INTUBATION OF SUSPECTED/CONFIRMED COVID-19 PATIENT (BCCH, BCW)

DOCUMENT TYPE: PROCEDURE

Site Applicability

This procedure is applicable to all areas outside the operating room that intubate suspected/confirmed COVID-19 patients.

Practice Level/Competencies

Intubation of the suspected/confirmed COVID-19 patient is a specialized skill and should be performed by the Most Qualified Physician (MQP), with assistance from the most experienced RT, and most experienced RN.

The MQP may include an Anesthesiologist if an airway is pre-assessed as difficult. The Attending MRP in (Emergency, PICU or NICU) may request Anesthesiologist for intubations other than a difficult airway.

Policy Statement(s)

Patients should be in single isolation room, preferably negative pressure. To limit healthcare team exposure to particles and aerosols of suspected/confirmed COVID-19 patient intubation will be performed with as few members of the healthcare team in the patient room as possible.

CWBC/BCCH recognizes intubation as an Aerosol Generating Medical Procedure (AGMP), therefore the Personal Protection Equipment (PPE) necessary for droplet contact and airborne precautions shall be enforced.

Consider clustering procedures (collect all equipment for lines or other procedures before entering room).

Equipment & Supplies

<table>
<tr><th colspan="2">For Use IN Patient's Room</th></tr>
<tr><td>Appropriate size Jackson-Reese (J-R) bag with filter attached *JR bag does have a bacteria viral filter</td><td rowspan="11">o Recommended medications/ fluids to consider (weight based) labelled PICU/ED:
- Ketamine 1 mg/kg
- Rocuronium 1 mg/kg
- Fentanyl 2mcg/kg
- Epinephrine 1:100,000 (20 mls)
- Sedation infusions for post intubation
- Fluids for rapid bolus age appropriate

o Checklists:
- Blue Airway Bundle Checklist – completed on admission and reviewed during set up
- Pre-intubation Timeout Checklist</td></tr>
<tr><td>Nasal prongs</td></tr>
<tr><td>Appropriate size face mask AND one size smaller</td></tr>
<tr><td>Appropriate size guedel oropharyngeal airway (OPA) AND one size smaller</td></tr>
<tr><td>Suction tubing with appropriate size Yankauer</td></tr>
<tr><td>Intubation equipment (gathered in two different trays; see Appendix A & B)</td></tr>
<tr><td>Ventilator</td></tr>
<tr><td>Appropriate size nasogastric (NG) tube</td></tr>
<tr><td>60 mL syringe for NG tube</td></tr>
<tr><td>Appropriate PPE for droplet contact and airborne precautions</td></tr>
<tr><th colspan="2">To Remain OUT of Patient's Room</th></tr>
<tr><td colspan="2">Intraosseous (IO) kit</td></tr>
<tr><td colspan="2">Airway cart and Storz tower positioned outside the room, ready as the backup. Hand held pocket videolaryngoscope is taken into the room.</td></tr>
</table>

Intubation Procedure Preparation

Assemble two teams. (Inside & Outside of room Teams)

Inside Team	Outside Team
Identify 3-4 member teams to perform procedure in isolation room.	Identify 2-3 member team to support and monitor the procedure from outside of room.
This team will include: ○ MQP ○ 1 RN ○ 1 RT ○ ±1 AA (assisting Anesthesia on difficult airway if available)	This team will include: ○ 1 documentation RN ○ 1 PPE supervisor ○ 1 stand-by physician for emergency ○ 1 RT with lead apron under PPE

Collect pre-intubation checklist and equipment listed to take inside room in a disposable tray.

Have ventilator pre-use check performed; ensure appropriate ventilator settings are set.

Procedure

STEPS	RATIONALE
1. Perform proper Donning of PPE as per current policy. Link: COVID-19 Guideline for AGMPs Only: Personal Protective Equipment Donning & Doffing • Contact Radiology for Chest X-ray on a COVID suspected/positive patient.	*To reduce team member exposure to droplet and airborne particles associated with transmission of COVID-19.* **Outside team members should consider donning PPE especially back-up intubator and RT (RT will need to wait for lead apron before donning PPE)* *Early request to Radiology for chest X-ray will facilitate quick confirmation of ETT and NG placement.*
2. Inside team members enter patient room and prepare role designated tasks which can include the following: **Inside RT/±AA if Anesthesia present** -Lay out intubation equipment in order of expected usage -Have appropriate sized mask secured to JR bag -Ensure connections on JR bag are tight and flow is appropriate for patient size to inflate bag -Ensure Yankauer suction is connected and functioning - place at right hand of intubator	*Ensures all team members are prepared for procedure and limits error*

-Set up nasal prongs (use at MQP discretion for apneic oxygenation) as per Blue Airway Bundle Checklist -Have $EtCO_2$ connected to module -Ensure OPAs are at head of bed -RT to connect ventilator to wall outlets if not already, verify appropriate patient settings, place in 'stand-by' **If AA is present they will follow normal procedure assisting Anesthesiologist* **Inside RN** -Ensure adequate IV access -Intubation and resuscitation drugs are all present and labelled/verified -Set pulse oximeter/QRS volume on patient monitor -Confirm communication to RN documenting outside of room is audible/clear **Inside MQP** -Assumes position at head of bed -Place checklists where they are visible to all team members for reference -Assess for difficult intubation **PICU/EMERG MQP**: -ensures airway secretions have been cleared using Yankauer sucker **NICU MQP:** -suction oral cavity suction catheter **Outside RN** - Outside RN performs all documentation - Ensures clear communication for team inside the isolation room	
3. MQP initiates/continues pre-oxygenation - may provide positive pressure ventilation (PPV) if saturation low or otherwise indicated. Ensure end of JR bag is pointed away from team members. Use two person technique to maintain a tight seal if necessary.	*Provide pre-oxygenation prior if saturation low. If saturations are good no need for IPPV go straight to intubation.*
4. Team inside room reviews pre-intubation timeout checklist and communicates any concerns/issues to outside team	*Communicate clear intubation plan and emergency backup plan B with all team members*
5. RN begins medication administration as directed - may provide positive pressure ventilation (PPV) if indicated. Ensure end of JR bag is pointed away from team members. Use two person technique to maintain a tight seal if necessary.	

6. MQP attempts intubation with video laryngoscope	
7. RT passes lubricated and styletted ETT to MQP, provides visualization manipulations as requested **Anesthesiologist + AA will follow normal procedure*	
8. Once ETT placed, RT removes stylet and inflates cuff while MQP holds ETT in position **Anesthesiologist + AA will follow normal procedure*	*Inflate cuff as soon as possible to limit potential aerosolization of COVID viral particles prior to patient being ventilated*
9. Emergency and PICU: RT attaches elbow inline suction and $ETCO_2$ to ETT and verifies placement with capnography and chest rise NICU: RT attaches colorimetric CO_2 detector and inline suction to ETT and verifies good chest rise **If Anesthesiologist + AA will follow normal procedure, RT will get ventilator ready*	*There will not be a stethoscope available in the room to reduce risk of contamination.*
10. Secure the ETT: this is a two person procedure - the ETT needs to be secured as per PICU/NICU procedure.	
11. MQP may elect to provide manual ventilation immediately after intubation prior to ventilator attachment if patient is desaturating	*Place ventilator in stand-by while performing disconnections*
12. If MQP is different from the MRP, the MQP will provide handover to the MRP	
13. RN inserts NG/OG and secures to patient's face - performs gastric decompression with 60 ml syringe	*There will not be a stethoscope available in the room to reduce risk of contamination; verification of NG will be done with Xray.*
14. Standard Work: Lead Protection and Radiation Safety for Staff during Pediatric Mobile X-ray Exams under Isolation Precaution or PUI's for COVID-19	*Limits in/out encounters* *In Emergency all personnel inside the room will be wearing lead.*
15. Inside team members perform doffing procedure one at a time under guidance of PPE Supervisor outside of room COVID-19 Guideline for AGMPs Only: Personal Protective Equipment Donning & Doffing	*Ensures team members are not contaminating themselves prior to leaving a suspected/confirmed COVID-19 patient room*

Documentation

RT and physician to ensure NEAR4KIDS documentation filled out

References

COVID-19 Guideline for AGMPs Only: Personal Protective Equipment Donning & Doffing

NEARs for kids (To Be Added)

Appendix A: Intubation Equipment- Inside Room

- Cuffed ETTs - appropriate size and ½ size smaller
- Stylet for both ETTs – consider lubricating prior to insertion for ease of removal
- E-Z lubricating jelly or lubricating spray
- Pocket Storz laryngoscope with appropriate size blade, battery charged, function checked
- Direct laryngoscope with appropriate blade, function checked
- 5 mL syringe
- Age appropriate ETT securing device (Neobar, Anchorfast)
- Adhesive
- Tape for securing ETT to Neobar
- $ETCO_2$ detector or colormetric CO2 detector, consider x2 if back-up desired ensure end tidal module is in room.
- Inline suction catheter - appropriate size for ETT, with elbow (PICU/Emergency)
- Appropriate size nasal prongs – for apneic oxygenation when indicated by MQP
- Plastic bags x 2 – for dirty laryngoscope/blade
- Clamps
- Scissors

Appendix B: Intubation Equipment (Back-up) – Outside Room

- Cuffed ETT's – appropriate size and ½ size down
- Stylet for both ETTs – consider lubricating prior to insertion for ease of removal
- E-Z lubricating jelly
- LMA – appropriate size, and correct syringe to inflate
- Magill forceps (remain in package)

Definitions:

- Most Qualified Physician (MQP)
- Aerosol generating medical procedure (AGMP)
- Nasal gastric tube (NG)
- Intraosseous Kit (IO kit)
- Oropharyngeal airway (OPA)
- Jackson Rees bagger (JR bag)
- Endotracheal tube (ETT)
- End-Tidal Carbon Dioxide Monitoring (EtCO2)

Version History

DATE	DOCUMENT NUMBER and TITLE	ACTION TAKEN
16-Apr-2020	C-0506-12-60616 Intubation Of Suspected/ Confirmed COVID-19 Patient (BCCH, BCW)	Developed by CW COVID Response Working Group; Approved by Professional Practice Director

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