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| **BACKGROUND INFORMATION:** | |
| **Process Name:** COVID-19 Airway Emergency | |
| **Start Date: TBD** | **Time: TBD** |

**Day-of Simulation Guide**

**TABLE OF CONTENTS**

**Goals and Objectives**

1. **Simulation Supplies and Equipment Checklist**
2. **Introduction/Briefing**
3. **Scenario**
4. **Debrief guide**

**GOALS**

**To identify potential failure points and generate system level solutions in managing unanticipated difficult airway in a child with suspected COVID-19 from system improvement framework.**

**OBJECTIVES**

1. Identify effective workflows for the difficult airway management in a child with COVID-19

2. Evaluate feasibility of just-in-time donning process for responders for airway emergency activation

3. Evaluate the equipment handing process for Difficult Airway management

1. **Simulation Supplies/Equipment Checklist:**

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|  | Sim HAL with difficult airway |
|  | Isolation ICU room setting |
|  | PPE |
|  | PPE monitor (personnel) |
|  | ICU care team (1 RN, 1 RRT, 1-2 Physician) |
|  | Anesthesiologist |
|  | C-MAC with MAC2 blade |
|  | Glidescope |
|  | LMA |
|  | Nasal cannula with oxygen flow meter |
|  | Standard airway management box (oral/nasal airways, endotracheal tubes, stylets, tongue blades, standard laryngoscopes) |
|  | Suction system and large bore catheter |

1. **Introduction: (briefing)**

State the goal of the simulation.

“The goal of the simulation is to identify potential failure points in managing unanticipated difficult airway in a child with suspected COVID-19 from system improvement framework.

Simulation has been selected as an effective method to identify potential failure points and generate effective system improvement interventions.”

**Scenario:**

5 year old male (Gave) with unknown genetic disorder (not known difficult airway status) is now admitted to PICU due to COVID 19 pneumonia. Currently on nasal cannula O2.

Initial vital signs  
HR 170s, RR 60/min, BP 70s/30s

SpO2 92% with nasal cannula 2L

Awake and irritable, tachypneic with bilateral rhonchi

ICU team decides to proceed intubation and invasive mechanical ventilation. There is concern for attempt of BiPAP given its nature of aerosol generation procedure.

Primary ICU team performs timeout, and attempts a rapid sequence induction with ketamine and rocuronium. Bag mask ventilation was not provided to minimize aerosol generation.

The first attempt by PICU attending resulted in grade 3 view and inability to pass endotracheal tube.

Pt receives rescue bag mask ventilation with self-inflating bag with O2.

Airway emergency is activated for anesthesiology support.

To minimize aerosol generation, LMA was placed and ventilation was provided through LMA.

Anesthesiologist arrives in 1 minute, and perform donning with PAPR, and enter the room.

Anesthesiologist performs intubation with Glidescope.

Once the endotracheal tube is inserted into trachea, a waveform capnography will demonstrate consistent end-tidal CO2. After the tube is secured and connected to a ventilator, the simulation will be terminated by facilitator.

1. **Debrief:** (utilizing the PEARLS System Improvement framework, adopted from Dube MM, Simulation in Healthcare 2019;14:333-342)

**Instruction to facilitators**

* + With 10 minutes remaining, regardless of which scenario the team are working through, the live simulation will end, in order to have a free-flowing debrief.
  + Simulation facilitator will lead debrief, using the following guiding questions for conversation.

Note: Facilitator will ask Simulation Evaluators/participants if there are certain areas based upon observation that should be discussed in place and/or in addition to guiding questions.

* + Use the following structure: Reaction, Analysis, Summary phase.

**Key guiding questions for facilitators**

1. What worked well/did not work well (Participant System Assessment)?
2. How did/could you see, the design of this system/equipment impact patient care?
3. What would have made this process more effective/efficient?
4. I heard a question “X”
5. I heard concerns about ”X”, what are your thoughts about that?
6. Advocacy: I noticed “X”. that is concerning because it could potentially lead to patient harm? What were thinking at that time?
7. Inquiry: What made “X” more challenging for you? What would make that more effective/efficient?