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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:	Total Hip Replacement post-op deep vein thrombosis (DVT)
Original Scenario Developer(s):	Cathy Warner, RN, MN, ONC, CNS Kimberly Kim, RN, PhD
Date - original scenario	04/07
Validation:	11/08
Pilot testing:	11/08
Revisions:	08/10 C. O'Leary-Kelley, PhD, RN, CNE 12/14 Melissa Punnoose, MSN, RN-BC, CHSE; Heidi Traxler, MSN, RN, CHSE; Marjorie A. Miller, MA, RN, CHSE

Estimated Scenario Time: 20 minutes Debriefing time: 40 minutes

Target group: Pre-licensure nursing students, new graduates, staff nurses

Core case: 85 year old female post op total hip replacement with deep vein thrombosis

Brief Summary of Case:

85 y/o female with osteoarthritis of right hip and s/p right total hip replacement (THR) develops an increase in her right leg pain on post-op day four when she is about to be discharged to home. Learners are to assess the patient, communicate with MD, Charge nurse and patient/family. They will complete interventions as delegated by charge nurse.

The scenario is designed to help students to be able to assess post-op complication of DVT on patients having total hip replacement. It provides guidelines for students to be able to assess pain using analog scale and facilitate pain management in orthopedic unit. It allows the students to observe communication using SBAR technique. It also allows observation of student interaction with patient, family and inter-professional team.

QSEN Competencies

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

EVIDENCE BASE / REFERENCES (APA Format)

Falk-Yitter, Y., Francis, CW, Johanson, NA, Curley, C, Dahl, OE, Schulman, S,…….Coleman, CW (2012). Prevention of VTE in orthopedic surgery patients: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. *Chest*. 2012 Feb;141(2 Suppl):e278S-325S

McRae, S. and Ginsberg, J. (2004). Treatment of venous thromboembolism. *Circulation.* 2004:110, pp. 1-3.

Zsiro, D. and Wollan, M. (2014). Nursing management for musculoskeletal trauma and orthopedic surgery. In Dirksen, L. and Bucher, H. (Eds.) Medical-Surgical Nursing: Assessment and management of clinical problems (9th ed.), (pp. 1524-1528). St. Louis, Missouri: Mosby.

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES
Learning Outcomes
1. Provide evidence-based care for the patient with a suspected DVT
2. Communicate with team members effectively using SBAR and closed loop communication
3. Provide evidence-based nursing care for the patient in pain
Specific Learning Objectives
1. Recognize patient risk for VTE/DVT
2. Discuss nursing care for the patient who is post-op total hip replacement
3. Assess pain according to PQRST and differentiate post op pain from DVT related calf pain.
4. Perform a focused post op assessment
5. Reposition patient for comfort observing THR precautions.
6. Administer medications safely by observing the 6 rights
7. Utilizes available resources efficiently
8. Communicate effectively with team members by using SBAR and closed loop communication
9. Communicate therapeutically with patient and family to keep them informed and involved in care.
Critical Learner Actions
1. Complete PQRST pain assessment and reassessment after interventions
2. Patient education regarding pain medication: onset, side effects, action.
3. Observe post-op total hip precautions
4. Assess for possible DVT/VTE
5. Call for help and notify MD
6. Communicate with team members using SBAR and closed loop communication
7. Use therapeutic communication to keep patient and daughter informed and involved in care

B. PRE-SCENARIO LEARNER ACTIVITIES	
Prerequisite Competencies	
Knowledge	**Skills/ Attitudes**
❑ Ability to assess V/S and pain using given pain scales (Analog 0-10 Scale)	❑ Musculoskeletal, neurovascular assessment
❑ Ability to assess MS, and integument functions	❑ Pain assessment and management in post-op patient
❑ Communication using SBAR	❑ Communication with inter-professional team
❑ VTE prevention measures	❑ Post-operative management of the patient with total hip replacement
❑ Post-op assessment and nursing care	

SECTION III: SCENARIO SCRIPT

A. Case summary
Mildred Weiman is an 85 year old female with a history of R hip osteoarthritis, HTN, generalized weakness, and type 2 DM. She had an anterior approach total hip replacement four days ago. She was supposed to go home on post-op day two, but has struggled with mobility and post-op pain. Her pain is now under control. Most recently her pain level was 1/10. Her goal is 2/10. She was last medicated with Vicodin 4 hours ago. The dressing to her right hip is clean, dry, intact. She has B SCDs, but says they are uncomfortable and keeps taking them off. The plan for today is for discharge home. Her surgeon will be in this morning to write her discharge orders and her daughter should be here any minute to prepare to take her home. She is a/o x4. Very sweet and chatty. Her last set of vital signs were: BP: 138/90 HR: 88 RR: 18 T: 97.2 SpO_2: 97% RA

B. Key contextual details
Daughter is at bedside waiting to take mother/patient home.

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)
Primary nurse		Learner
Secondary Nurse	Back up help for primary RN	Learner
Patient's daughter Dorothy		Confederate/SP actor
Charge RN		Confederate
Dr Smith	Available by phone	Confederate
Transporter	To take patient to ultrasound/end scenario	confederate

D. Patient/Client Profile				
Last name:	Weiman	First name:	Mildred	
Gender: Female	Age: 85	Ht: 66 inches	Wt: 160 lbs	Code Status: Full Code
Spiritual Practice: Protestant	Ethnicity: Caucasian	Primary Language spoken: English		
1. Past history				
Pt has 2 year history of right hip pain, increasing in past 3 months. Using cane for long distance.				
Primary Medical Diagnosis	Osteoarthritis right hip			

2. Review of Systems	
CNS	WNL
Cardiovascular	NSR, HTN
Pulmonary	Sleep apnea, uses CPAP
Renal/Hepatic	Labs normal
Gastrointestinal	
Endocrine	DM Type 2
Heme/Coag	
Musculoskeletal	Right hip pain x 2 years
Integument	Clear and intact
Developmental Hx	
Psychiatric Hx	
Social Hx	Married; living with spouse in one story home 1-2 glasses wine/day Smoked x 10 years; quit 1985
Alternative/ Complementary Medicine Hx	

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

3. Current medications	**Drug**	**Dose**	**Route**	**Frequency**
	Celebrex	200 mg	PO	Twice a day
	Glucophage	500 mg	PO	Daily
	Lisinopril	20 mg	PO	Daily
	Morphine	2 mg	IV	Q4 hours PRN severe pain
	Narcan	0.4 mg	IV	PRN RR <10
	Lovenox	30mg	Subcutaneous	Daily
	Vicodin 5/500	One tab	PO	Every 4 hours prn moderate pain
	Senekot	2 tabs	PO	Twice a day prn constipation
	Protonix	40mg	PO	daily

4. Laboratory, Diagnostic Study Results					
Na: 134	K: 3.7	Cl:	HCO3:	BUN:	Cr: 0.8
Ca:	Mg:	Phos:	Glucose: 132	HgA1C: 7.3	
Hgb: 10.0	Hct: 30.0	Plt: 150,000	WBC: 10.2	ABO Blood Type:	
PT 14.4	PTT	INR 1.24	Troponin:	BNP:	
ABG-pH:	paO2:	paCO2:	HCO3/BE:	SaO2:	
VDRL:	GBS:	Herpes:	HIV:		
CXR: normal	ECG: NSR				

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

1. Initial physical appearance					
Gender: Female		Attire: Hospital gown			
Alterations in appearance (moulage): Woman's hair, dressing on right hip. Abductor pillow. SCD's off and at end of bed					
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: 138/90	HR: 104	RR: 18	T: 99	SpO_2: 97%	
CVP:	PAS:	PAD:	PCWP:	CO:	
AIRWAY:	$ETCO_2$:	FHR:			
Lungs: Sounds/mechanics	Left: Clear	Right: Clear			
Heart:	Sounds: Normal				
	ECG rhythm:				
	Other:				
Bowel sounds:	Decreased, pt had small BM this a.m.		Other:		

3. Initial Intravenous line set up							
X	**Saline lock #1**	Site: RFA				IV patent (Y/N)	
	IV #1	Site:		Fluid type:	Initial rate:	X	IV patent (Y/N)
	Main						
	Piggyback						
	IV #2	Site:		Fluid type:	Initial rate:		IV patent (Y/N)
	Main						
	Piggyback						
4. Initial Non-invasive monitors set up							
x	NIBP		ECG First lead:		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)

Med-surg unit patient room

2. Equipment, supplies, monitors
(In simulation action room or available in adjacent core storage rooms)

	Bedpan/ Urinal		Foley catheter kit		Straight cath. kit	x	Incentive spirometer
X	IV Infusion pump		Feeding pump		Pressure bag		Wall suction
	Nasogastric tube		ETT suction catheters		Oral suction catheters		Chest tube kit
	Defibrillator		Code Cart		12-lead ECG		Chest tube equip
	PCA infusion pump		Epidural infusion pump		Central line Insertion Kit		Dressing Δ equipment
	IV fluid Type:		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		Non re-breather mask
	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		Lab Results
X	Progress Notes	X	Graphic record		Anesthesia/PACU record		ED Record
X	Medication reconciliation		Transfer orders		Standing (protocol) orders		ICU flow sheet
X	Nurses' Notes		Dx test reports		Code Record		Prenatal record
	Actual medical record binder, constructed per institutional guidelines				Other Describe:		

5. Medications (to be available in sim action room)								
#	**Medication**	**Dosage**	**Route**		**#**	**Medication**	**Dosage**	**Route**
	Vicodin	5/500mg	PO					
	Morphine	2mg/ml	IV					

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario : Handoff report to oncoming RN: Mildred Weiman is an 85 year old female with a history of R hip osteoarthritis, HTN, generalized weakness, and type 2 DM. She had a total hip replacement four days ago. She was supposed to go home on post-op day two, but has struggled with mobility and post-op pain. Her pain is now under control. Most recently her pain level was 1/10. Her goal is 2/10. She was last medicated with Vicodin 4 hours ago. The dressing to her right hip is clean, dry, intact. Her abductor pillow is in place. She has B SCDs, but says they are uncomfortable and keeps taking them off. The plan for today is for discharge home. Her surgeon will be in this morning to write her discharge orders and her daughter should be here any minute to prepare to take her home. She is a/o x4. Very sweet and chatty. Her last set of vital signs were: BP: 138/90 HR: 88 RR: 18 T: 97.2 SpO_2: 97% RA			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline Patient lying in bed. SCDs are off. Becoming restless with complaints of pain in right calf. 4/10, sharp Calf is reddened and swollen Hip pain is 2/10 Daughter enters shortly after new RN assumes care Concerned about new onset of pain.	**Operator** Slight increase in vital signs Pt with increasing leg pain BP 140/92, HR 96, RR 20 T 97.6, O_2 sats 97% RA **Triggers:** If RN does not assess calf pain, intensity will increase	**Learner Actions** 1. focused post op assessment 2. pain assessment using PQRST 3. evidence based approach to assess a patient at risk for DVT 4. notices redness and swelling to R calf	**Debriefing Points:** ❑ Use an evidence based approach to assess a patient at risk for DVT

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
2. Patient verbalizes c/o increasing calf pain. 5/10 Daughter becoming anxious; concerned about planned discharge	**Operator:** HR 100 BP 146/96 RR 24 on monitor **Triggers:** Change in VS	**Learner Actions:** 1. Recognize signs of DVT 2. ask nursing colleagues for help 3. Communicates new findings to RN and MD in SBAR format **MD ORDERS:** **1.** Venous duplex ultrasound to R/O DVT. **2.** Labs: D-dimer. **3.** No discharge today.	**Debriefing Points:** ❑ SBAR communication ❑ Importance of delegating and seeking help as needed ❑ Common diagnostic tests for DVT and treatment options ❑ Dangers of DVT ❑ Strategies for incorporating patient and family in treatment plan to decrease anxiety
STATE / PATIENT STATUS	**DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
3. Continues to complain of pain to calf. Asking what is causing it. VS remain unchanged	**Operator:** Minimal changes in vital signs **Triggers:** Administration of pain medication	**Learner Actions:** 1. Administer pain medication observing the 6 rights of med administration 2. explain pain medication, onset, and potential side effect. 3. engage patient and family in active partnership with care 4. explain interventions and upcoming tests to pt and family	**Debriefing Points:** ❑ Nursing care for the patient receiving opioids

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
4. Pain level now 2/10 to r calf 0/10 to hip	**Operator:** VS return to baseline BP 136/88, HR 89, RR 18, O_2 sats 98% **Triggers:**	**Learner Actions:** 1. evaluate patient response to pain medication 2. explain that discharge will be delayed for patient safety	**Debriefing Points** ❑ Precautions for a patient suspected of VTE ❑ EBP for treatment of VTE if venous duplex is positive.
Scenario End Point: Once pain is under control or when max time has passed, transporter will come to take patient to venous duplex.			
Suggestions to <u>decrease</u> complexity: no active DVT. Patient refusing to ambulate and refusing SCDs. Focus would be on education for VTE prevention. Suggestions to <u>increase</u> complexity: PE instead of DVT, distracting family member,			

APPENDIX A: HEALTH CARE PROVIDER ORDERS

Patient Name: Mildred Weiman **DOB:** **Age: 85** **MR#:**	**Diagnosis:** Osteoarthritis right hip, secondary to dysplagia

†No Known Allergies
†Allergies & Sensitivities

Date	Time	**HEALTH CARE PROVIDER ORDERS AND SIGNATURE**
		THR precautions
		Low sodium 1800kcal carb controlled diet
		Lovenox 30mg subcutaneous daily
		Morphine 2mg IV q4 hours PRN severe pain
		Vicodin 5/500mg 1 tab PO q4 hour PRN moderate pain
		Lisinopril 20mg PO daily
		Celebrex 200mg PO BID
		Metformin 500mg PO Qhs
		Protonix 40mg PO daily
		IS 10x/hour while awake
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: