

SECTION I: SCENARIO OVERVIEW

Scenario Title:	Adult Critical Care: Congestive Heart Failure with Fluid Volume Overload	
Original Scenario Developer(s):	Mary Pieper-Warren, RN, BA Vicki Casella-Gordon, RN, MS, CNS, CCRN	
Date - original scenario	3/07	
Validation:	3/09, 1/15	
Pilot testing:	3/09	
Revisions:	1/2015 Melissa Punnoose, MSN, RN-BC, CHSE melissa.punnoose@providence.org 4/2018 Melissa Punnoose, MSN, RN-BC, CHSE, CHSOS	
<u>Estimated Scenario Time:</u> 20 minutes <u>Debriefing time:</u> 40 minutes		
<u>Target group:</u> Critical Care and Step Down new grad RN's, Senior level nursing students		
<u>Core case:</u> heart failure with fluid overload		
<u>Brief Summary of Case:</u>		
<p>85 year old African American woman admitted 2 days ago for Small Bowel Obstruction secondary to adhesions. She had a small bowel resection today, and is being admitted to the ICU post operatively because of a history of MI, CHF and Hypertension. She has a radial arterial line and an internal jugular triple lumen central venous catheter. She will develop fluid volume overload, which needs to be recognized and managed by the RN and/or team.</p>		
<u>QSEN Competencies</u>		
X Patient Centered Care		
X Patient Safety		
<input type="checkbox"/> Quality Improvement		
X Teamwork and Collaboration		

EVIDENCE BASE / REFERENCES (APA Format)

Paul, S., and Hice, A. (2014). Role of the acute care nurse in managing patients with heart failure using evidence-based care. <i>Critical Care Nurse Quarterly</i> , 37(4), pp. 357-376.
Dolansky, M.A., and Moore, S.M. (2013). Quality and safety education for nurses (QSEN): The key is systems thinking. <i>Online Journal of Issues in Nursing</i> , 18(3), Manuscript 1.
Seckel, M.A., and Bucher, L. (2017). Critical care. In Lewis, S., Bucher, L., McLean, M., and Harding, M.(Eds.), <i>Medical-surgical nursing: Assessment and management of clinical problems</i> (10 th ed. pp.1554-1586). St. Louis, Missouri: Elsevier.
Wagner, J., and Hiatt, J. (2014). B-Type natriuretic peptide for the evaluation of volume status in elderly postoperative patients. <i>JAMA</i> , 311 (19), pp. 2017-2018.

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES

A. SCENARIO LEARNING OBJECTIVES	
Learning Outcomes	
1. Manage care of the unstable critical care client using principles of safety	
2. Make accurate decisions based on prioritizing significant assessment data	
3. Communicate effectively with inter-professional team	
Specific Learning Objectives	
1. Recognizes patient change in condition and calls for additional help.	
2. Identifies factors that can lead to increased pulmonary congestion.	
3. Analyzes significant assessment data and recognizes instability in patient.	
4. Performs a focused post op assessment in the critical care setting	
5. Administers medications safely.	
6. Incorporates therapeutic communication and patient teaching into care.	
7. Team members have clearly identified roles and a leader	
8. Communicates effectively with inter-professional team using SBAR and closed loop communication	
Critical Learner Actions	
1. Performs focused post op assessment following attachment of lines and proper leveling and zero-ing CVP and arterial pressure monitoring lines	
2. Recognizes dyspnea	
3. Perform focused cardiopulmonary assessment	
4. Changes patient's position and increases oxygen flow rate	
5. Decreases IV flow rate to TKO	
6. Calls for help/ notifies and secures new orders from MD after giving SBAR	
7. Administers IV medications safely	
8. Reassesses following interventions	
9. Assesses lab results	
10. Takes telephone orders safely using RBAV	
11.	

B. PRE-SCENARIO LEARNER ACTIVITIES

B. PRE-SCENARIO LEARNER ACTIVITIES	
Prerequisite Competencies	
Knowledge	Skills/ Attitudes
<input type="checkbox"/> Pathophysiology of heart failure	<input type="checkbox"/> Administration of IV medications
<input type="checkbox"/> Pharmacology of medications involved in management of heart failure	<input type="checkbox"/> Post op and cardiopulmonary physical assessment
<input type="checkbox"/> Nursing care for the postop patient with heart failure	<input type="checkbox"/> Appropriate delegation of tasks to team members
<input type="checkbox"/> Interpretation of CVP values and labs	<input type="checkbox"/> SBAR communication with inter-professional team
<input type="checkbox"/> Fluid and electrolyte balance in CHF	<input type="checkbox"/> Establish clearly defined roles

SECTION III: SCENARIO SCRIPT

A. Case summary

Ms. Edith Connor is an 85 year old admitted 2 days ago with a small bowel obstruction secondary to adhesions. She had a small bowel resection today, and is being admitted to the ICU post operatively because of a history of MI, heart failure, and Hypertension.

Her estimated blood loss during surgery was 300ml. She received 1 unit of PRBC in the recovery room for a post op HNH of 7.6/23. Her post transfusion HNH was 9.3/26. She received 1500ml LR intra-operatively and is now saline locked. She has a Foley catheter with 200mL output during surgery. Abdominal dressing dry and intact

She was initially awake and cooperative but now she's just a little confused having trouble remembering where she is. Oxygen saturation 93 on 2 liters nasal cannula. Breath sounds decreased throughout

She denies pain currently, but has morphine IV available PRN.

She has a Right radial arterial line and a Right internal jugular triple lumen central venous catheter. She is a full code.

Her last set of vitals before leaving the recovery room were: 144/89, 88, 22, 97.4, 93% on 2L

B. Key contextual details

Hand-off report received from Post-Anesthesia Recovery Nurse 3 hours post-operative.

C. Scenario Cast

Patient/ Client	<input checked="" type="checkbox"/> High fidelity simulator	
	<input type="checkbox"/> Mid-level simulator	
	<input type="checkbox"/> Task trainer	
	<input type="checkbox"/> Hybrid (Blended simulator)	
	<input type="checkbox"/> Standardized patient	
Role	Brief Descriptor (Optional)	Standardized Participant (SP) or Learner (L)
PACU Nurse	Handoff report at the start of scenario	SP
Primary RN	Directs/leads patient care	L
Secondary RN	Takes direction from Primary RN	L
Family member	Concerned, but not disruptive	SP
RT	Available if paged	SP
MD	Available by phone or in person	SP

D. Patient/Client Profile				
Last name:	Connor		First name:	Edith
Gender: Female	Age: 85	Ht: 60 inches	Wt: 176 pounds	Code Status: Full Code
Spiritual Practice: Baptist	Ethnicity: African American		Primary Language spoken: English	
1. Past history				
85 year old African American woman admitted 2 days ago Small Bowel Obstruction secondary to adhesions. She had a small bowel resection today, and is being admitted to the ICU post operatively because of a history of MI, CHF, and Hypertension.				
Primary Medical Diagnosis	Small bowel obstruction			

2. Review of Systems	
CNS	A/O
Cardiovascular	S1, S2 – previous MI, CHF, HTN
Pulmonary	Lungs clear, non-smoker
Renal/Hepatic	Wnl
Gastrointestinal	Wnl
Endocrine	Wnl
Heme/Coag	Wnl
Musculoskeletal	Wnl, walks unassisted at home
Integument	Intact
Developmental Hx	Normal senior adult
Psychiatric Hx	None known
Social Hx	Lives alone on ground floor apartment, family nearby
Alternative/ Complementary Medicine Hx	None reported

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

3. Current medications	Drug	Dose	Route	Frequency
	Digoxin	0.25mg	PO	QAM
	Lasix	20mg	PO	Daily
	K Dur	20 mEq	PO	Daily

4. Laboratory, Diagnostic Study Results – pre op					
Na: 140	K: 4.0	Cl: 100	HCO3:	BUN: 20	Cr: 0.08
Ca: 9.0	Mg:	Phos:	Glucose:	HgA1C:	
Hgb: 11	Hct: 34	Plt: 320	WBC: 11.6	ABO Blood Type:	
PT 13	PTT 25	INR 1.0	Troponin:	BNP:	
ABG-pH:	paO2:	paCO2:	HCO3/BE:	SaO2:	
VDRL:	GBS:	Herpes:	HIV:		
CXR: clear	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: gown		
<u>Alterations in appearance (moulage):</u> wig, abdominal dressing, dry, intact. Triple lumen to R neck, R radial arterial line. 1+ pitting edema to BLE.				
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: 162/90	HR: 96	RR: 26	T: 37.5 C	SpO2: 92% on 2L	
CVP: 16	PAS:	PAD:	PCWP:	CO:	
AIRWAY:	ETCO2:	FHR:			
Lungs: Sounds/mechanics	Left: Crackles (level 9)	Right: Crackles (level 9)			
Heart:	Sounds:	S1, S2			
	ECG rhythm:	Sinus			
	Other:				
Bowel sounds:	hypoactive			Other:	

3. Initial Intravenous lineset up						
	Saline lock #1	Site:			IV patent (Y/N)	
	IV #1	Site:		Fluid type:	Initial rate:	IV patent (Y/N)
x	Main	IJ				
	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:		ECG Second lead:	
x	Pulse oximeter	x	Temp monitor/type		Other:	
5. Initial Hemodynamic monitors set up						
x	A-line Site:	x	Catheter/tubing Patency (Y/N)	CVPSite:	PACSite:	
6. Other monitors/devices						
x	Foley catheter	Amount: 200 mL	Appearance of urine: medium, clear, yellow			
	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)						
	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
x	Defibrillator	x	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	x	Non re-breather mask
	BVM/Ambu bag		Nebulizer tx kit		Flowmeters (extra supply)		

4. Documentation and Order Forms							
x	Health Care Provider orders	x	Med Admin Record		H & P		Lab Results
	Progress Notes	x	Graphic record	x	Anesthesia/PACU record		ED Record
x	Medication reconciliation		Transfer orders		Standing (protocol) orders	x	ICU flowsheet
	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
1	Lasix	20mg/ml	IV					
1	KCL	30mEq/100ml	IV					
1	Digoxin	0.25mg/ml	IV					
2	Morphine sulfate	2mg/ml	IV					

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES

Initiation of Scenario : handoff given from recovery room RN to primary RN

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STATE / PATIENT STATUS	DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>1. Baseline</p> <p>Slightly confused and agitated. Has tried to pull IV out</p> <p>Denies pain.</p> <p>Occasional mild cough that increases as the scenario progresses.</p>	<p>Operator</p> <p>T: 37.5 C. HR: 96/SR BP: 162/90 RR: 28 O2 sats: 90% CVP: 16** Lung sounds: crackles Peri Pulses: bounding</p> <p>Triggers: Learner actions completed within 3 minutes.</p>	<p>Learner Actions</p> <ul style="list-style-type: none"> o Attaches pt. to monitor o Levels and zero's CVP/Art. line transducers o evaluates waveforms o communicates actions to patient and family member and includes them in the plan of care 	<p>Debriefing Points:</p> <ul style="list-style-type: none"> - priority assessments & interventions during hand-off & following post op CHF -possible causes for cough and confusion -significance of assessment findings -decision making priorities <p>(**optional. Evidence no longer supports use of CVP, but is still monitored in many ICUs)</p>

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>2. "I'm having a little trouble breathing, dear." Coughing becomes more frequent. Becomes a bit more agitated "Be a dear and sit me up, please"</p>	<p>Operator: EKG: SR 104 BP: 164/90 O2 sat: 88% RR: 32 Triggers: Learner Actions completed within 3 minutes</p>	<p>Learner Actions:</p> <ul style="list-style-type: none"> o Completes focused assessment o increases O2 flow rate o elevates head of bed 	<p>Debriefing Points:</p> <ul style="list-style-type: none"> -Rationale for actions -Anticipated results of interventions - Significance of deteriorating VS & O2 saturation
STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>3. Respirations becoming shallower. Anxious; States "It's hard to breathe"</p>	<p>Operator: No change in basic parameters above. Triggers: Learner Actions completed within 5 minutes</p>	<p>Learner Actions:</p> <ul style="list-style-type: none"> o Call for another nurse/RRT o Gives SBAR report to back up nurse and delegates appropriately o Notify MD o Give SBAR o Take orders per agency protocol (write on chart & repeat back to prescriber) Lasix 20mg IVP now. Portable CXR now dx: CHF, Chem 7 and BNP stat. 	<p>Debriefing Points:</p> <ul style="list-style-type: none"> - SBAR Communication - Which nurse should call the MD - Legalties of taking verbal/phone orders -Prioritizing interventions and MD orders.

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>4.</p> <p>Begins to improve over next 3 minutes following medication administration</p> <p>Cough decreases. Breathing becomes less labored. Mental status starts to clear.</p>	<p>Operator:</p> <p>Begin improvement trends over next 3 minutes HR 92 RR 20 BP 149/76 O2 sat: 92 CVP: 8 Crackles to volume 5 200ml urine output</p> <p>Triggers: Learner Actions within 5 minutes</p>	<p>Learner Actions:</p> <ul style="list-style-type: none"> o Administer IV Lasix safely o Delegates appropriate tasks to secondary nurse o Draws labs from arterial or central line o Validates assessment with secondary nurse o Communicates with patient/family r/t actions & progress 	<p>Debriefing Points</p> <ul style="list-style-type: none"> - Rationale and expected effects of medication with time frame -Importance of communication with secondary nurse and with family - Appropriate procedure and safety considerations for administration of IV Lasix.
STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>5.</p> <p>Patient becomes alert and oriented Breathing pattern unlabored</p>	<p>Operator:</p> <p>Lungs: crackles at 2; RR 20 BP 138/70 EKG: SR@ 80 with occasional PVC O2 sat: 96 % CVP: 8</p> <p>Critical lab called to RN Potassium 3.0</p>	<p>Learner Actions:</p> <ul style="list-style-type: none"> o Reassess Breath sounds o Assess urine output (500 ml clear light yellow urine) o Report critical lab to MD Receives telephone order for KCL 30mEq IV x1 with repeat chem 7 in the morning. 	<p>Debriefing Points:</p> <p>Assess-Intervene-Reassess -protocol for critical lab results</p>

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>6. Remains stable & conversant with family and nurses</p>	<p>Operator Vital signs remain stable</p> <p>Triggers: Learner Actions completed within 5 minutes.</p>	<p>Learner Actions</p> <ul style="list-style-type: none"> o Correctly initiates KCl infusion <p>Educates patient and family about need for IV potassium</p>	<ul style="list-style-type: none"> -High alert medications -Dangers of dosing K too fast -medication education for patient and family
<p>Scenario End Point: Medications hanging properly and patient is stable. RT comes in to check patient; nurse gives SBAR to RT</p>			
<p>Suggestions to <u>decrease</u> complexity: May be too long for pre-licensure learners or for one scenario. Consider breaking into 2 sections with the administration of KCl in the second scenario. Remove arterial line and central line to convert to a med surg or tele scenario.</p> <p>Suggestions to <u>increase</u> complexity: Can increase complexity by having patient not respond to immediate interventions and progress to respiratory failure, requiring intubation. Another scenario dealing with Advance Directives can be included if patient requires intubation.</p>			

APPENDIX A: HEALTH CARE PROVIDER ORDERS

<p>Patient Name: Edith Connor</p> <p>DOB: 12/31/xx</p> <p>Age: 85</p> <p>MR#:</p>	<p>Diagnosis: SBO</p>
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†No Known Allergies

†Allergies & Sensitivities

Date	Time	HEALTH CARE PROVIDER ORDERS AND SIGNATURE
		Admit to inpatient ICU
		Bed rest
		Strict NPO
		SL IV
		Full code
		Cardiac telemetry
		Weigh patient daily
		Strict intake and output
		Monitor CVP
		DC Foley in AM
		Place sequential compression device bilateral lower extremities
		O2 to maintain sats above 93%
		Lovenox 40mg subcutaneous daily
		Morphine sulfate 1-4mg IV every 4 hours PRN pain
		Digoxin 0.25mg IV daily
		Lasix 20mg IV daily
		Protonix 40mg IV daily
		Hydralazine 10mg IV every 4 hours PRN: SBP>170 and/or DBP>100
		Zofran 4mg IV every 6 hours PRN: Nausea/Vomiting
		CBC, Chem 7, BNP, chest x-ray in AM
Signature		

APPENDIXB: Digital images of manikin and/or scenario milieu

<p>Insert digital photo here</p>	<p>Insert digital photo here</p>
<p>Insert digital photo here</p>	<p>Insert digital photo here</p>

APPENDIX C: DEBRIEFING GUIDE

General Debriefing Plan			
<input type="checkbox"/> Individual	<input type="checkbox"/> Group	<input type="checkbox"/> With Video	<input type="checkbox"/> Without Video
Debriefing Materials			
<input type="checkbox"/> Debriefing Guide	<input type="checkbox"/> Objectives	<input type="checkbox"/> Debriefing Points	<input type="checkbox"/> QSEN
QSEN Competencies to consider for debriefing scenarios			
<input type="checkbox"/> Patient Centered Care	<input type="checkbox"/> Teamwork/Collaboration	<input type="checkbox"/> Evidence-based Practice	
<input type="checkbox"/> Safety	<input type="checkbox"/> Quality Improvement	<input type="checkbox"/> Informatics	
Sample Questions for Debriefing			
<ol style="list-style-type: none"> 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:			