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)

TABLE OF CONTENTS

SECTION I: SCENARIO OVERVIEW

Scenario Title:	Respiratory Failure
Original Scenario Developer(s):	Lindsey Shank RN MS CNS CCRN
Date - original scenario	12/14/07
Validation:	10/15/2008 A. Lucero, MSN
Revision Dates:	6/2010, transferred to CSA template 8/2012
Pilot testing:	6/2010 Approved - abl
QSEN revision:	2/13/13 Barbara Durham MSN, RN, CNE and Marjorie Miller MA, RN, CHSE

Estimated Scenario Time: 20 minutes Debriefing time: 30-40 minutes

Target group: Critical Care Training Program, used for training novice Critical Care Unit Nurses
This scenario is appropriate for advanced beginner nursing students to competent nurses to practice skills, roles, teamwork and communication

Core case: Adult respiratory failure

QSEN Competencies:

- Teamwork and collaboration;
- Safety;
- Evidence-Based practice;
- Patient Centered care;
- Quality improvement

Brief Summary of Case:
Roberta Jones is a 75 year old female admitted yesterday evening after a 7 day history of chills, fever, productive cough with green sputum, shortness of breath, fatigue, decreased appetite and malaise. Her previous medical history (PMH) includes: COPD and osteoarthritis. PSH: cholecystectomy in 1989. Social history: Drinks 2 drinks per week. Smokes 2 pack of cigarettes per day. Divorced and lives alone. Has 3 children, all married. Daughter lives with her. Patient was admitted to ICU for observation due to unstable respiratory status.

EVIDENCE BASE / REFERENCES (APA Format)

Rapid Sequence Intubation Protocol. Handbook of Emergency Cardiovascular Care. (2010) American Heart Association Guidelines

Lafferty, K.A. (2012). Rapid Sequence Intubation. Retrieved from Medscape at http://emedicine.medscape.com/article/80222-overview.

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.o06

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES
Learning Outcomes
1. Apply clinical decision making skills in interpreting and analyzing data in evolving situations 2. Assess own level of communication skill in encounters with patients and families. 3. Communicate with team members, adapting own style of communicating to needs of the team and situation 4. Identify gaps between local and best practice 5. Provide nursing care that promotes safety and minimizes risk of error.
Specific Learning Objectives
1. Applies principles of hand hygiene, infection control and personal protection. 2. Correctly identifies patient and introduces team. 3. Recognize change in status by identifying acute respiratory failure and correlate with disease process. 4. Demonstrate situational awareness by accurately anticipating and prioritizing interventions required for patient in acute respiratory failure.
5. Communicate effectively with patient to decrease anxiety and inform about care. 6. Communicate patient status to preceptor and health care provider using standardized SBAR tool.
7. Demonstrate team work and communication principles during emergent/stressful situations.
8. Accurately prioritize immediate interventions required to improve patient's respiratory status while managing patient in acute respiratory failure
Critical Learner Actions
1. Perform hand hygiene, introduce self and role; identify patient using two patient identifiers. 2. Complete initial assessment, pausing to deal with evolving situation. 3. Initiate interventions to stabilize patient's oxygenation and ventilation and improves the condition. 4. Notify physician of change in patient's condition in timely manner (less than 5 minutes).
5. Implement nursing and medical interventions found in physician orders in an optimal sequence. 6. Perform interventions including Rapid Sequence Intubation while consistently maintaining patient safety. 7. Question accuracy of medication order. 8. Evaluate effectiveness of nursing interventions.

B. PRE-SCENARIO LEARNER ACTIVITIES	
Prerequisite Competencies	
Knowledge	Skills/ Attitudes
❑ Procedural Sedation & RSI Competency Module & SOP's	❑ Universal Protocol ❑ Correct use of all monitoring & resuscitation equipment
❑ Endotracheal Tube, Assist with Intubation .	❑ Establish a patent airway & initiate positive pressure ventilation using bag-valve mask (BVM).
❑ Ventilator Management SOP. ❑ VAD Peripheral IV SOP.	❑ Procedures for verifying IV patency. ❑ Safe administration of RSI & procedural sedation medications
❑ Universal Protocol	❑ Recovery of patient after Procedural Sedation/RSI.
❑ Pharmacology of RSI agents & specific reversal agents.	❑ Management of expected/ adverse effects after Procedural Sedation/RSI.
❑ Recognition/ reporting of patient deterioration	❑ Location and effective use of emergency/ resuscitation equipment from Code Blue cart.

SECTION III: SCENARIO SCRIPT

A. Case summary
Roberta Jones is a 75 year old female admitted yesterday evening after a 7 day history of chills, fever, productive cough with green sputum, shortness of breath, fatigue, decreased appetite and malaise. Her previous medical history (PMH) includes: COPD and osteoarthritis. Previous surgery was a cholecystectomy in 1989. Social history: Drinks 2 drinks per week. Smokes 2 packs of cigarettes per day. Divorced and lives alone. Has 3 children, all married. Daughter lives with her. Patient was admitted to ICU for observation due to unstable respiratory status.

B. Key contextual details
It is 1605 in your unit and you have just completed report. You enter Mrs. Jones' room and observe her struggling to breathe. She is restless and anxious and is trying to climb out of bed. You are precepting an experienced Med-Surg nurse who is in the ICU Training Program. The unit is fully staffed and there is also a charge and resource nurse present on your side of the CCU. There is an Intensivist available by phone.

C. Scenario Cast		
Patient/ Client	X High fidelity simulator	
	❑ Mid-level simulator	
	❑ Task trainer	
	❑ Hybrid (Blended simulator)	
	❑ Standardized patient	
Role	Brief Descriptor (Optional)	Actor/Confederate (C) or Learner (L)
RN 1 – Primary Nurse	Precepting orientee	Learner
RN 2 - Orientee	M/S nurse in ICU training program	Learner
Resource nurse		Learner
Charge nurse		Learner
Intensivist: Available by phone. When nurse calls, ask her/him to get new ABG. Come to patient's bedside to evaluate patient.		Confederate
Daughter: Use to practice Patient/Family Centered Care competency. Brief "Daughter" In room sitting next to patient. Daughter comes out of the room and says "Nurse, Do something! My mother" can't breathe! Don't let her die, Please, don't let her die"!!		Confederate

D. Patient/Client Profile				
Last name:	Jones		First name:	Roberta
Gender: Female	Age: 75	Ht: 152.4 cm	Wt: 44.2 kg (BMI 19)	Code Status: Full Code
Spiritual Practice: Jehovah's Witness		Ethnicity: African American		Primary Language spoken: English

1. History of present illness

Mrs. Jones was brought in by ambulance yesterday after a 7 day history of chills, fever, productive cough with green sputum, shortness of breath, decreased appetite, fatigue and malaise. Mrs. Jones was admitted to ICU because of the precariousness of her respiratory status.

Primary Medical Diagnosis Pneumonia

2. Review of Systems	
CNS	Awake, alert & oriented to name only. Confused, restless; Requires frequent reorienting to the environment. Patient is restrained due to confusion-she repeatedly took off her oxygen mask causing a drop in oxygen saturation. MAE slowly; pupils, equal, round, reactive to light. No deficits. Denies all pain or discomfort
Cardiovascular	S_1 S_2, no murmurs, bruits, or thrills, no JVD or peripheral edema; peripheral pulses (radial & pedal) +3, capillary refill WNL, skin, pale, cool, moist and intact. ECG shows sinus tachycardia (rate 117). Patient has rare unifocal PVCs. Clubbing noted in R & L hands.
Pulmonary	Respirations rapid, labored with use of accessory muscles. C/O SOB. Lungs: coarse crackles bilaterally. PCXR shows consolidation in right lower lobe and left upper and lower lobes.
Renal/Hepatic	Foley catheter with small amount of cloudy, yellow urine.
Endocrine	WNL
Heme/Coag	WNL
Musculoskeletal	WNL
Integument	Skin, pale, cool, moist and intact.
Developmental Hx	
Psychiatric Hx	Anxious, restless, & confused.
Social Hx	Married with 3 grown children, Retired accounting clerk. Drinks 2 alcoholic drinks per week. Smokes 2 pack of cigarettes per day.
Alternative/ Complementary Medicine Hx	

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

3. Current medications

Drug	Dose	Route	Frequency
Albuterol Nebulizer	Unit	Inhal	Q4h
Atrovent Nebulizer	Unit	Inhal	Q4h
Flagyl	Per protocol	IVPB	Per protocol
Ceftriaxone	Per protocol	IVPB	Per protocol
Amoxicillin	Per protocol	IVPB	Per protocol

4. Laboratory, Diagnostic Study Results					
Na: 142	K: 4.2	Cl: 101	HCO3: 38	BUN: 18	Cr: 1.2
Ca:	Mg: 2.4	Phos:	Glucose: 86	HgA1C:	
Hgb: 13.8	Hct: 40.7	Plt: 240K	WBC: 12.6	ABO Blood Type:	
PT: 19.3	PTT: 22	INR: 1.1	Troponin:	BNP:	
Ammonia:	Amylase:	Lipase:	Albumin:	Lactate:	
ABG-pH: 7.2	paO2: 51 62	paCO2:	HCO3/BE: 38/-9	SaO2: 85%	
VDRL:	GBS:	Herpes:	HIV:	ALT 30	
CXR: Shows consolidation in right lower lobe & left upper & lower lobes.					PVCs.
CT:		MRI:			

E. Baseline Simulator/Standardized Patient State					
1. Initial physical appearance					
Gender: Female		Attire: Hospital gown; ethnic and age appropriate wig			
Alterations in appearance (moulage): There is an order from the MD to insert a Foley catheter. Off-going RN tells incoming RN that it is in the room and when she went in to insert it, the patient had wet the bed. She cleaned up the patient and changed the bed but did not have time to insert the Foley catheter.					
x	ID band present, accurate		ID band present, inaccurate		ID band absent or N/A
	Allergy band present, accurate		Allergy band present, 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, standard display		

BP: 147/74	HR: 117	RR: 26	T: 101.0 °F	SpO²: 86%
CVP:	PAS:	PAD:	PCWP:	CO:
AIRWAY:	ETCO²:	FHR:		
Lungs:	Left: coarse crackles		Right: course crackles	
Heart:	Sounds:	S1, S2		
	ECG rhythm:	ST with few unifocal PVC's		
Bowel sounds:	hypoactive		Other:	

3. Initial Intravenous line set up							
	Saline lock #1	Site:					IV patent (Y/N)
	IV #1	Site: RFA		Fluid type: D5/.45 NS	Initial rate: 75 ml/hr		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: 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) yes	CVP Site:	PAC Site:

6. Other monitors/devices					
x	Foley catheter (when inserted)	Amount: 150 ml		Appearance of urine: yellow, slightly cloudy	
	Epidural catheter		Infusion pump:	Pump settings:	

Environment, Equipment, Essential props
1. Scenario setting: (example: patient room, home, ED, lobby)
ICU patient room

2. Equipment, supplies, monitors (In simulation action room or available in adjacent core storage rooms)								
x	**Bedpan**/ Urinal	x	Foley catheter kit		Straight cath. kit	x	Incentive spirometer
x	IV Infusion pump		Feeding pump		Pressure bag	x	Wall suction
	Nasogastric tube		ETT suction catheters	x	Oral suction catheters		Chest tube insertion kit
x	Defibrillator	x	Code Cart		12-lead ECG		Chest tube equip
	PCA infusion pump		Epidural infusion pump		Central line Insertion Kit		Dressing Δ equipment
x	IV fluid Type: D5/.45NS 1L, 500ml, or 250 ml		IV fluid additives:		x IV secondary tubing x ICU Adult ventilator		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	x	Nebulizer tx kit		Flowmeters (extra supply)		
				x	ICU Adult Vent		

4. Documentation and Order Forms							
x	Health Care Provider orders	x	Med Admin Record	x	H & P	x	Lab Results
x	Progress Notes	x	Graphic record		Anesthesia/PACU record		ED Record
x	Medication reconciliation		Transfer orders		Standing (protocol) orders	x	ICU flow sheet
x	Nurses' Notes		Dx test reports		Code Record		Prenatal record
x	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**
	Ceftriaxone		IVPB			Albuterol /Atrovent		neb
	Flagyl	500 mg	IVPB			Amoxicillin		IVPB
1	**Midazolam**	10 mg	IVP		2	**Succinylcholine**	1-1.5 mg/kg	IVP
	Atropine	0.01-0.02 mg/kg	IVP			Lidocaine	1-2 mg/kg	IVP
	Etomidate	0.2-0.4 mg/kg	IVP			Ketamine	1-2 mg/kg	IVP
	Vecuronium	0.1-0.2 mg/kg	IVP			Propofol	1-2 mg/kg	IVP

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES			
Initiation of Scenario: Report from previous shift: Mrs. Jones was brought in by ambulance yesterday after a 7 day history of fever, chills, SOB, fatigue, productive cough with green sputum. Mrs. Jones drinks 2 glasses of Scotch per week and smokes 2 packs of cigarettes per day. She lives with her daughter in their family home. She has 3 grown children. She has a history of COPD and osteoarthritis, and a cholecystectomy in 1989. Last vital signs were: BP 155/90, HR 135, RR 32, T 103-1F and her ECG shows ST with rare unifocal PVCs. Yesterday's CXR showed consolidation in the right lower lobe, left upper lobe and left lower lobe. She stated that she was having increased difficulty breathing just before I came to give report.			
STATE / PATIENT STATUS	**DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE**		
1. Baseline Mrs. Jones is lying in bed (HOB @ 40 degrees) struggling to breathe (SOB, dyspnea, interrupted speech). She is restless and anxious, and trying to climb out of bed. Skin, pale, cool, moist and intact. Clubbing noted in both hands. Her daughter is at the bedside and is trying to keep her mother in bed.	**Operator** VS: BP 152/84; HR 135, RR 32; T 101.0 F, SpO2 86% on 3 L of oxygen, Pain 0/10. Lungs: coarse crackles bilaterally **Triggers:** Daughter says "Nurse, Do something! My mother can't breathe! Don't let her die, Please, don't let her die!"	**Learner Actions** o Wash hands, introduces self, identifies patient. o Focused cardiovascular and respiratory assessments. o ↑ oxygen delivery using face mask. o Repositions pt to HOB @ 90 degrees or places in tripod position o Communicates with patient and daughter in a calm and reassuring manner o Anticipate orders for ABG, PCXR and ↑ administration of oxygen. o Notify MD of patient's condition using ISBAR.	**Debriefing Points:** • Strategies for adhering to NPSG regarding patient identification. • Rationale for providing supplemental oxygen and changing oxygen delivery device • Positioning options to optimize oxygenation • Strategies for communicating with patient and daughter to decrease anxiety • Critical factors to communicate when calling the physician

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
2. Patient remains in the same state as above. Information: Versed (Onset 2-5 in; duration 15-30 min) Succinylcholine (Onset <1 min; duration 5-10 min)	**Operator:** VS: BP 160/82; HR 141, RR 36; SpO2 88% on 50% of O2 per face mask, Pain 0/10. **Triggers:** #1 MD arrives-gives orders o ABG, PCXR o Bag patient with BVM using 100% oxygen. o RT called to come ASAP. o Prepare to intubate patient. o After CXR, give Versed 10 mg IVP and Succinylcholine 40 mg IVP STAT. MD attempts to leave the room. #2 Daughter if asked, reports patient weighs 97 pounds (44 kg).	**Learner Actions:** o Increase oxygen delivery using 100% non-re-breather mask (NRB) or BVM if not already done. o Call RT to come ASAP. o Draw ABG, assist w/ PCXR (if pt condition permits). o Prepare to intubate patient: (1) Call for help from other nurses or Rapid Response team. (2) Get crash cart. (3) Prepares necessary supplies for intubation: ETT, stylet, syringe, Yankauer, CO2 dectector, oral/nasal airway, laryngoscope functional. (4) Prepares medications for administration after confirming IV patency (5) Asks RT to prepare ventilator o Explains what is happening to daughter (assigns someone to be with daughter)	**Debriefing Points:** ▪ Strategies for prioritizing interventions to improve oxygen status ▪ Compare effectiveness of different oxygen delivery devices ▪ Role of the RT as an interprofessional team member ▪ Role of the nurse in preparing for and assisting with intubation ▪ Describe the decision-making process and priority setting ▪ Correct drug/dose calculation ▪ Strategies for adhering to NPSG regarding labeling syringes/meds. ▪ Alternative medications to be used for pretreatment (Lidocaine, Fentanyl, Atropine), induction (Etomidate, Ketamine, Propofol, Midazolam), paralysis (Succinylcholine, Vecuronium, Rocuronium). ▪ Pharmacological effect (onset, duration) of prescribed medications.

State / Patient Status	Desired Actions & Triggers To Move To Next State		
3. Patient lethargic, responds slowly. Shallow, slow respirations	**Operator:** VS: BP 99/70; HR 46, RR 6; SpO2 78% on 100% BVM. **Triggers:** After intubation: VS: BP 110/76; HR 122, RR ~12-16 manual; SpO2 98% on 100% BVM.	**Learner Actions:** • Recognize patient is heading toward cardiopulmonary arrest RN performs the following actions: • Administers Versed and Succinylcholine when physician is in the room ****MD intubates, RT secures ETT** • Check for bilateral breath sounds after intubation, applies ETCO2 detector. • Determine effectiveness of BVM respirations. (SpO2 and chest should be rising with BVM ventilations) • Connects patient to ventilator • Obtains CXR to confirm position	**Debriefing Points:** ▪ Significance of changes in patient status ▪ Signs and symptoms of poor oxygenation and deteriorating respiratory status ▪ Strategies for decision making and priority setting for patients in respiratory distress ▪ Evaluate effectiveness of nursing interventions and post-intubation management ▪ Standard of practice for RSI per agency protocol ▪ Recall reversal agents for sedatives/anxiolytics

4.	**Operator:**	**Learner Actions:**	**Debriefing Points:**
Patient intubated, waking up from sedation	VS: BP 110/76; HR 122, RR ~12-16 manual; SpO2 98% on 100% BVM.	• Communicates with patient and family. • Asks physician to speak with patient's daughter to update plan of care. • Updates charge nurse to the situation	▪ Allowing family presence during emergency procedures ▪ Importance of having physician talk to family regarding treatment plan
Scenario End Point: End the scenario when treatment team (orientees) perform all of the actions that are listed or when MD orders them (MD will order actions if treatment team has failed to do so after 10-15 minutes.			
Suggestions to <u>decrease</u> complexity: Daughter is not present to distract orientee Suggestions to <u>increase</u> complexity: Wrong medication dose is ordered; airway is difficult to intubate and patients becomes bradycardia and codes			
This is a basic scenario with no added complexity. It is appropriate for CCU orientees or can be adapted for use with ADN/BSN/entry level Masters Students.			

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**
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: