *If learners ask for region and radiation, patient states* "Oh my, it is going up my jaw sand down my arm" *If asked,* Pain scale: 9/10 *7. If reassessed* May still have some chest pain scale following treatment with NTG 3/10	**Operator** B/P: 148/85 HR: 106 RR: 28 T: 99.4 °F. O^2 Sat: 94% **Triggers:** Must complete #2,4,5,7 to progress to next state If no treatment in 2 minutes, patient cues that pain is still 9/10	**Learner Actions:** 1. Hand hygiene, introduce themselves & role; identify patient with 2 patient identifiers 2. Recognize change in patient's status and re-prioritize 3. Divide tasks: 1st learner performs patient assessment, 2nd learner checks chart and labs, 3rd learner prepares medications 4. Focused cardiac assessment, assess all components of chest pain. 5. Check orders, check arm band and begin treatment chest pain NTG, MS 6. All learners communicate significant information to one another. 7. Reassess pain and vital signs following interventions. 8. Reassure patient as treatment progresses 9. Request EKG machine to do 12 lead	**Debriefing Points:** 1. Timely treatment of chest pain in ACS 2. Reassessment priorities to determine next steps 3. Different protocols for 12 lead EKG's and timing of chest pain treatment 4. Situation Monitoring – exchange of relevant information 5. Team Communication – identifying team members by name when giving directions

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
2. Patient is anxious, "asks to have the head of bed lowered" B/P 128/72 HR 112 RR 26 Sat 92% If learners do not ↑ O^2 flow rate with chest pain, drop Sats to 90%	**Operator:** Within first minute show 1 run of V tach If not noticed repeat the V tach run, 5-8 beats **Triggers:** Must complete #1,2,3,4,5, and reassess chest pain. Monitor becomes stable, sat back to 95% on 4L O^2 **Cue:** If learners do not catch the ↓ K and onset of arrhythmias, Charge nurse goes in with strip of v tach and cues learners to check chart for labs, orders **Cue:** If learners do not initiate SBAR when charge nurse enters room, charge nurse will ask for SBAR	**Learner Actions:** 1. Continue to monitor and treat chest pain ↑ O^2 flow rate 2. Notice monitor changes of V tach run, check B/P 3. One learner takes lead and directs others by name using clear directions and call outs. 4. Learners verbally verify information received (check back) 5. Investigate reason for V tach, Lab work, O^2 sat, V/S in re-assessment 6. Check orders for treatment for V tach 7. Validate findings with team members. 8. Call charge nurse or physician to report change in status. 9. Deliver SBAR report to include ↑ severity of chest pain episode, new lab results, patient status; request new orders 10. Take telephone orders, verify and read back	**Debriefing Points:** 1. Patients on cardiac monitoring have alarms with V tach, they must be addressed. 2. Treatment for v tach varies. Not all patients will be treated aggressively depending on diagnosis, age, history, etc. 3. Potential causes of v tach in this patient 4. Criteria for safely taking a VERBAL ORDER 5. Relationship between laboratory finding of ↓K and onset of arrhythmias 6. Team Communication – directions, check back, call by name 7. Situation Monitoring – Exchanges relevant information in timely manner

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
3. Patient resting in bed. Reports pain is better (3/10), but she is "very nervous and scared". B/P 130/80 HR 108 ST w/ occasional PVC's RR 26 Sat 95%	**Operator:** Continue sinus tach with occasional PVC's , no more runs v tach **Triggers:** must complete # 1,2,3,4,5	**Learner Actions:** 1. Continue to monitor and treat chest pain 2. Reassure patient that the team is working together and is notifying physician of events. 3. Offer medication to decrease anxiety and administer using 2 patient identifiers. 4. Call Physician and deliver SBAR. Request orders if not done in previous state. **5.** Communicate patient status to charge nurse using SBAR tool	**Debriefing Points:** 1. Therapeutic communication skills to decrease patient anxiety in rapidly evolving situations. 2. Inter-professional communication skills to assure rapid treatment in evolving situation 3. Strategies for keeping calm in rapidly evolving situations 4. Continuous monitoring of cardiac patient in evolving situation 5. Policy/procedure for taking & implementing verbal orders

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
4. Pt sleeping, opens eyes when loud voices are used "What? Oh I must have fallen asleep, is that ok?"	**Operator:** Change vital signs and decrease blinking when patient sleeping B/P 138/88 HR 104 RR 24 Sat 95% **Triggers:** Complete #1,2,3,4,5	**Learner Actions:** 1. Continue to monitor chest pain and V/S & stabilize patient 2. Provide reassurance, calm manner 3. Initiate treatment for VT and ↓ K+ following safe medication procedures. (K riders and Amiodarone) 4. Reassess V/S and patient's response to treatment 5. SBAR "hand off" report to the relief nurse for your break.	**Debriefing Points** **1.** Critical need for continuous monitoring and communication . **2.** Call for help if having trouble with IV set up

Scenario End Point: Patient is stable on IV drips, free of chest pain, new orders are received and stat orders initiated. Charge nurse enters to relieve learners for break. If learners are having trouble with the IV set-up, charge nurse may come in to rescue depending on level of learner. Learners should call for help if having trouble.

Suggestions to decrease complexity: For novice students end scenario after call for help and SBAR … slow first and second frame down.

Suggestions to increase complexity: Patient go from v. tach to v.fib and code.

To increase complexity two more scenarios follow, each one building on the previous one (unfolding)
Scenario C - includes client with EKG and lab changes, some increased urgency to assessment and intervention, preparation to transfer to the cardiac cath lab.
Scenario D - highlights discharge planning and education, use of the med reconciliation form, family support, communication.

APPENDIX A: HEALTH CARE PROVIDER ORDERS

Patient Name: Barbara Jones **DOB: 12/23/1953** **Age: 58** **MR#: 627350**	**Diagnosis: Acute Coronary Syndrome**

† No Known Allergies
† Allergies & Sensitivities

Date	Time	**HEALTH CARE PROVIDER ORDERS AND SIGNATURE** ***See previous orders from Scenario A***
		Potassium Chloride 10 mEq/100 mL D5W x 3 doses, each to run over 1 hour
		Amiodarone PRN – Ventricular tachycardia – 5 beats or greater
		1st – Start loading dose of Amiodarone 150 mg/100 mL D5W over 10 minutes **2nd** – Start maintenance drip Amiodarone 1000mg/500 mL D5W. Deliver 360 mg over 6 hours at 1 mg/min **3rd** – Change to maintenance drip of Amiodarone 540 mg over 18 hours at 0.5 mg/minute
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: