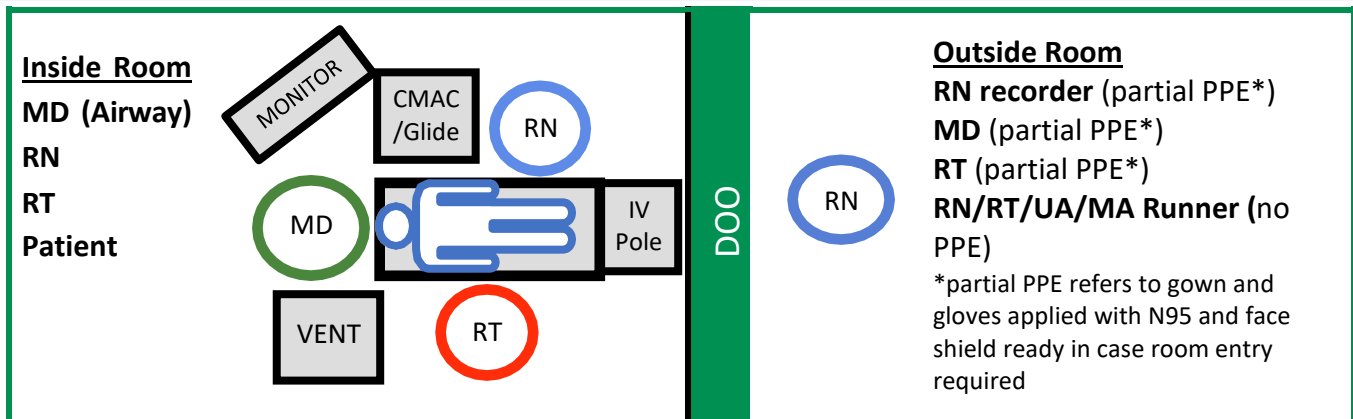


## ICU COVID PROTECTED INTUBATION

- **Purpose:** Specific steps for intubation of presumptive/confirmed COVID patients.
- **Rationale:** Intubation during the COVID pandemic is high stress procedure. Standardization of equipment, roles and procedures is essential.
- **Considerations:** Intubate early for increasing O<sub>2</sub> requirements and clinical deterioration; limit exposure to aerosolization peri-intubation.
- **Intubation team members:** Minimize the number of providers in the room. Additional providers on standby outside the room for assistance as required.



## TIME-SENSITIVE INTUBATION

<b>Preparation</b>	<ul style="list-style-type: none"> <li>Y Assess patient's airway for ease of intubation from outside the room.</li> <li>Y Short huddle to confirm roles and develop overall plan including back-up strategy.</li> <li>Y MD (Airway) to request additional support if needed.</li> </ul>
<b>Prepare Equipment To Bring Into Room</b>	<ul style="list-style-type: none"> <li>Y Video laryngoscope – <b>MD</b></li> <li>Y ICU COVID AIRWAY CHECKLIST - <b>MD</b></li> <li>Y Airway equipment: Endotracheal tube, cuff syringe, bougie - <b>RT</b></li> <li>Y Ventilator with in-line suction – <b>RT</b></li> <li>Y Rapid sequence intubation (RSI) medications – <b>RN</b></li> </ul> <div style="border: 1px solid green; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>Y Paralytic: MUST be 100mg rocuronium or greater (1.2mg/kg)</li> <li>Y Induction agent: Ketamine, midazolam, fentanyl, propofol doses per MD (Airway)</li> <li>Y Consider starting Norepinephrine infusion at 0.1mcg/kg/min prior to sedative medication</li> </ul> </div> <ul style="list-style-type: none"> <li>Y Outside room as per MD (Airway) - fiberoptic scope, cric kit, LMA - <b>RT</b></li> </ul>
<b>Don PPE</b>	<ul style="list-style-type: none"> <li>Y Remove lanyard, stethoscope, phone, and accessories.</li> <li>Y Don in pairs with partner double-checking PPE.</li> <li>Y Follow directions on <b>Enhanced Droplet/Contact PPE with N95</b> for aerosol generating medical procedure (AGMP)</li> </ul>

<b>Room Entry and Setup</b>	<b>MD (Airway)</b>	<ul style="list-style-type: none"> <li>Y Detailed airway assessment</li> <li>Y Ask for assistance if difficulty anticipated</li> <li>Y Optimize patient position</li> <li>Y Set up video laryngoscopy</li> <li>Y Begin passive pre-oxygenation:                             <ul style="list-style-type: none"> <li>Y BVM with filter</li> <li>Y Two-handed technique for mask seal</li> <li>Y Allow suboptimal O<sub>2</sub> sats to <b>AVOID (OR MINIMIZE) ASSISTING VENTILATION</b></li> </ul> </li> </ul>
	<b>RT</b>	<ul style="list-style-type: none"> <li>Y Position ventilator</li> <li>Y Prepare intubation equipment</li> <li>Y Check ventilator connections and in-line suction</li> </ul>
	<b>RN 1</b>	<ul style="list-style-type: none"> <li>Y Ensure patient on monitor</li> <li>Y Ensure IV access and patency</li> </ul>
	<b>RN 2</b>	<ul style="list-style-type: none"> <li>Y Remain outside room to record</li> </ul>

**PAUSE FOR PROTECTED INTUBATION CHECKLIST**

<b>Intubation</b>	<ul style="list-style-type: none"> <li>Y Ensure that the Protected Airway Checklist is completed</li> <li>Y Proceed with RSI:                             <ul style="list-style-type: none"> <li>Y Wait 60 seconds for peak rocuronium effect</li> <li>Y Intubate with video laryngoscopy +/- bougie</li> <li>Y After visualization of the tube passing the vocal cords, immediately inflate the cuff and connect filter and BVM with color capnography for CO<sub>2</sub> confirmation of tube placement.</li> <li>Y Use as few breaths as possible</li> <li>Y After an exhalation, <b>CLAMP</b> ETT, remove BVM and attach the ventilator circuit with in-line suction directly to the ETT</li> <li>Y Place bite block and secure tube</li> </ul> </li> </ul>
	<p>If rescue airway management is required:</p> <ul style="list-style-type: none"> <li>Y Stay calm</li> <li>Y Call for assistance</li> <li>Y 2nd MD may enter room with airway adjuncts as previously decided</li> <li>Y 2-person BVM with small tidal volumes</li> <li>Y Consider rescue equipment and consider surgical airway</li> </ul>

<b>Post-Intubation Management</b>	<ul style="list-style-type: none"> <li>Y Post-intubation sedation/analgesia</li> <li>Y Insert OG tube while in AGMP PPE</li> <li>Y Apply soft restraints</li> <li>Y Consider arterial line and central line placement prior to exiting the room</li> <li>Y Allow appropriate time for air exchange prior to de-escalating PPE</li> </ul> <p>Individual patient rooms in ICU require 1 hour for air exchange so enhanced droplet/contact with N95 for AGMP should be worn when entering during this time.</p>
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**LEAVE THE ROOM AND DOFF PPE AS PER POSTED INSTRUCTIONS**

Additional team members must be in full PPE prior to entering room - **even if patient is unstable**

**PROTECTED INTUBATION CHECKLIST (BRING THIS INTO ROOM)  
Airway MD to Read**

**PATIENT**

- Y Position optimized for intubation
- Y O<sub>2</sub> source on the patient
- Y Monitors On and initial Vital Signs documented

**MEDICATIONS**

- Y Intravenous functional
- Y Consider pretreatments to support hemodynamics: Fluid bolus, Norepinephrine infusion at 0.1 mcg/kg/min prior to RSI

Sunday, March 29, 2020                      ction (RSI) Drugs ready

**EQUIPMENT**

- Y Confirm PPE on appropriately
- Y Ventilator ON with initial settings
- Y In-line Suction on circuit
- Y Bag Valve Mask with filter attached
- Y Suction (tested)
- Y Video Laryngoscope
- Y Endotracheal tube (appropriate size, cuff tested, syringe ready)
- Y Bougie
- Y End-Tidal CO<sub>2</sub> Detector
- Y Endotracheal tube holder and bite block
- Y Orogastric tube
- Y Additional rescue airway equipment readily available outside patient room – LMA, cricothyroidotomy kit

**PLAN**

- Y Reassessment of airway for difficulty
- Y Huddle to review plan for medications and approach to airway and backup approach to airway
- Y 1<sup>st</sup> attempt using Video Laryngoscopy +/- Bougie
- Y 2<sup>nd</sup> attempt plan described by Airway MD
- Y Post-intubation management discussed – sedation/analgesia/vasopressors

**Y ADDRESS QUESTIONS OR CONCERNS BEFORE PROCEEDING**