

INTUBATION OF KNOWN OR SUSPECTED COVID PATIENTS IN RURAL HOSPITALS AND URGENT CARE CENTRES



HELP IS AVAILABLE TO YOU

- **PTN 1-866-233-2337** to activate transfer and connect with IH transport support team (flow liaison and Intensivist, ask to be connected to EPOS – Emergency Physician Online Support)
- ROSe 1-888-918-0626: Rural Outreach Support - 24/7 virtual connection to Intensivist/critical care (www.roselehealth.com)
- RUDi zoom link to 24/7 virtual ER/generalist support <https://rccbc.ca/rivs/rudi/>
- Intensivist at Royal Jubilee Hospital (COVID cohort ICU) at **250-370-8560** for advice. Can also page through operator.

DECISION TO INTUBATE:

- **Refractory hypoxemia (SpO₂ < 90%) on high flow oxygen (> 10L/min)**
Note: O₂>6L/min is potentially aerosol producing and should be given in isolation room
- Significant increase in the work of breathing in a patient who is tiring.
- Decreased level of consciousness.
- Rapidly deteriorating patient.

If delaying intubation, consider expected course and possible deterioration en route.

PREPARE DRUGS: (pt should have 2 x large bore iv in place)

calculate per weight but if pressed for time use standard dose

Drugs to bring inside the room (preferred drugs in bold):

- Ketamine 1-2 mg/kg** (standard dose 200 mg)
- or Propofol 1-2 mg/kg (standard dose 200 mg)
- Rocuronium 1.2 – 1.5 mg/kg (standard dose 200 mg)**
- Or Succinylcholine 1.5 mg/kg (standard dose 200 mg)
- Pre-mixed phenylephrine syringe (100 mcg/ml) if available
- 5 x 10 cc saline flush syringes.**
- infusions ready for post intubation sedation/analgesia (see next page for doses)

Drugs available outside the room:

- Epinephrine syringe 100 mcg/ml.
- Atropine.
- Norepinephrine infusion if available and the patient is thought to be hemodynamically unstable

PREPARE EQUIPMENT:

Equipment to bring inside the room:

- ventilator set up (if available).
- AMBU bag with viral filter (HME)
- Capnometry (CO₂ detection device)
- PEEP valve – attach to AMBU bag .
- Video-laryngoscope (if available)
- direct laryngoscope with MAC 3 and 4 blades.
- Styletted ETTs (7.0 for women and 8.0 for men)
- 10 cc Syringe for inflating cuff - Test cuff for leaks prior to intubation
- Gum elastic blue bougie.
- Suction catheter – check suction

Equipment available outside the room:

- #3 #4 and #5 LMA (Laryngeal Mask Airway) w 60 cc syringe – test for leaks prior
- or I-GEL supraglottic airway

GENERAL CONSIDERATIONS WHEN ANTICIPATING NEED FOR INTUBATION

- Deteriorating COVID-19 patients should be intubated in a controlled environment to limit contamination of HCWs.
- Decisions regarding intubation on site or transferring to a larger center before intubation will depend on the condition of the patient and the amount of time it will take to get the patient to the larger center.
- The most experienced physician should intubate these patients. Consider calling in extra supports and intubating early if significant transport delays expected. Rapid desaturations on induction are the norm, once on higher levels of FiO₂.
- All intubations should be done in the most appropriate area which will have to be determined at each site. It should be done in a closed single room. A negative pressure room is preferred but not essential.
- Island Health Enhanced PPE for Intubation and Extubation includes additional items: head and neck cover and a large blue OR gown as opposed to the yellow gown. If these are not available at the site, proceed with the standard contact and AGMP precautions. The standard precautions are endorsed by the BCCDC and WHO for intubation and are used by other sites in BC for intubation. Do not delay intubation if you do not have the Enhanced PPE available.

DON PPE ONCE READY TO INTUBATE:

Every person in the room during an intubation must take **contact and AGMP (aerosol generating medical procedures) precautions**. Don PPE with a coach watching you.

- Yellow gown (or large blue disposable Operating Room gown for better protection of the back in larger people),
- gloves (extended cuffs if available), face shield, and N95 mask. head/neck cover (if available)

NOTE: The minimal number of people should be in the room during the intubation. If possible, ideal to only have the physician doing the intubation and one RT (if available) or RN in the room.

A second RN should put on PPE for **contact and AGMP precautions** and be outside the room ready to bring in any equipment and assist as in the room as needed

INTUBATION PROCEDURE

- 5 minutes of pre-oxygenation with 100% O₂ w BagValveMask or Non-Rebreather-Mask @15L/min (with viral filter if available)

Note: Position head of bed @ 45 degrees, use 2 handed seal, **no bagging**. AMBU bag must have a viral filter (HME) and a PEEP valve attached. Have a CO₂ detection device or in-line capnography ready to attach after intubation.

Use rapid sequence induction.

Do not attempt to intubate awake or with minimal sedation.

Give the following drugs in the order listed, rapid iv push:

- Ketamine 1-2 mg/kg or Propofol 1-2 mg/kg.
- Rocuronium 1.2 – 1.5 mg/kg and wait 60 seconds
- or Succinylcholine 1.5 mg/kg then wait 45 sec

- Flush after all meds given

Ensure paralysis is complete before placing laryngoscope and intubating.

Do not bag mask ventilate the patient between drug administration and intubation unless significant desaturation and hemodynamic compromise (pts seem to tolerate desats well)

After intubation:

Do not auscultate the chest after intubation.

- Inflate cuff immediately and ensure there is no leak
- Use CO₂ detection device to confirm EET placement.
- Secure ETT, insert NG tube

Consider Phenylephrine/epinephrine boluses if MAP < 50 or persistent MAP < 55.

Consider atropine for significant brady and hemodynamically unstable.

Discuss with team ahead of time what your back up plan will be in case of failed intubation:

Option A: try ETT again with:

Repositioning, BURP maneuver (Backwards, Upwards, Rightwards pressure on cricoid), use Bougie

Option B: Insert LMA or I-GEL

NOTE: Supraglottic devices reduce aerosolization but do not offer a complete seal. Consider these patients similar to spontaneously breathing patients.

Option C: Consider surgical cricothyroidotomy

NOTE: Surgical airway should only be attempted by physicians confident in their skills since it is a difficult procedure and risk of contamination of the HCWs is high

VENTILATION: Note: If bagging by hand – aim for gentle tidal volume

- Ventilate at 6-8 ml/kg Tidal Volume based on ideal body weight with a PEEP of 5-10 mmHg initially.

SEDATION - use either:

- Propofol infusion of 1-5 mg/kg/hr or Fentanyl 1-3 mcg/kg/hr AND Midazolam 1- 10 mg/hr,
- or Ketamine 1-3 mg/kg/hr or Morphine 1-5 mg/hour (titrate up to 10 or more as needed)

Note: If Rocuronium was used during induction, ensure adequate sedation is initiated.

Consider neuromuscular paralysis (rocuronium 1 mg/kg prn) if the patient is fighting the ventilator despite adequate sedation.

DOFF PPE once intubation procedure completed.

NOTE – Doffing PPE is step where greatest risk of self-contamination risk. Important to have buddy system to watch and guide you while you doff.

Keep room closed 35 minutes following AGMP (Time will depend on site/room – speak to FMO to clarify)