

COVID-19 INTUBATION FLOW MAP

This guideline has been adapted from Shared Health's ICU COVID PROTECTED INTUBATION – April 2, 2020

Purpose: To outline the specific steps for intubation of presumptive/confirmed COVID-19 patients and patients with influenza-like illness.

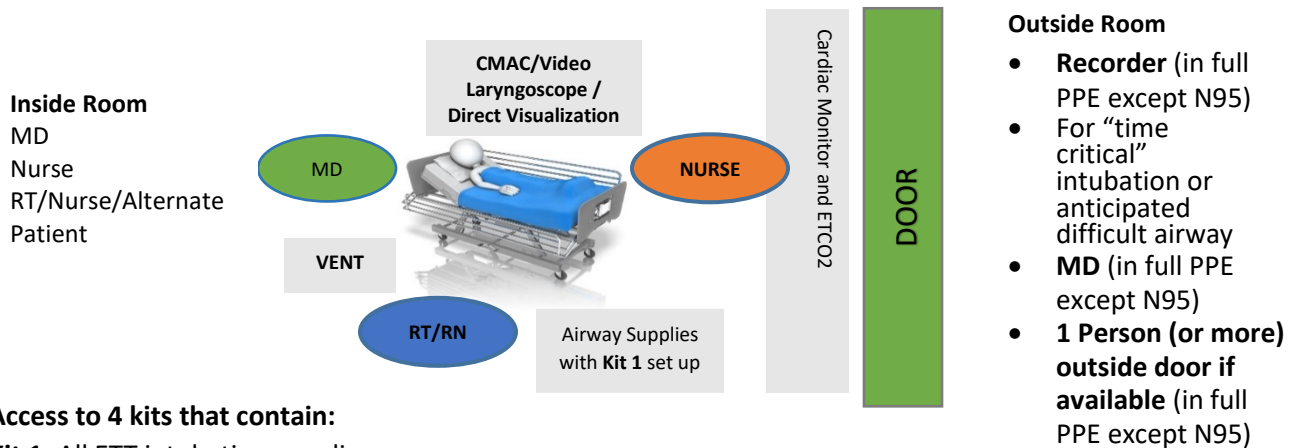
Rationale: Intubations during the COVID-19 pandemic will be unfamiliar procedures in a high stress environment. Standardization of equipment, roles and procedures is essential.

Key Principles:

- If possible, transfer early to avoid intubation.
- COVID-19 intubation is not a crash intubation but a methodical process.
- Notify WRHA of patient transfer; intubate early as indicated.
- Initiate Code Blue response early for respiratory deterioration (to align with **early intubation strategy**)

INTUBATION TEAM MEMBERS

- Minimize the number of providers in the room.
- Additional providers may be on standby outside the room for **time critical intubation or anticipated difficult airway.**



Access to 4 kits that contain:

Kit 1: All ETT intubation supplies

Kit 2: LMA backup

Kit 3: Emergency cricothyrotomy

Kit 4: IV/IO supplies

Locations for COVID-19 intubations: Aerosol Generating Medical Procedures (AGMP) Designated Room

- AIIR preferred with anteroom
- Alternate: Private room (closed door and windows)

Note: Staff may leave the AIIR or single room after the AGMP is completed but movement in and out of the room should be for essential activities only during the period afterwards where the air in the room is being “cleaned” by air exchange.

- Open and close the door slowly during this time to minimize “dragging” air from the room.
- Assume air clearance to be 35 minutes for AIIRs, 21 minutes for ORs, and 3 hours for all other areas unless confirmed otherwise.

COVID-19 INTUBATION FLOW MAP

COVID-19 Emergency Intubation Plan INTUBATION		
PREPARATION	<ul style="list-style-type: none"> • Notify RT if available of COVID-19 intubation. • Notify Anesthetist / Second MD of COVID-19 intubation. • Minimize number of people in room; Assign roles • Assemble equipment: <ul style="list-style-type: none"> ○ Access Kit #1 & #4 ○ Access Glidescope/C-MAC/Video Laryngoscope (VL) or Laryngoscope • Once need for intubation is confirmed: nurse draws up RSI drugs and labels drugs <ul style="list-style-type: none"> ○ Use within 1 hour 	
	Less than 100 kg	Greater than 100kg
	100mg Ketamine induction dose 100mg Rocuronium 100mg Ketamine for post-intubation sedation	150mg Ketamine induction dose 150mg Rocuronium 100mg Ketamine for post-intubation sedation
DON PPE	<ul style="list-style-type: none"> • Remove lanyard, stethoscope, phone and all jewelry. Place in storage basket. • Follow Provincial Guidance on Personal Protective Equipment (PPE) for Intubation and other Aerosol Generating Medical Procedures (AGMPs) • Always Don PPE in pairs and use the PPE donning checklist 	
ENTER THE COVID-19 AGMP DESIGNATED ROOM		
ROOM ENTRY AND SETUP	Team enters the room in full PPE and N95 mask, and performs the following tasks:	
	MD / ALTERNATE (MOST EXPERIENCED INTUBATOR)	<ul style="list-style-type: none"> • Detailed airway assessment. • Position patient. • Set up Glidescope/CMAC/VL/Laryngoscope; place in position. • If patient has a pulse: apply O₂ mask with 15 litres per minute (LPM) O₂ flow OR perform passive oxygenation using Bag Valve Mask (BVM) with 15 LPM O₂ flow. • If patient is pulseless and requires chest compression: apply nasal prongs with 15 LPM O₂ flow and place surgical / procedure mask on patient – then begin chest compressions. <ul style="list-style-type: none"> ○ PAUSE chest compressions for intubation. • 100% FiO₂ via BVM with attached viral filter and PEEP valve set to at least 5cm H₂O. • Tolerate suboptimal O₂ sats. • AVOID (OR MINIMIZE) MANUAL VENTILATION WITH BAG <ul style="list-style-type: none"> ○ If bagging is required: minimize tidal volume and use two-person technique to seal mask on the face.
	RT or NURSE	<ul style="list-style-type: none"> • If applicable: Position ventilator and double check connections • Prepare intubation equipment; lay out items in kit #1
	NURSE	<ul style="list-style-type: none"> • Position cardiac monitor. • Attach patient to cardiac monitor and attach ETCO₂. • Insert two IVs and check patency (use IV kit #4) • If unable to establish IV, establish IO by most competent person
	NURSE / ALTERNATE	<ul style="list-style-type: none"> • Remain outside to record/document

COVID-19 INTUBATION FLOW MAP

PAUSE FOR AIRWAY CHECKLIST PRIOR TO INTUBATION

INTUBATION	<ul style="list-style-type: none"> • Complete Airway Checklist (see next page/pg. 4). • Proceed with RSI: These are high-alert meds; require 2-person check <ul style="list-style-type: none"> ○ Ketamine 100-150 mg IV push over 1-2 min.; flush with 10mL NS; followed immediately by Rocuronium 100-150 mg IV push; flush with 10 mL NS. <ul style="list-style-type: none"> ▪ Wait at least 60 seconds to ensure full paralysis prior to intubation attempt • Intubate with Glidescope/CMAC/VL and bougie (if available) or direct visualization • Inflate the cuff; clamp ETT • Connect to waveform CO₂ capnography • If available, directly connect ETT to prepared ventilator <ul style="list-style-type: none"> ○ If not available, use BVM O₂ at 15 LPM ○ Unclamp ETT • Secure ET tube; tape all vent connections to reduce risk of disconnecting <p><u>If rescue airway management is required:</u></p> <ul style="list-style-type: none"> • Stay calm • Call for help • If available, 2nd MD may enter room • Access kit #2 and/or kit #3: consider LMA and consider other adjuncts • 2-person BVM with small tidal volumes • Consider early front-of-neck access
POST-INTUBATION MANAGEMENT	<ul style="list-style-type: none"> • 100 mg Ketamine IV for post-intubation sedation • Establish norepinephrine infusion as per IV drug monograph to manage potential rapid hypotension • If possible, insert OG tube but do not delay transfer for this • Apply soft restraints • Further clinical management as indicated • Transfer to WRHA (call MICU at 1-204-787-2071)
LEAVE THE ROOM AND DOFF PPE AS PER POSTED INSTRUCTIONS	

Kit #1 - Intubation							
<input type="checkbox"/>	BVM with mask	<input type="checkbox"/>	Nasal Airway(30F)	<input type="checkbox"/>	Tube Clamp/ Forcep	<input type="checkbox"/>	ETT Cuffed #7.5
<input type="checkbox"/>	PEEP Valve	<input type="checkbox"/>	Stylet 14F	<input type="checkbox"/>	10ml Syringe	<input type="checkbox"/>	Tape x 1
<input type="checkbox"/>	Viral Filter	<input type="checkbox"/>	Rigid Glidescope Stylet	<input type="checkbox"/>	AnchorFast Tube Securement	<input type="checkbox"/>	Lubricant Jellyx2
<input type="checkbox"/>	ETCO ₂ Tubing	<input type="checkbox"/>	Pocket Bougie	<input type="checkbox"/>	Inline Suction	<input type="checkbox"/>	Orogastric Tube
<input type="checkbox"/>	Oral Airway (yellow)	<input type="checkbox"/>	Disposable Glidescope 4 Blade	<input type="checkbox"/>	Flusso Valve-optional	<input type="checkbox"/>	Soft Restraints
<input type="checkbox"/>	Procedure mask	<input type="checkbox"/>	10mL NS Prefilled Syringes for inline suction				
Kit #2 - LMA		Kit #3 - Cricothyrotomy		Kit #4 - IV/IO supplies			
<input type="checkbox"/>	LMA size 3/4/5	<input type="checkbox"/>	Small Sterile Procedure Tray	<input type="checkbox"/>	18 G IV × 2	<input type="checkbox"/>	2×2 Gauze Packs × 6
<input type="checkbox"/>	10mL Syringe	<input type="checkbox"/>	#10 Scalpel Blade	<input type="checkbox"/>	20 G IV × 2		
<input type="checkbox"/>	Lubricant Jelly × 2	<input type="checkbox"/>	Scalpel Handle	<input type="checkbox"/>	22 G IV × 1	<input type="checkbox"/>	IV Film Dressing × 2
<input type="checkbox"/>	Direct Laryngoscope	<input type="checkbox"/>	Pocket Bougie	<input type="checkbox"/>	Extension Tubing		
<input type="checkbox"/>	MAC 4 Blade	<input type="checkbox"/>	#6 ETT Cuffed	<input type="checkbox"/>	Alcohol Pads × 10	<input type="checkbox"/>	Paper Tape Roll
		<input type="checkbox"/>	4×4 Gauze pack × 3	<input type="checkbox"/>	10mL NS Prefilled Syringes × 8	<input type="checkbox"/>	NS 1000 mL bag
		<input type="checkbox"/>	Chlorhexidine Prep Sticks × 2			<input type="checkbox"/>	IV tubing
		<input type="checkbox"/>	0 Silk Suture	<input type="checkbox"/>	Have EZ-IO kit ready in separate plastic bin		

COVID-19 INTUBATION FLOW MAP

COVID-19 AIRWAY CHECKLIST

RT/NURSE/ALTERNATE CHECKLIST

- Ventilator on and settings entered
- Suction in line
- ETCO2 in line
- Kit #3 emergency cricothyrotomy available (DO NOT open)

PATIENT

- Patient position optimized
- BVM +Viral filter + peep Valve
- O2 Sources on
- Monitors on
- Vital Signs Assessed

DRUGS

- IV/IO - Functional
- Weight estimate verbalized
- Pretreatments Considered (Fluids, Vasopressors, Bicarb, Atropine)
- RSI drugs - doses selected, contraindications discussed

EQUIPMENT

- PPE (gloves, N95 mask, eye protection, gown)
- BVM + viral filter + PEEP valve
- Kit #1 – opened and content tested
- Wall Suction (tested)
- Laryngoscope tested, CMAC if available on
- ET Tube (size, cuff tested - syringe on, lubed, bougie +/- stylet)
- Kit #2 with Backup airways (LMA) available
- ETCO2 initialized / working
- ETT holder

PLAN

- Sources of difficulty discussed (Anatomic or Physiologic)
- 1st Attempt
- 2nd Attempt
- Assign someone to call out saturations and thresholds for SpO₂
- Team members briefed on roles
- Assign thresholds for defining failed airway and calling for help
- Post-intubation management discussed (sedation / analgesia)
- Questions or Concerns Before Proceeding?**