

SECTION I: SCENARIO OVERVIEW

Scenario Title:	Fluid Volume Overload in post-op mastectomy	
Original Scenario Developer(s):	Marjorie Miller, MA,RN, CHSE	
Date - original scenario	07/10	
Validation:	08/10 Anne Lucero, MSN	
Revision Dates:	03/11, 03/18 (MM)	
Revised for Sutter:	Sara Kennedy, RN, Sue Uyematsu, RN (Med Surg clinicians at Sutter)	
Pilot testing:	09/10	
QSEN revision:	08/11 Marjorie Miller, MA, RN, CHSE	
<u>Estimated Scenario Time:</u> 15 – 20 minutes <u>Debriefing time:</u> 30-40 minutes <u>Target group:</u> pre-licensure nursing students, new graduates, staff nurses <u>Core case:</u> Post-operative patient developing fluid overload <u>QSEN Competencies:</u> <ul style="list-style-type: none"> • Safety • Patient Centered Care • Teamwork and Collaboration <u>Brief Summary of Case:</u> 64 year old female on first morning post-op following a left prophylactic mastectomy with immediate reconstruction with tissue expander. Morning assessment reveals new finding of crackles mid-way up bilaterally and O2 sats of 91%. Learners are expected to recognize IV rate @ 150 mL/hour, position patient for optimal ventilation, assist with incentive spirometer, administer O2 at 4L per nasal cannula, check chart for diuretic orders, formulate SBAR, contact physician, SBAR and receive new orders. Administer IV Lasix accurately and reassess based on drug action.		

EVIDENCE BASE / REFERENCES (APA Format)
ACC/AHA Practice Guidelines for Diagnosis and Management of Chronic Heart Failure in the Adult. <i>Circulation</i> . (2015)
Deglin, J.H. & Vallerand, A.H. (2018) Davis Drug for Nurses. Philadelphia.
Lewis, S. et.al (2018) Medical Surgical Nursing, Assessment and Management of Clinical Problems, 10 th Edition. St. Louis: Elsevier Mosby.
Gahart, B & Nazareno, A. (2018) Intravenous Medications. 27 th edition. St. Louis: Elsevier Mosby.
Granado, R. & Mehta, R. (2016) Fluid overload in the ICU: evaluation and management. <i>BMC Nephrology</i> (2016). 17:109 DOI 10.1186/s12882-016-0323-6. Retrieved on 07/17/18.

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES

Learning Outcomes

1. Apply clinical decision making in interpreting and analyzing complex data in changing situations.
2. Prioritize interventions based on accurate interpretation of assessment data.
3. Provide care to patient promoting safety and minimizing risk of error.
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 using 2 patient identifiers according to agency protocol.
3. Gathers relevant patient and contextual data to identify patient's priority problem.
4. Recognizes changes in patient's condition that require immediate intervention.
5. Recognizes need for additional orders and reports change of status to provider using SBAR.
6. Correctly obtains, reads back and activates telephone physician's order.
7. Performs interventions accurately using appropriate medication resources
8. Re-evaluate effectiveness of interventions and modify plan of care accordingly.
9. Incorporates patient teaching in all aspects of nursing care provided.

Critical Learner Actions

1. Performs hand hygiene; accurately identifies patient; introduces self and role
2. Performs general survey and focused assessment
3. Recognizes cluster of assessment findings indicating fluid overload
4. Positions patient for optimal ventilation; administers O2 per agency protocol
5. Assists patient with incentive spirometer exercises
6. Notifies provider of change in status using SBAR
7. Correctly obtains, reads back and activates telephone orders
8. Administers IV Lasix
9. Reassesses patient at appropriate time intervals.

B. PRE-SCENARIO LEARNER ACTIVITIES

Prerequisite Competencies

Required prior to participating in the scenario

Knowledge	Skills/ Attitudes
1. Principles of Cardiopulmonary Assessment	1. Cardiopulmonary Assessment and Vital Signs
2. Significance of abnormal findings	2. Oxygen therapy and protocols
3. Pathophysiology of Fluid Overload	3. Administration of IV medications
4. Clinical Manifestations of Fluid Overload	4. SBAR communication
5. Nursing management of patient's with F.O.	5. Taking & initiating telephone orders
6. Pharmacology of IV diuretic therapy	6. Therapeutic communication in acute situations

SECTION III: SCENARIO SCRIPT

A. Case summary

64 year old female first post-operative morning following prophylactic mastectomy with immediate reconstruction with tissue expander. Learners are expected to assess the patient, recognize ↓ O² sats, crackles ½ way up, and IV running @ 150 mL/hr. Perform immediate interventions of positioning patient, incentive spirometer, recheck O² sats, check for orders and notify provider of change in status using SBAR communication tool. Learners are to take and initiate new orders accurately and reassess patient at appropriate time.

Report indicates that patient is doing well with pain controlled (2/10) with Morphine PCA. She complained of nausea which was relieved by Zofran @0400. On assessment patient offers no complaints, but is slightly restless and short of breath in the low Fowler’s position. Wound is clean and dry with JP draining effectively.

History reveals previous breast cancer in the right breast treated with surgery, immediate reconstruction and chemotherapy. Currently in remission x 1 year.

B. Key contextual details

Morning assessment is different than that received in report. Day shift fully staffed.

C. Scenario Cast

Patient/ Client	<input 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)
RN 1		Learner
RN 2	Enters room when called to validate assessment.	Learner
Physician	(in control room giving telephone orders)	Standardized Participant (SP)

D. Patient/Client Profile				
Last name:	Cho		First name:	Paula
Gender: Fe	Age: 64	Ht: 5'5"	Wt: 150#	Code Status: Full
Spiritual Practice: None stated		Ethnicity: Asian American		Primary Language spoken: English
1. History of present illness				
Patient admitted for prophylactic mastectomy with immediate reconstruction. Previous history of breast cancer in remission x 1 year following surgery with immediate reconstruction (tissue expander) and chemotherapy. No history of cardiopulmonary risk factors.				
Primary Medical Diagnosis		Left mastectomy		

2. Review of Systems	
CNS	Awake & oriented to person, place, time & situation. No gross deficits
Cardiovascular	Regular rate & rhythm; no murmurs. BP 112/82, HR 86
Pulmonary	Lungs clear to A&P; non-smoker RR 20, O2 sats 98%
Renal/Hepatic	Within normal limits.
Gastrointestinal	Soft, non-tender. No history of bleeding reported.
Endocrine	Post-menopausal woman; post-breast cancer right breast in remission
Heme/Coag	Within normal limits; distal pulses intact
Musculoskeletal	Moves all extremities with full range of motion
Integument	Clear and intact. No lesions noted.
Developmental Hx	College graduate. Retired graphic designer
Psychiatric Hx	None reported
Social Hx	Divorced. No children.
Alternative/ Complementary Medicine Hx	unknown

Medication allergies:	None reported	Reaction:	
Food/other allergies:	NKDA	Reaction:	

3. Current medications	Drug	Dose	Route	Frequency
	Calcium Carbonate + D	2 tabs	PO	Morning and evening
	Alprazolam (Xanax)	0.25 mg	PO	nightly
	Mevacor	40 mg	PO	Every other day

4. Laboratory, Diagnostic Study Results					
Na: 139	K: 4.7	Cl: 99	HCO3: 24	BUN: 15	Cr: 0.75
Ca: 9.6	Mg: 1.2	Phos:	Glucose: 70	HgA1C:	
Hgb: 13.7	Hct: 43.7	Plt: 367	WBC: 6.70	ABO Blood Type: O+	
PT	PTT	INR	Troponin:	BNP:	
Ammonia:	Amylase:	Lipase:	Albumin: 4.8	Lactate:	
ABG-pH:	paO2:	paCO2:	HCO3/BE:	SaO2:	
VDRL:	GBS:	Herpes:	HIV:		
CXR: clear		ECG: 12 lead - NSR			
CT:		MRI:			
Other:					

E. Baseline Simulator/Standardized Patient State (This may vary from the baseline data provided to learners)					
1. Initial physical appearance					
Gender: Fe		Attire: hospital gown			
Alterations in appearance (moulage):					
<ul style="list-style-type: none"> dressings over left breast, w/JP drain TED stockings/ sequentials on 					
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:					
x	No monitor display		Monitor on, but no data displayed		Monitor on, standard display

BP: 150/90	HR: 96	RR: 26	T: 100	SpO2: 91%	
CVP:	PAS:	PAD:	PCWP:	CO:	
AIRWAY:	ETCO2:	FHR:			
Lungs: Sounds/mechanics	Left: mod. loud crackles ½ way up		Right: mod. loud crackles ½ way up		
Heart:	Sounds:	S ₁ S ₂			
	ECG rhythm:	Sinus tachycardia			
	Other:				
Bowel sounds:	hypoctive bowel sounds x 4		Other:		

3. Initial Intravenous line set up					
	Saline lock #1	Site:			IV patent (Y/N)
x	IV #1 Main	Site: RA	Fluid type: D5/0.45 NS w/20mEq KCl	Initial rate: 150 mL/hr.	IV patent (Y/N)
	Piggyback				
x	IV #2 Main	Site:	Fluid type: Cefazolin (Ancef)	Initial rate: 30 minutes	IV patent (Y/N)
	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					
	A-line Site:		Catheter/tubing Patency (Y/N)	CVP Site:	PAC Site:
6. Other monitors/devices					
	Foley catheter	Amount:	Appearance of urine:		
	Epidural catheter	x	Infusion pump:	Pump settings: Primary Piggyback (2 nd channel)	150 mL/hr 100 mL/hr
	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)					
medical-surgical unit					

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 catheters	x Oral suction catheters	Chest tube insertion kit
	Defibrillator		Code Cart	12-lead ECG	Chest tube equip
	PCA infusion pump		Epidural infusion pump	Central line Insertion Kit	x Dressing Δ equipment
x	IV fluid	D5/0.45 NS w/ 20 KCl		IV medication in 50 NS Ceftriaxone 1G	Blood product ABO Type: # of units:

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

ALL DATA IN THIS SCENARIO IS FICTITIOUS

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
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
3	Acetaminophen	325 mg	PO		2	Zolpidem	5 mg	PO
1	Cefazolin	1 gm/50 mL NS	IV		4	Saline flushes		
2	Ondansetron (Zofran)	4 mg	IV		1	Morphine (PCA)	1 mg/mL	IV
					1	Furosemide (Lasix)	40 mg/mL	IV

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES

Initiation of Scenario : Off going nurse gives report to primary nurse and rest of team in Debriefing Room
 Ms. Pauline Chappel is a 64 year old female on first morning post-op following a left prophylactic mastectomy with immediate reconstruction with tissue expander. She’s had a relatively comfortable first post-op night with pain controlled with PCA Morphine at 2-3/10.
 Vital signs: BP 118/80, HR 86, RR 20, O2 sats 98% RA. She has an IV of D51/2NS with 20 KCl running at 150 mL/hr. She’s had 1200 IV and just a couple of teaspoons of ice chips PO. She voided once at 250 ml around 0400. Her breath sounds are clear; abdomen clear with hypoactive bowel sounds. Distal pulses are strong. She used the IS 3 x during the night, the last at 0400.

STATE / PATIENT STATUS		DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE	
<p>1. Baseline</p> <p>Patient lying in low fowler’s position slumped down in bed with slight shortness of breath. Responds slowly with interrupted speech. c/o restlessness.</p> <p>Attempts to cooperate with position change and incentive spirometer, but complains of shortness of breath.</p>	<p>Operator</p> <p>O₂ sat – 91% - RR – 26 HR –96 BP 150/90</p> <p>Leave idle until Learner assesses patient, then show VS and sats on the screen.</p> <p>When breath sounds checked, display moderately loud crackles ½ way up bilaterally.</p> <p>Triggers: To perform expected actions within 3-5 minutes</p>	<p>Learner Actions</p> <ol style="list-style-type: none"> 1. Hand hygiene, identify patient 2. Introduce self and roles 3. Give brief explanation of plan for the morning 4. Perform general post-operative survey. 5. Perform focused assessment – <ol style="list-style-type: none"> a. VS, O² sats, Breath sounds b. Dressings & drainage c. IV site & solution, rate 6. Recognize crackles ½ way up 7. Calls for assistance to position patient in high fowler’s position 8. Assist with incentive spirometer 9. Administer O² @ 2-4 L/ 10. Reassess 	<p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. Strategies for involving patient in plan of care. 2. Essential components of the post-operative assessment 3. Possible causes for abnormal assessment findings

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>2.</p> <p>Patient cooperates with position change and attempts incentive spirometer exercises.</p> <p>When asked, continues to complain of shortness of breath and feeling anxious.</p>	<p>Operator:</p> <p>O₂ sat - 90% Moderately loud crackles ½ way up. RR - 28 HR -96 BP - 150/90</p> <p>Triggers: To perform expected action within 5 minutes</p>	<p>Learner Actions:</p> <ol style="list-style-type: none"> 1. Primary Nurse reassures using clear, calm statements of action 2. PN asks 2nd nurse to validate the breath sounds. 3. Checks provider orders 4. Notes IV rate 5. Recognizes factors that indicate fluid overload 6. Notifies provider of change of status using standard communication tool (SBAR) 7. Takes new orders accurately 	<p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. Strategies for communicating findings without undue concern for patient 2. Intraoperative and post-operative factors that combine to create a fluid overload situation. 3. Rationale for immediate interventions 4. Significance of VS, O₂ and breath sounds changes. 5. Legalities in taking telephone orders 6. Strategies for dealing with impatient providers.

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>3.</p> <p>No change in patient's condition; continues to respond with interrupted speech and shortness of breath</p>	<p>Operator:</p> <p>O₂ sat – 90%, RR = 28 HR = 98 BP = 150/90</p> <p>Triggers: Performs action within 5 minutes</p>	<p>Learner Actions:</p> <ol style="list-style-type: none"> 1. Communicates plan to patient 2. Decreases rate of IV (if not done previously) 3. Prepares IV Lasix according to agency policy 4. Uses appropriate resources to assure drug administration knowledge. 5. Administers medication after using 2 patient identifiers 6. Assess patient response while administering drug 7. Safely disposes of equipment. 8. Informs patient of the action of the medication 	<p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. Pharmacology of Lasix 2. Rate of administration-40 mg over 1-2 minutes IV Push 3. Onset of action-immediate 4. Peak action – 5 minutes to 2 hours 5. Nursing actions based on 3 & 4 6. Patient teaching – request assistance to get out of bed

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<p>4.</p> <p>Patient distress decreases. Resting calmly in high Fowler's position with O2 on.</p>	<p>Operator:</p> <p>O₂ sats 92% BP 144/84 HR 90 RR 24</p> <p>Triggers: Completes actions within 5 minutes</p>	<p>Learner Actions:</p> <ol style="list-style-type: none"> 1. Reassesses O2 sats and respiratory distress 2. Informs patient that she will probably feel the urge to void in approximately 5-10 minutes 3. Places bedpan and call bell within reach 4. Informs patient to call nurse if needed. Do not attempt to get out of bed alone. 5. Informs patient that she will return within 15 minutes to check breath sounds 6. Documents medication and assessment correctly. 	<p>Debriefing Points</p> <ol style="list-style-type: none"> 1. When to expect changes in assessment indicating improvement. 2. Measures to assure patient safety ... is this patient a Fall Risk at this time? 3. Reassessment findings – which would indicate improvement? Which findings would indicate a need for further treatment?
<p>Scenario End Point: Learners called to another room for an emergency. Leaves bedpan and call bell within reach with instructions to patient to call.</p>			
<p>Suggestions to <u>decrease</u> complexity: Patient symptoms milder ... needs only order for PO Lasix</p> <p>Suggestions to <u>increase</u> complexity:</p> <ul style="list-style-type: none"> • No improvement after treatment; order ABG demonstrating respiratory failure, NPPV BiPap/CPAP or intubation required. • Not able to reach provider. No orders or inadequate orders received. 			

Source of Information: patient

History of Present Illness (HPI) Noted palpable lump in left breast determined to be non-cancerous. Admitted for elective prophylactic mastectomy of left breast with immediate reconstruction.

Past Medical History: Status post right mastectomy for breast cancer followed by adjuvant chemotherapy, radiotherapy and hormone therapy.

Current Medications, dosage and frequency:

Calcium Carbonate + D	2 tabs	PO	Morning and evening
Alprazolam (Xanax)	0.25 mg	PO	nightly
Mevacor	40 mg	PO	Every other day

Personal & Social History: 64 year old female; self-employed graphic designer

Review of Systems:

Height: 5'5"	Weight: 150 #	BMI:	LMP:
BP 130/85	T 98.6	P 68	R 18

General: 64 year old female, alert and cooperative

CNS	Awake & oriented to person, place, time & situation. No gross deficits		
Cardiovascular	Regular rate & rhythm; no murmurs. BP 112/82, HR 86		
Pulmonary	Lungs clear to A&P; non-smoker RR 20, O2 sats 98%		
Renal/Hepatic	Within normal limits.		
Gastrointestinal	Soft, non-tender. No history of bleeding reported.		
Endocrine	Post-menopausal woman; post-breast cancer right breast in remission		
Heme/Coag	Within normal limits; distal pulses intact		
Musculoskeletal	Moves all extremities with full range of motion		
Integument	Clear and intact. No lesions noted.		
Developmental Hx	College graduate. Retired graphic designer		
Psychiatric Hx	None reported		
Social Hx	Divorced. No children.		
Alternative/ Complementary Medicine Hx	unknown		

<p>HISTORY AND PHYSICAL CSA REV template (10/18)</p>	<p>ALL DATA IN THIS SCENARIO IS FICTITIOUS</p>
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WBC	<u>6.7</u>	(4.8 – 10.8)	_____
RBC	<u>4.91</u>	(4.2 – 6.0)	_____
HGB	<u>13.7</u>	(12.0 – 16.0)	_____
HCT	<u>43.7</u>	(34.0 – 43.0)	_____
MCV	<u>89.7</u>	(81.0 – 99.0)	_____
MCH	<u>27.9</u>	(27.0 – 31.0)	_____
MCHC	<u>31.3</u>	(32.0 – 36.0)	_____
RDW	<u>12.0</u>	(11.5 – 14.5)	_____
PLAT COUNT	<u>367</u>	(150 –400)	_____

CHEMISTRY

NA	<u>136</u>	(135-153)	_____
K+	<u>4.7</u>	(3.6-5.4)	_____
CL-	<u>99</u>	(98-108)	_____
CO2	<u>28</u>	(23-33)	_____
ANION GAP	<u>12</u>	(7-19)	_____
OSM CA++		(275-300)	_____
CA++ BLD		(8.7-10.4)	_____
ALBUMIN	<u>4.8</u>	(3.2 – 5.5)	_____
Total PROTEINS	<u>7.5</u>	(6.0-8.3)	_____
GLU	<u>70</u>	(70-110)	_____
BUN	<u>15</u>	(7-29)	_____
CREAT	<u>0.75</u>	(0.5-1.4)	_____
BUN/CREAT		(10.0-20.0)	_____
GFR	<u>>60</u>		_____
AST(SGOT)	<u>26</u>	(15-41)	_____
ALT(SGPT)	<u>31</u>	(11-55)	_____
ALK PHOS	<u>73</u>	(42-121)	_____
TOTAL BILI		(0-1.0)	_____
BNP		(0-99)	_____
CPK			_____
Troponin			_____

LABORATORY REPORT	Pauline Chappel M. Patson M.D.
	D.O.B. 12/14/1946 MR #345678

APPENDIX B: 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:			