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|---------------------------------|--|
| Scenario Title: | Foreign Body Aspiration- 3 year old Child |
| Original Scenario Developer(s): | Cash, C., DNP, RN |
| Date - original scenario | 2/27/17 |
| Validation: | C. Meckler BSN, RN, CCRN, CEN, CFRN, CPEN, TCRN, M. Miller, MA, RN, CHSE |
| Revision Dates: | 07/17 |
| Pilot testing: | 04/17 |

Estimated Scenario Time: 15 -20 minutes Debriefing time: 30-40 Minutes

Target group: Inter-professional Emergency Department Team: ED Physician, Primary Registered Nurse, Respiratory Therapist, Certified Nursing Assistant, Unit Secretary

Core case: Patient Safety, Team work, communication

QSEN/IOM Competencies: Patient Centered Care

Brief Summary of Case:

3-Year-old male brought to the Emergency Depart via private car with complaints of difficulty breathing while playing at home with an older sibling. Mom states the child was playing with his toys when she called to the boys and startled the child. Immediately the child began having difficulty breathing and she brought him to the hospital. On admission to triage the child is awake appears to have difficulty breathing, skin pale and diaphoretic, patient with audible stridor. The child was immediately brought from triage and placed in ED Room # 3 for the physician to conduct an initial assessment of the child.

EVIDENCE BASE / REFERENCES (APA Format)

Samson, R. A., Schexnayder, S. M., Hazinski, M., Meeks, R., Knight, L. J., DeCaen, A., McNeil, M. A. (2016). Management of arrhythmias. In *Pediatric advanced life support* (pp. 253-276). Dallas, Texas: First American Heart Association.

Johnson, K., Linnaus, M., & Notrica, D. (2016). Airway foreign bodies in pediatric patients: Anatomic location of foreign body affects complications and outcomes. *Pediatric Surgery International- Springer, 33*, 59-64. <http://dx.doi.org/10.1007/s00383-016-3988-9>

Lowe, D. A., Vasquez, R., & Maniaci, V. (2015). Foreign body aspiration in children. *Elsevier Inc, 16*, 140-148.

Paul, S. P., Sanjeevaiah, M. K., Routley, C., & Kane, M. (2013). Ingestion or aspiration of foreign bodies by children. *Art & Science Children's Care, 21*, 32-36.

Ulrich, B., & Manning Crider, N. (2017). Using teams to improve outcomes and performance. *Nephrology Nursing Journal, 44*, 141-152.

SECTION II: CURRICULUM INTEGRATION

A. SCENARIO LEARNING OBJECTIVES

Learning Outcomes:

1. Evaluate patient assessment data and recognize signs and symptoms of acute respiratory distress
2. Initiate effective inter-professional team (IP) communication in emergent situation to safely care for and stabilize the patient
3. Distinguish between acute upper respiratory distress and conditions of the lower respiratory tract to safely provide care for the patient

Specific Learning Objectives

1. Recognize stridor and symptoms of acute respiratory emergency situation
2. Perform essential assessment of child for oxygenation and circulation
3. Differentiate IP roles and responsibilities in code situation
4. Implement Pediatric Advance Life Support (PALS)
5. Demonstrate team work and close loop communication
6. Perform effective hand-off communication with the IP team using SBAR tool
7. Demonstrate therapeutic communication skills when communicating with family members

Critical Learner Actions

1. Recognize signs and symptoms of acute respiratory distress and conduct a focus assessment of the oral airway, upper respiratory track and lung auscultation
2. Assess stridor breath sounds and the probability of respiratory distress as a result of upper airway obstruction
3. Recognize the need for additional assistance and call for help
4. Conduct a focus assessment of the child neurological status and oxygenation/circulation
5. Prioritize and delegate responsibilities to IP team for airway management, oxygen delivery, IV/IO access, medications using closed loop communication
6. Stabilize airway & titrate oxygen to ensure profusion
7. Communicate to the IP team using SBAR and closed loop communication
8. Reassess patient at 2 minutes intervals post interventions until stable
9. Communicate in a therapeutic manner with family members

B. PRE-SCENARIO LEARNER ACTIVITIES

Prerequisite Competencies

| Knowledge | Skills/ Attitudes |
|--|---|
| <input type="checkbox"/> Complete pre-assigned reading assessment | <input type="checkbox"/> Early recognition of acute respiratory distress in children |
| <input type="checkbox"/> Collaborative management of signs and symptoms of Foreign Body Aspiration | <input type="checkbox"/> Safe decision making regarding patient condition and treatment methods |
| <input type="checkbox"/> Pharmacology of basic medications used when removing foreign body & in Ped code situations | <input type="checkbox"/> Safe administration and management of sedation and or PALS code medication |
| <input type="checkbox"/> Current Pediatric patient safety goals | <input type="checkbox"/> Role of nurse in dealing with family members during crisis situations |
| <input type="checkbox"/> QSEN Competency: Completed assigned reading pre-simulation scenario, current PALS certification | <input type="checkbox"/> |

SECTION III: SCENARIO SCRIPT

A. Case summary

A 3-year-old boy was brought into ED via private car accompanied by his mother. Mom states that the child and his older sibling were playing with toys, she called to them and the child was startled, he suddenly developed shortness of breath and difficulty breathing, she stated she immediately brought the child to the Emergency Department.

No known drug or food allergies
 Term infant normal weight/size
 No significant past medical history.
 No history of surgery

The child is of normal weight and height for his age.

B. Key contextual details

Emergency Department – busy, paramedics just brought in 2 code threes and a level one trauma

C. Scenario Cast

| Patient/ Client | <input checked="" type="checkbox"/> High fidelity simulator (Sim- Junior) | |
|--------------------------|---|---|
| | <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 or Learner (L) |
| Physician | Emergency services physician | Learner |
| Respiratory Therapist | | Learner |
| Primary Nurse | Registered Nurses | Learner |
| Certified Nursing | | Standardized participant |
| Assistant Unit Secretary | | Standardized participant |
| Mother | | Standardized participant |
| | | |

D. Patient/Client Profile

| | | | | | |
|-------------------------------|--------|----------------------|-------------|----------------------------------|--|
| Last name: | Brown | | First name: | Sean | |
| Gender: Male | Age: 3 | Ht: 2 ft 3 ins | Wt: 18.5 kg | Code Status: Full | |
| Spiritual Practice: Christian | | Ethnicity: Caucasian | | Primary Language spoken: English | |

1. Past history

Negative:
No Known past medical history

| | |
|----------------------------------|----------------------------|
| Primary Medical Diagnosis | Acute respiratory distress |
|----------------------------------|----------------------------|

2. Review of Systems

| | |
|--|--|
| CNS | Anxious |
| Cardiovascular | Normal S ₁ S ₂ |
| Pulmonary | Severe retraction, use of accessory muscles, nasal flaring, stridor |
| Renal/Hepatic | Within Normal limits (WNL) |
| Gastrointestinal | Soft nontender, bowel sounds present all quadrants |
| Endocrine | WNL |
| Heme/Coag | WNL |
| Musculoskeletal | Moving all extremities pulses palpable 2+ no evidence of external trauma |
| Integument | WNL |
| Developmental Hx | WNL |
| Psychiatric Hx | WNL |
| Social Hx | Lives with mother and two older and one younger sibling |
| Alternative/ Complementary Medicine Hx | No reports |

| | | | |
|-----------------------|------------|-----------|------|
| Medication allergies: | NKDA | Reaction: | None |
| Food/other allergies: | None Known | Reaction: | None |

| 3. Current medications | Drug | Dose | Route | Frequency |
|------------------------|------|------|-------|-----------|
| | None | | | |
| | | | | |
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4. Laboratory, Diagnostic Study Results

| | | | | | |
|-----------------|--------------------|---------------------|---------------------------|--------------------|-----|
| Na: 133 | K: 3.4 mEq/L | Cl: | HCO ₃ : | BUN: | Cr: |
| Ca: 9.2 mg/dl | Mg: | Phos: | Glucose:70 mg/dl | HgA1C: | |
| Hgb: 12.2 gm/dl | Hct: 34 % | Plt: | WBC: 5700 mm ³ | ABO Blood Type: | |
| PT | PTT | INR | Troponin: | BNP: | |
| ABG-pH: | paO ₂ : | paCO ₂ : | HCO ₃ /BE: | SaO ₂ : | |
| VDRL: | GBS: | Herpes: | HIV: | Cxr: | EKG |

| E. Baseline Simulator/Standardized Patient State (This may vary from the baseline data provided to learners) | | | | | | | | | |
|--|------------------------------------|-----------------------------------|---|------------------------------------|-------------------------------|----------------------|----------------------------------|------------------------------|-----------------|
| 1. Initial physical appearance | | | | | | | | | |
| Gender: Male | | | Attire: long sleeve T-shirt, long jeans pants | | | | | | |
| <u>Alterations in appearance (moulage):</u> | | | | | | | | | |
| X | ID band present, accurate | | | ID band present, inaccurate | | | ID band absent or not applicable | | |
| | Allergy band present, accurate | | | Allergy band inaccurate | | | 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: 100/60 | | HR: 140 | | RR: 50 | | T: 37°C | | SpO ² : 92 % | |
| CVP: | | PAS: | | PAD: | | PCWP: | | CO: | |
| AIRWAY: | | ETCO ² : | | FHR: | | | | | |
| Lungs: Sounds/mechanics | | Left: Diminish with strider | | Right: Diminish with strider | | | | | |
| Heart: | | Sounds: | | | S ¹ S ² | | | | |
| | | ECG rhythm: | | | Sinus Tachycardia | | | | |
| | | Other: | | | | | | | |
| Bowel sounds: | | Hyperactive | | | Other: | | | | |
| 3. Initial Intravenous line set up | | | | | | | | | |
| | Saline lock #1 | Site: | | | | | IV patent (Y/N) | | |
| | IV #1 | Site: | CVC | Fluid type: | | Initial rate: | | IV patent (Y/N) Yes | |
| X | Main | Lft | | Normal Saline | | Bolus | | | |
| | Piggyback | A/C | | | | (20 mls/kg) | | | |
| | IV #2 | Site: | | | Fluid type: | | Initial rate: | | IV patent (Y/N) |
| | Main | | | | | | | | |
| | Piggyback | | | | | | | | |
| 4. Initial Non-invasive monitors set up | | | | | | | | | |
| | NIBP | | X | ECG First lead: | | | II | ECG Second lead: | |
| X | Pulse oximeter | | | Temp monitor/type | | | Other: | | |
| 5. Initial Hemodynamic monitors set up | | | | | | | | | |
| | A-line Site: | | Catheter/tubing Patency (Y/N) | | | CVC Site: | | PAC Site: | |
| 6. Other monitors/devices | | | | | | | | | |
| | Foley catheter | | Amount: | | | Appearance of urine: | | | |
| | Epidural catheter | | Infusion pump: | | | Pump settings: | | | |
| | 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)

ED Waiting room

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

| | | | | | | | |
|---|-------------------|---|-----------------------|---|---|---|----------------------|
| | Bedpan/ Urinal | | Foley catheter kit | | Straight cath. kit | | Incentive spirometer |
| X | IV Infusion pump | | Feeding pump | | Pressure bag | X | Wall suction |
| | Nasogastric tube | X | ETT suction catheters | | Oral suction catheters | | Chest tube kit |
| X | Defibrillator | X | Code Cart | X | 12-lead ECG | | Chest tube equip |
| | PCA infusion pump | | Epidural pump | | Central line Kit | | Dressing Δ equip |
| X | IV fluid Type: NS | | IV fluid additives: | | Blood products: _____ ABO Type: ____ # of units: __ | | |

| | | | | | | | |
|---|---------------|---|------------------|--|----------------------------|--|---------------------|
| | Nasal cannula | | Face tent | | Simple Face Mask | | Non-rebreather mask |
| X | BVM/Ambu bag | X | Nebulizer tx kit | | Flow-meters (extra supply) | | |

4. Documentation and Order Forms

| | | | | | | | |
|---|------------------------------|--|------------------|---|---------------------------|---|-----------------|
| X | Provider orders | | Med Admin Record | X | Hx & Physical | | Lab Results |
| X | Progress Notes | | Graphic record | | Anes/PACU record | X | ED Record |
| | Med Reconciliatn | | Transfer orders | | Standing orders | | ICU flow sheet |
| X | Nurses' Notes | | Dx test reports | X | Code Record | | Prenatal record |
| | Actual medical record binder | | | | Electronic Medical Record | | |

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

| # | Medication | Dosage | Route | # | Medication | Dosage | Route |
|---|---------------------|------------------------------------|-----------|---|---------------|---------|-------|
| | Epinephrine | 0.01 mg/kg | IV/IO | | Normal Saline | 500 mls | IV/IO |
| | Amiodarone | 5mg/kg | IV/IO | | | | |
| | Racemic epinephrine | 0.05 ml/kg dilute with Ns to 3 mls | Nebulizer | | | | |

CASE FLOW / TRIGGERS/ SCENARIO DEVELOPMENT STATES

Initiation of Scenario: 3-year-old child brought in from home via private care suddenly develops shortness of breath and difficulty breathing while he and his older sibling were playing with their toys. Mom stated she called to the boys and it startled the younger child, he immediately started having difficulty breathing.

| STATE / PATIENT STATUS | DESIRED LEARNER ACTIONS & TRIGGERS TO MOVE TO NEXT STATE | | |
|--|--|--|--|
| <p>1. Baseline RN Enters the ED triage area and walks toward Mom</p> <p>The child is sitting on the gurney, not responding working to breathe</p> <p>Cueing from patient's mother: My baby! <i>Is my baby choking? What is wrong with him?</i></p> | <p>Operator: B/P 100/60 HR: 140 RR: 50 T.37°C SpO₂: 92%</p> <p>The child is awake pale diaphoretic, severe respiratory distress, audible stridor, nostrils flaring, and use of accessory muscles.</p> <p>Triggers: Nurse will need to complete 1, 2, 3 & 4 before moving forward.</p> | <p>Learner Actions</p> <ol style="list-style-type: none"> 1. Primary nurse washes hand prior to touching the patient 2. Introduces self & role. 3. Conducts a focused assessment of the child 4. Recognizes Patient in upper airway respiratory distress. 5. Attempts to manage child's airway, ask the patient "are you choking," 6. Performs abdominal thrust to dislodge foreign body 7. Reassures mom that they are in the right place for patient care. | <p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. National Patient safety goal(NPSG)-approaches to minimize the risk of error and infection 2. Criteria for acute airway obstruction 3. Potential for respiratory and cardiac arrest 4. Age specific procedures to dislodge foreign body with abdominal thrusts |

| STATE / PATIENT STATUS | DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE | | |
|--|---|---|--|
| <p>2. Mom crying: please help my baby!</p> <p>Nurse: I need some help in here with this pediatric patient who is having airway issues.</p> | <p>Operator: B/P: 76/40 HR: 170 RR: 56 O₂Sat: 84% Monitor: ST</p> <p>ED Technician brings pediatric code cart to room</p> <p>Triggers: <i>After 1-2</i></p> <p>Operator: B/P: 60/p HR: 58 RR: 12 Monitor: SR Patient gasping & unresponsive</p> | <p>Learner Actions:</p> <ol style="list-style-type: none"> 1. Recognizes the need for additional help & immediate assessment by the physician. 2. Calls for out for assistance 3. Notifies unit secretary to call respiratory therapist and have ED technician bring code cart (with broselow tape) to the room. 4. Immediately places patient in an ED bed. 5. Assigns roles, places child on the monitor, places 100% oxygen via face mask 6. Interacts positively with Mom allowing her to assist with positioning and care. 7. Patient stops breathing (Ed team manages code) <p>RN #2: comes to assist Mom and keep her updated with information.</p> <ol style="list-style-type: none"> 8. Performs chest compression 30:2 9. Attempts ventilation (looks in child's mouth & reposition head prior to second attempt if first attempt was unsuccessful). | <p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. Move patient to safety 2. Knowing when to call for additional assistance 3. Management of acute respiratory distress 4. Strategies for involving the patient mother while continuing priority assessment. |

| STATE / PATIENT STATUS | DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE | | |
|--|--|---|--|
| <p>3. RN#2: Stays with Mom to explain to her what is going on and asks to stay quiet and calm so the team can focus and work on her son without distraction.</p> | <p>Operator: <i>After 30 sec</i> <i>Patient condition continues to deteriorate, the child stops breathing</i></p> <p>B/P: 0 HR: 0 RR: 0 Monitor: VF</p> <p>RR "O" SpO₂: 69%</p> <p>Cues: Physician enters the room-- while the initial 2 minutes of CPR is in progress. Physician uses Laryngoscopy and attempts to intubate, sees the object at the back of the throat and removes it.</p> <p>Triggers: ROSC returns within 30 seconds of object being removed. Monitor: SR 66 Rate gradually increases (over15 seconds)</p> | <p>Learner Actions:</p> <ol style="list-style-type: none"> 1. Primary nurse delivers SBAR to Physician upon arrival to child's room 2. Physician uses SBAR to communicate with staff, Requests McGill's Forceps, and intubation tray. 3. Demonstrates correct AHA guidelines for PALS pulseless arrest (V-Fib) <ol style="list-style-type: none"> a. Five cycles CPR b. Defibrillation at 2 J/kg c. Prepares to administer epinephrine 0.01 mg/kg (0.1 ml/kg) during compressions 4. Physician attempt intubation, sees object at the back of patient's throat 5. Physician uses Magill forceps to successfully removes object 6. Ventilation continued with (BMV) | <p>Debriefing Points:</p> <ol style="list-style-type: none"> 1. Management of acute respiratory arrest 2. Management of cardiac arrest: 3. Administers correct medication and dosage |

| STATE / PATIENT STATUS | DESIRED ACTIONS & TRIGGERS TO MOVE TO NEXT STATE | | |
|--|---|--|--|
| <p>4. Nursing Assistant: Calls RN #2 and Mom back to the patient bedside</p> <p><i>Physician & Primary Nurse stays with patient</i></p> | <p>Operator:</p> <p>B/P: 90/60 HR: 99 RR: 12 Monitor: SR</p> <p>SpO₂: 93%</p> | <p>Learner Actions:</p> <ol style="list-style-type: none"> Administers ventilation (BMV) Supportive Care Admit/ transfer to tertiary care center <p>Physician: Updates Mom on the patient status (the child had swallowed a part of a toy which lodge in his upper airway causing the blockage. There is some swelling, so we will be admitting the child for overnight observation to monitor his breathing.</p> | <p>Debriefing Points</p> <ol style="list-style-type: none"> Recognizes ROSC (return of spontaneous circulation) Demonstrate Knowledge of providing supportive care Role play communication with parent |
| Scenario End Point: Patient responds, transfer to tertiary care | | | |
| <p>Suggestions to <u>decrease</u> complexity:</p> <p>Suggestions to <u>increase</u> complexity:</p> | | | |

| 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 checked="" type="checkbox"/> QSEN |
| QSEN Competencies to consider for debriefing scenarios | | | |
| <input checked="" type="checkbox"/> Patient Centered Care | <input checked="" type="checkbox"/> Teamwork/Collaboration | <input checked="" type="checkbox"/> Evidence-based Practice | |
| <input checked="" 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: | | | |