

## SECTION I: SCENARIO OVERVIEW

<b>Scenario Title:</b>	RSV Bronchiolitis	
Original Scenario Developer(s):	C. Madsen, MSN	
Date - original scenario	09/07	
Validation:	09/07	
Pilot testing:	10/07	
Revisions:	09/09; 08/18 M. Solakian, MSN, RN, CPNP	
<u>Estimated Scenario Time</u> : 15 minutes	<u>Debriefing time:</u> 30 min	
<u>Target group:</u> Beginning Pediatric Clinical Rotation – pre-licensure students		
<u>Core case:</u> 4-month old infant admit with RSV bronchiolitis		
<p><u>Brief Summary of Case:</u> Ahn Nguyen: 4-month old infant admitted yesterday evening with bronchiolitis related to RSV. (IFA nasal Swab +) She is accompanied by her mother. Patient is in contact isolation and Droplet Precautions can cohort with a patient with RSV. Respiratory assessment notes tachypnea, subcostal retractions, nasal flare, crackles in all lung fields, tachycardia, oxygen sats range between 90-92%. The learner is expected to recognize need for increasing oxygen requirement (oxygen titration orders), and nasal suctioning of an infant. After suctioning, learner should reassess infant and note the assessment is improved.</p>		
<u>QSEN Competencies</u> <input type="checkbox"/> Patient Centered Care <input type="checkbox"/> Patient Safety <input type="checkbox"/> Evidence Based Practice <input checked="" type="checkbox"/> Teamwork and Collaboration <input type="checkbox"/> Informatics <input type="checkbox"/> Quality Improvement		<u>TeamSTEPPS Competencies</u>

EVIDENCE BASE / REFERENCES (APA Format)
Smith, D.K., Seales, S., & Budzik, C. (2017). Respiratory Syncytial Virus Bronchiolitis in Children, <i>American Family Physician</i> , 95(2), 94-99.
Hockenberry, M.J., Loudermilk & Wilson, D. (2014). <i>Maternal Child Nursing Care</i> (5 <sup>th</sup> Ed.). Maryland Heights, MO: Mosby Elsevier
Hazinski, M.F. (2013). <i>Nursing Care of the Critically Ill Child</i> , St. Louis, MO: Elsevier
Friedman, M.L. & Bone, M.F. (2014). Management of Pediatric Septic Shock in the Emergency Department, <i>Clinical Pediatric Emergency Medicine</i> , 15(2), 131-139.
Roqué i Figuls M, Giné-Garriga M, Granados Rugeles C, Perrotta C, Vilaró J. Chest physiotherapy for acute bronchiolitis in paediatric patients between 0 and 24 months old. <i>Cochrane Database of Systematic Reviews</i> 2016, Issue 2. Art. No.: CD004873. DOI: 10.1002/14651858.CD004873.pub5

## SECTION II: CURRICULUM INTEGRATION

### A. SCENARIO LEARNING OBJECTIVES

#### Learning Outcomes

1. Demonstrate therapeutic and professional communication in interactions with the client and use oral, written and technological communication formats effectively with guidance.
2. Utilize knowledge principles for caring practices, age/ developmental stage, and cultural awareness to provide sensitive and effective nursing care for a pediatric client.
3. Provide patient/family centered care utilizing principles of safety to minimize risk of errors.

#### Specific Learning Objectives

1. Demonstrate a focused cardiac-respiratory assessment on a 4-month old infant.
2. Identify the need for infant's mother to learn nasal suctioning, and complete teaching.
3. Demonstrate knowledge about contact and droplet precautions.
4. Demonstrate cultural awareness in teaching.
5. Identify client learning needs and perform, evaluate and modify teaching as necessary.

#### Critical Learner Actions

1. Implement contact isolation and droplet precautions before assessment
2. Establish relationship with infant's mother.
3. Determine mother's learning style.
4. Teach mother nasal suctioning, and ask for return demonstration, with correction as necessary.
5. Assess fluid status to determine if IV can be heplocked.

### B. PRE-SCENARIO LEARNER ACTIVITIES

#### Prerequisite Competencies

Knowledge	Skills/ Attitudes
1. Contact Isolation and Droplet Precautions	1. Correct use of PPE
2. Infant assessment: respiratory and fluids.	2. Respiratory Assessment
3. Effective (age-appropriate) communication with client and parents.	3. Weight-based calculation of maintenance fluid (Holliday-Segar Method)
4. IV pump for patients under 2 years of age.	4. Purpose and technique for nasal suction.

### SECTION III: SCENARIO SCRIPT

#### A. Case summary

Ahn Nguyn: 4-month old infant admitted yesterday evening with RSV bronchiolitis (NP swab positive). According to mother, she hadn't been feeding well, has been coughing, and turning pale dusky color. She had mild dehydration, with crackles in both lungs, mild sub-costal retractions, O2 sats 90%. IV is D5 ¼ NS at 25 mL/hour and infant can breastfeed on demand. Mother now states that infant is breast feeding well, every 4 hours. Urine output is starting to pick up, we are weighing all diapers. Learner should be told to teach mother how to suction the nasal pharynx prior to feeding the infant.

#### B. Key contextual details

Acute care pediatric unit. Fully staffed. Change of shift report.

#### C. Scenario Cast

Patient/ Client	<input type="checkbox"/> High fidelity simulator	
	<input type="checkbox"/> Mid-level simulator – Sim Baby	
	<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)
Mother	<ol style="list-style-type: none"> <li>1. Quiet, shy, watchful, speaks English, haltingly.</li> <li>2. Asks learner(s) "who are you" if learner(s) do not identify themselves on entering room.</li> <li>3. Tells learner's child is fussy – not eating. Has been crying for 30 min.</li> <li>4. Mom cues them that "suction the nose helped."</li> <li>5. If student does not talk w/her (tell her what he/she is doing, etc.), mother should get more anxious, insistent - questioning.</li> </ol>	Standardized Participant
Resp. Therapist	Should come in toward end of scenario, ask "how are things?" and get a report. Will ask "how do lungs sound now, after suctioning?"	Standardized Participant
Primary Nurse	does assessment communicates SBAR to RT	Learner
2 <sup>nd</sup> nurse	check orders, Kardex, etc.	Learner

D. Patient/Client Profile				
Last name:	Nguyn		First name:	Ahn
Gender: Fe	Age: 4-months	Ht: 61 cm	Wt: 6.5 kg	Code Status: Full
Spiritual Practice: unknown		Ethnicity: Vietnamese		Primary Language spoken:
1. Past history				
<p>4-month old infant admitted yesterday from clinic, in respiratory distress with sub-costal retractions. Infant had been ill for 3 days prior to admission with cough, rhinorrhea, poor feeding and low grade fever. O2 sats in clinic 90% on room air. Currently 92 – 95% on ½ liter nasal cannula.</p> <p>Was mildly dehydrated on admit – pedal pulses are 2+, mucus membranes are moist, cap refill &lt;2 seconds. Anterior Fontanel is flat and pulsatile.</p>				
<b>Primary Medical Diagnosis</b>		RSV Bronchiolitis		

2. Review of Systems	
CNS	Alert; no seizures
Cardiovascular	No murmur;
Pulmonary	Cough, congestion, tachypnea
Renal/Hepatic	Decreased urine output
Gastrointestinal	Mild reflux, no dysphagia, vomiting or diarrhea
Endocrine	No hypoglycemia and electrolyte abnormalities
Heme/Coag	No anemia, bruising
Musculoskeletal	Flexed, normal tone and muscle bulk
Integument	No rash or petechiae
Developmental Hx	Lifts head and smiles socially
Psychiatric Hx	No depression
Social Hx	Fussy when hungry – easily consolable.
Alternative/ Complementary Medicine Hx	None known

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

3. Current medss	Drug	Dose	Route	Frequency
	Acetaminophen Elixir (100mg/ml)	80 mg	PO	Q4h PRN T > 100.6 ° F.

4. Laboratory, Diagnostic Study Results					
Na:	K:	Cl:	HCO3:	BUN:	Cr:
Ca:	Mg:	Phos:	Glucose:	HgA1C:	
Hgb:	Hct:	Plt:	WBC:	ABO Blood Type:	
PT	PTT	INR	Troponin:	BNP:	
ABG-pH:	paO2:	paCO2:	HCO3/BE:	SaO2:	
VDRL:	GBS:	Herpes:	HIV:	ECG:	
CXR: hyperinflation, scattered consolidation throughout			Nasal swab: + RSV		

<b>E. Baseline Simulator/Standardized Patient State</b> (This may vary from the baseline data provided to learners)					
<b>1. Initial physical appearance</b>					
Gender: Female		Attire: hospital onsie, diaper			
Alterations in appearance (moulage): nasal mucus					
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
<b>2. Initial Vital Signs Monitor display in simulation action room:</b>					
	No monitor display	Monitor on, but no data displayed		Monitor on, data displayed	
BP:	HR: 165	RR: 40	T: 99.4 F.	SpO <sub>2</sub> : 91%	
CVP:	PAS:	PAD:	PCWP:	CO:	
AIRWAY:	ETCO <sub>2</sub> :	FHR:			
Lungs Sounds:	Right: crackles		Left: crackles		
Heart:	Sounds: S <sub>1</sub> S <sub>2</sub>		ECG rhythm: sinus tach @ 165		
Bowel sounds:	normoactive			Other:	
<b>3. Initial Intravenous line set up</b>					
	<b>Saline lock #1</b>	Site:		IV patent (Y/N)	
x	<b>IV #1</b>	Site: RA	Fluid type: D5 + 0.25 NS	Initial rate: 25 mL/h	IV patent (Y/N)
x	Main				
	Piggyback				
	<b>IV #2</b>	Site: RA	Fluid type:	Initial rate:	IV patent (Y/N)
	Main				
	Piggyback				
<b>4. Initial Non-invasive monitors set up</b>					
x	NIBP		ECG First lead:		ECG Second lead:
x	Pulse oximeter		Temp monitor/type		Other:
<b>5. Initial Hemodynamic monitors set up</b>					
	A-line Site:		Catheter/tubing Patency (Y/N)	CVP Site:	PAC Site:
<b>6. Other monitors/devices</b>					
	Foley catheter	Amount:	Appearance of urine:		
	Epidural catheter		Infusion pump: Alaris		Pump settings:

**Environment, Equipment, Essential props**

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

Pediatric Unit; isolation room Droplet + Contact Precautions

**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	x	ETT suction catheters	X	Nasal Aspirator		Chest tube kit
	Defibrillator		Code Cart		12-lead ECG		Chest tube equip
	PCA infusion pump		Epidural infusion pump		Central line Kit		Dressing Δ equipment
x	IV fluid Type:	D5 + 0.25NS					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	x	Flow meters (extra supply)		

**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	x	ED Record
	Medication reconciliation		Transfer orders		Standing orders		ICU flow sheet
x	Nurses' Notes	x	Dx test reports		Code Record		Prenatal record
x	Actual medical record binder			x	EMR (if available)		

**5. Medications (to be available in sim action room)**

#	Medication	Dosage	Route	#	Medication	Dosage	Route
	Acetaminophen Elixer 100 mg/ mL	80 mg	PO				

**CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES**

**Initiation of Scenario :**

Ahn Nguyn is a 4-month old female admitted yesterday with RSV bronchiolitis. She had URI symptoms for 3 days (runny nose, cough, fever), and poor feeding. NP Swab RSV +. She was on O<sub>2</sub> @ 1/2 liter per nasal cannula and O<sub>2</sub> weaned to room air since 10:00 am with stable saturations of 92-95%. She is breast feeding every 3-4 hours. On admission she had mild dehydration. Ahn was mildly dehydrated on admit – pedal pulses are 2+, mucus membranes are moist, cap refill <2 seconds. Anterior Fontanel is flat and pulsatile.

According to mother, she hadn't been feeding well, has been coughing, and turning pale dusky color. She had mild dehydration, with crackles in both lungs, mild sub-costal retractions, O<sub>2</sub> sats 90%. IV is D5 ¼ NS at 25 mL/hour and infant can breastfeed on demand. Mother now states that infant is breast feeding well, every 4 hours. Urine output is starting to pick up, we are weighing all diapers. Ahn's sats do decrease a bit with suctioning before feeds and treatments. The docs want mom to learn how to do nasal suctioning - she's really quiet & shy, speaks some English. I haven't had time to show her so you need to do it. Last treatment was at 1:00, so it's due.

STATE / PATIENT STATUS		DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE	
<b>Baseline</b>	<b>Operator</b>	<b>Learner Actions</b>	<b>Debriefing Points:</b>
Mother appears anxious and very tired.  Infant sleeping in bassinet; no evidence of labored breathing	Show vital signs when learners take them: HR: 135 RR: 30, Trend O <sub>2</sub> sat 93-95% Slight crackles over both lungs.	<ol style="list-style-type: none"> <li>1. Learners enter room gowned and gloved with masks</li> <li>2. Interact with mother/ introducing self and role</li> <li>3. Update whiteboard</li> <li>4. Begin shift assessment</li> <li>5. Check chart and orders.</li> <li>6. Perform assessment for dehydration.</li> </ol>	<ol style="list-style-type: none"> <li>1. A complete HTT assessment needs to be completed for dehydration prior nasal suctioning.</li> <li>2. Droplet Precautions</li> <li>3. Role of updated white board in Patient/Family Centered Care</li> <li>4. Essential elements of assessment for dehydration in 4-month old</li> </ol>
	<b>Triggers</b>		
	Cue: If learners do not use PPE, Charge nurse can come in wearing appropriate PPE.  Actions 1-7 performed within 5 minutes		

STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<b>Patient Status</b>	<b>Operator</b>	<b>Learner Actions:</b>	<b>Debriefing Points:</b>
Mother looks a little confused as nurse cares for infant; mother speaks mostly Vietnamese.	No changes in computer settings  <b>Triggers:</b> Actions performed within 5 minutes	<ol style="list-style-type: none"> <li>1. Describes status of infant's breathing to mother</li> <li>2. Confers with colleague about educating mother about suctioning nasal pharynx prior to feeding and respiratory treatments.</li> </ol>	<ol style="list-style-type: none"> <li>1. Calculations for maintenance fluids in a 4-month old.</li> <li>2. Legalities about using family members as interpreters</li> <li>3. Droplet Precautions &amp; Contact Isolation</li> <li>4. Benefits of suctioning prior to feedings (breathe better, eat better)</li> <li>5. CPT for patients under 24 months does not improve outcomes.</li> </ol>
STATE / PATIENT STATUS	DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE		
<b>Frame 3</b>	<b>Operator:</b>	<b>Learner Actions:</b>	<b>Debriefing Points:</b>
<p>Mother upset and protective of infant as nurse attempts to demonstrate nasal suctioning – acting as if the infant is being handled roughly.</p> <p>Visitors enter room during teaching. No precautions used.</p> <p>Visitor offers to translate for mother of infant</p>	<p>Saturations increase from 92 to 95% after nasal suctioning.</p> <p>Distraction: after 2 minutes in this frame, send standardized participants interrupt by coming in room to visit.</p>	<ol style="list-style-type: none"> <li>1. Attempt to get mother to participate with suctioning.</li> <li>2. Demonstrate procedure to mother using simple words</li> <li>3. Acknowledge mothers concern.</li> <li>4. Politely ask visitors to wash, gown, glove, mask</li> <li>5. Politely refuse visitors offer to translate explaining rationale.</li> </ol>	<ol style="list-style-type: none"> <li>1. Strategies for handling family interruptions.</li> <li>2. Legalities about using family members as interpreters</li> </ol>
Scenario End Point: Charge Nurse (who speaks Vietnamese) enters room wearing PPE.			
<p>Suggestions to <u>decrease</u> complexity: mother speaks English or learner speaks Vietnamese</p> <p>Suggestions to <u>increase</u> complexity: infant's has respiratory distress with decreasing O<sub>2</sub> sats and visitors refuse to use PPE.</p>			



**APPENDIX A: HEALTH CARE PROVIDER ORDERS**

<b>Patient Name: Ahn Nguyn</b>  <b>DOB: 07/11/XX</b>  <b>Age: 4 months                      Weight: 6.5 Kg</b>  <b>MR#:</b>		<b>Diagnosis: RSV Bronchiolitis</b>
†No Known Allergies		
Date	Time	<b>Pediatric Orders</b>
		<i>Admit to Pediatric Ward- Dr. Sweet</i>
		Cardiac-Respiratory Monitor with continuous saturation monitoring
		Strict I & O
		Diet: May breastfeed ad lib on demand
		IV Fluids: NS bolus 20 ml/kg on admission then start D5 ¼ NS @ 25 ml/hour
		Oxygen to maintain saturations greater than 92%
		Nebulizer Treatments: Xopenex 0.31 mg every 4 hours; suction patient as needed
		Acetaminophen (10 mg/KG) 65 mg PO every 4 hours PRN fever < 38 C
		Labs: NP swab for Viral Panel
<b>Signature</b>		Dr. Sweet

**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			
<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"> <li>1. How did the experience of caring for this patient feel for you and the team?</li> <li>2. Did you have the knowledge and skills to meet the learning objectives of the scenario?</li> <li>3. What GAPS did you identify in your own knowledge base and/or preparation for the simulation experience?</li> <li>4. What RELEVANT information was missing from the scenario that impacted your performance? How did you attempt to fill in the GAP?</li> <li>5. How would you handle the scenario differently if you could?</li> <li>6. In what ways did you check feel the need to check ACCURACY of the data you were given?</li> <li>7. In what ways did you perform well?</li> <li>8. What communication strategies did you use to validate ACCURACY of your information or decisions with your team members?</li> <li>9. What three factors were most SIGNIFICANT that you will transfer to the clinical setting?</li> <li>10. At what points in the scenario were your nursing actions specifically directed toward PREVENTION of a negative outcome?</li> <li>11. Discuss actual experiences with diverse patient populations.</li> <li>12. Discuss roles and responsibilities during a crisis.</li> <li>13. Discuss how current nursing practice continues to evolve in light of new evidence.</li> <li>14. Consider potential safety risks and how to avoid them.</li> <li>15. Discuss the nurses' role in design, implementation, and evaluation of information technologies to support patient care.</li> </ol>			
<b>Notes for future sessions:</b>			