**Section 1: Case Summary**

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| **S****cenario Title:** | **Pediatric Pneumonia** |
| Keywords: | Pneumonia, respiratory distress, failure, intubation, pediatric |
| Brief Description of Case: | 4 year old has been sick for the past 5 days with cough, increased work of breathing. Scenario starts with decreased O2 sats and increased respiratory rate ultimately leading to preparation for intubation. |

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| **Goals and Objectives** | |
| Educational Goal: | Recognizing signs of deterioration  Recognizing signs of impending respiratory distress and failure  Preparation of RSI medications |
| Objectives:  (Medical and CRM) | Clear communication between team members  Effective Team Leadership |

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| **Learners, Setting and Personnel** | | | | | | |
| Target Learners: | Junior Learners | | Senior Learners | | | Staff |
| Physicians | Nurses | | RTs | Inter-professional | |
| Other Learners: | | | | | |
| Location: | Sim Lab | | In Situ | | | Other: |
| Recommended Number of Facilitators: | Instructors: yes | | | | | |
| Confederates: | | | | | |
| Sim Techs: yes | | | | | |

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| **Scenario Development** | |
| Date of Development: | May 3, 2021 |
| Scenario Developer(s): | Lisa Ewart |
| Affiliations/Institutions(s): | Fraser Health |
| Contact E-mail: | Simulation@fraserhealth.ca |
| Last Revision Date: |  |
| Revised By: |  |
| Version Number: |  |

**Section 2A: Initial Patient Information**

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| 1. **Patient Chart** | | | | | | |
| Patient Name: James Ling | | | | Age: 4 | Gender: M | Weight: 18kg |
| Presenting complaint: Shortness of breath, cough, decreased appetite | | | | | | |
| Temp: 37.1 | HR: 141 | BP: 96/50 | | RR: 40 | O2Sat:90% 2LNP | FiO2: |
| Cap glucose: 5.2 | | | | GCS: 14 (E V M ) | | |
| Triage note / Handover:  He has been sick for 5 days with cough, noisy breathing and increased work of breathing. Admitted yesterday for pneumonia. Today he has increased SOB, cough and hasn't really been eating much. He was started on Nasal prongs at 2L/min for O2 sat of 90% | | | | | | |
| Allergies: Nil | | | | | | |
| Past Medical History:  Nil | | | Current Medications:  Cefotaxime 25mg/kg Q6 hours | | | |

**Section 2: Technical Requirements/Room Vision**

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| **A. Patient** |
| Mannequin *(specify type and whether infant/child/adult) – 4 year old pediatric manikin* |
| Standardized Patient |
| Task Trainer |
| Hybrid |
| **B. Special Equipment Required** | |
| Airway box, PPE | |
| **C. Required Medications** | |
| Ketamine, Succinylcholine, Ventolin, Atrovent, Fentanyl  IV: Normal Saline 250L bags, IV tubing, IV catheters  Intubation equipment, NRB, Nasal prongs, ambu bag | |
| **D. Monitors at Case Onset** | | |
| Patient on monitor with vitals displayed  Patient not yet on monitor | | |
| **E. Patient Reactions and Exam** | | |
| *Include any relevant physical exam findings that require mannequin programming or cues from patient*  Chest crackles throughout, patient becomes more agitated with decrease in O2sats, | | |

**Section 5: Scenario Progression**

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| **Scenario States, Modifiers and Triggers** | | | | |
| Patient State/Vitals | Patient Status | Learner Actions, Modifiers & Triggers to Move to Next State | | Facilitator Notes |
| **1. Baseline State**  Rhythm: Sinus tach  HR: 141  BP: 96/50  RR: 40  O2SAT: 90% 2LNP  T: 37.1 oC  GCS: 15  Gluc 5.2mmol | Patient appears SOB, accessory muscle use & indrawing, ++ cough, thick sputum, patient crying, fighting the supplemental O2  SIM Settings: increased compliance, BS coarse & crackles throughout | Expected Learner Actions  Have mom sit with child to hold O2  Quick head to toe assessment  Check orders – give Ventolin and atrovent  Check blood glucose  Call Physician, RT | Modifiers  *Changes to patient condition based on learner action*  -  -  Triggers  *For progression to next state*  - After the team has completed the initial assessment and called the physician  - |  |
| **2. Inadequate oxygenation**  Rhythm: Sinus tach  HR: 148  BP: 85/40  RR: 52  O2SAT: 86% FM  T: 37.1 oC  GCS: Aggitated  Gluc 5.2mmol | Patient agitated, pulling off oxygen, parent unable to calm  Patient appears pale, cap refill >3  Appears to have increased indrawing and accessory muscel use | Expected Learner Actions  Call RT for highflow O2  Support oxygenation with BVM  Appropriate PPE  Prep meds for Intubation – Rocuronium, Fentanyl, Ketamine  Ensure IV access  call Code Blue pediatrics | Modifiers  -  -  -  Triggers  - END after RSI meds given  - |  |

**Appendix A: Facilitator Cheat Sheet & Debriefing Tips**

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| *Include key errors to watch for and common challenges with the case. List issues expected to be part of the debriefing discussion. Supplemental information regarding any relevant pathophysiology, guidelines, or management information that may be reviewed during debriefing should be provided for facilitators to have as a reference.* |

**References**

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| 1.  2.  3. |