COVID-19 CONSIDERATIONS DURING YOUR ICU ROTATION

LAKERIDGE HEALTH - OSHAWA

COVID SWAB EVERYONE!

- INCLUDES
 - ADMISSIONS FROM WARDS/ER, TRANSFERS IN FROM OTHER FACILITIES (INCLUDING OTHER LH SITES)
- Possible Exception:
 - PATIENTS PREVIOUSLY ADMITTED WITH A NEGATIVE COVID SWAB IN PAST 72 HOURS (CHECK WITH ATTENDING)

COVID TESTING: WHO NEEDS A **SECOND** SWAB?

- MODERATE AND HIGH RISK PATIENTS
 - PATIENTS WITH COVID SYMPTOMS AND FROM HIGH RISK ENVIRONMENTS. EG: RESPIRATORY FAILURE, BILATERAL LUNG INFILTRATES, KNOWN COVID CONTACT WITH RESPIRATORY SYMPTOMS, UNEXPLAINED FEVER, ETC.
 - ALWAYS DISCUSS WITH ATTENDING THE NEED FOR 2ND SWAB AND PRIOR CLEARING PATIENT COVID FREE.
- LOW RISK PATIENTS
 - PATIENTS WHO ARE LOW RISK FOR COVID-19 INFECTIONS DO NOT NEED A SECOND SWAB (NO RESPIRATORY SYMPTOMS, NON-COVID CAUSE IDENTIFIED FOR INITIAL PRESENTATION, PLANNED SURGERY)

PPE GENERAL CONCEPTS

- SURGICAL MASKS MUST BE WORN AT ALL TIMES
- FACE-SHIELD OR GOGGLES MUST BE WORN IN ADDITION TO A SURGICAL MASK IF UNABLE TO KEEP 2 M FROM STAFF/VISITOR/PATIENTS
- N95 masks for AGMP procedures or risk of AGMP
 - SOME MODELS ARE IN SHORT SUPPLY, YOU MAY NEED TO BE RE-FITTED FOR A DIFFERENT ONE THAN YOU HAVE USED PREVIOUSLY (CONTACT HEIDI MCHATTIE/OHS). VIDEO BELOW OUTLINING THE USE OF N95 MASKS
 - https://www.youtube.com/watch?v=KI0O5vjKOh4
- PPE Training is done on the first day of your rotation and you must sign the attendance sheet as proof of training

RESIDENT INVOLVEMENT IN PATIENT CARE DURING PANDEMIC

- UNDERSTAND WHERE YOU ARE ON THE MATRIX AND LET YOUR STAFF KNOW

TRAINEE COMPETENCY/COVID STATUS MATRIX FOR QUEEN'S UNIVERSITY TRAINEES - V1.4 (November 25, 2020)								
		Virtual care	Discussion about patient, rounding without patient contact	Routine patient contact, no airborne precautions	Non-AGMP procedures, no airborne precautions	Non-AGMP- procedures or patient contact but airborne precautions in place (e.g., BiPAP/HFNC)	AGMP to be performed by someone other than trainee but trainee present in room/performing non-AGMP procedures	AGMP may be performed by trainee
Clinical fellow/assistant OR Senior PG trainee	COVID negative or no COVID testing/ precautions required	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation
deemed INDEPENDENT airway competent by program	Suspect COVID pending test/ confirmed COVID positive*	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation
Senior PG trainee deemed airway/AGMP competent by	COVID negative or no COVID testing/ precautions required	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation
program	Suspect COVID pending test/ confirmed COVID positive*	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation	YES only with direct attending supervision, otherwise NO *must have fit tested N95 available and <u>enhanced</u> PPE orientation
PG trainee deemed airway/AGMP non- competent by program	COVID negative or no COVID testing/ precautions required	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation
	Suspect COVID pending test/ confirmed COVID positive*	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	NO
PG trainee with COVID accommodations	COVID negative or no COVID testing/ precautions required	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation	YES *must have fit tested N95 available and enhanced PPE orientation
	Suspect COVID pending test/ confirmed COVID positive*	YES	YES	NO	NO	NO	NO	NO
UGME student	COVID negative or no COVID testing/ precautions required	YES	YES	YES	YES	YES *must have fit tested N95 available and PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation	YES *must have fit tested N95 available and <u>enhanced</u> PPE orientation
	Suspect COVID pending test/ confirmed COVID positive*	YES	YES	NO	NO	NO	NO	NO

WHAT IS AN AGMP? (AEROSOL GENERATING MEDICAL PROCEDURE)

- ✓ ENDOTRACHEAL INTUBATION/EXTUBATION
- ✓ BAG MASK VENTILATION (BMV)
- ✓ Bronchoscopy, Laryngoscopy
- ✓ AIRWAY SUCTIONING
- ✓ ADMINISTRATION OF NEBULIZED MEDICATIONS

EVENTS DURING WHICH THERE MAY BE AN AGMP IN THE ROOM:

ACLS (CODE BLUE), BIPAP/CPAP, OPTIFLOW

PROTECTED CODE BLUE



Adult Protected Code Blue (PCB) - Ward, ED and CrCU

PROTECTED CODE BLUE TEAM

RESPONDING STAFF ARRIVAL

- Upon arrival: do not rush inside. Don appropriate PPE and enter room with equipment needed to support ongoing resuscitation.
- Team huddle to confirm intubation plan and decision on who will perform the intubation. Brief team with plan, roles and responsibilities.

TO ENTER ROOM

- Protected Code Blue Team Leader Physician
- · Respiratory Therapist
- ED or CrCU Nurse x 2

INTUBATION MUST BE PERFORMED BY MOST EXPERIENCED AIRWAY CLINICIAN

STAFF IN ANTEROOM

(donned in Droplet/Contact PPE)

- RN to assist with mixing medications, passing equipment
- Safety Inspector to control entry and exit to room, verify PPE in place prior to entry, observe PCB Team donning/doffing PPE

ADDITIONAL EQUIPMENT NEEDED

- Video laryngoscope brought to PCB room by RT
- . Defibrillator brought into room if not already there
- · ACLS and intubation medication bundle, equipment bundles brought into room
- · Resuscitation bag with filter
- . Do not bring crash cart into room

PROTECTED CODE BLUE

PROTECTED PROCEDURES

- Place/confirm non-rebreather (NRB) with filter in place, if unavailable use NRB mask.
- . If no pulse, start/continue chest compressions
 - Attach defibrillator, analyze rhythm and shock if indicated
 - Stop resuscitation if confirmed unwitnessed asystolic arrest, when physician ordered.
 - Continue 2-minute chest compression cycles and provide ACLS medications
- Intubate utilizing RSI (if emergent intubation) and video laryngoscopy.
- . If unable to intubate
 - Insert LMA, attach resuscitation bag with filter and ventilate
 - o STAT call anaesthesia for assistance
 - Consider surgical airway
- · Secure endotracheal tube and tape connections
- Wipe down equipment twice. Once in room and then again outside of room.

REMOVAL OF PPE AND DEBRIEF

- In anteroom (or in hall if not available), staff individually remove PPE while observed by Safety Inspector
- Transport team to don fresh Tier 2 PPE (N95/gown/gloves/face shield).
- Team debrief

PLAN FOR TRANSER

- Confirm destination
- · Determine who will transport patient
- · Initiate post-intubation management

PCB SIMPLIFIED INTUBATION DRUG COCKTAIL

DRUG	Up to 100 kg	> 100 kg
Induction: Ketamine	100 mg IV push	150 mg IV push
Neuromuscular blocker: Rocuronium	100 mg IV push	150 mg IV push
Rescue drug for hypotension: Phenylephrine	100 mcg IV push PRN	150 mcg IV push PRN

SCREENING FOR SYMPTOMS/EXPOSURE

- SCREEN AND SCAN COMPUTERS AT HOSPITAL ENTRANCES
- If you develop any symptoms of illness or become aware you have had exposure to COVID-19, CONTACT:

- OCCUPATIONAL HEALTH: OHNURSES@LH.CA
- EDUCATION LEAD DR. K. SRIDHAR: KSRIDHAR@LH.CA
- SITE COORDINATOR PATRICIA SHERWIN: PSHERWIN@LH.CA

APPENDIX 1: PPE FOR SUSPECTED OR CONFIRMED COVID

IPAC Measures for the care of Patients with Suspected or Confirmed COVID-19 by care scenario						
	Providing routine care	Aerosol-generating Medical Procedures (AGMP) ¹	Emergent tracheal intubation and Protected Code Blue			
Personal Protective Equipment (PPE)	Mask with visor/goggles/face shield Level 2 (yellow) gown Gloves (use extended cuff if gown coverage inadequate)	Droplet and Contact + N95, including: N95 fit-tested respirator Face shield or goggles Level 2 (yellow) gown Nitrile gloves (use extended cuff if gown coverage inadequate)	N95 fit-tested respirator Face shield OR Face shield with bib Level 2 gown +/- Bouffant cap Nitrile gloves			
Room Accommodation	Single Patient Room	 Airborne Isolation Room (negative pressure) If not available, single patient room with door closed and Hepa filter If not available, single patient room with door closed 	Airborne Isolation Room (negative pressure) If not available, single patient room with door closed and Hepa filter If not available, single patient room with door closed			
Room Wash Out Period	None See Washout Time following Aerosol Generating Medical Procedure for Suspect or Confirmed COVID-19 Document For settings other than Operating Room: 60 minutes after AGMP For Operating Room: 20 minutes after AGMP					
Cleaning	Hospital Approved Disinfectant					
	See <u>Aerosol-Generating Medical Procedures (AGMP) for Suspected/Confirmed COVID-19 Infection</u>					

APPENDIX 2: AGME'S



Aerosol-Generating Medical Procedures (AGMP) For Suspected/Confirmed COVID-19 Infection

The following list is based on guidance from Public Health Agency of Canada, Public Health Ontario, and Ontario Health, in addition to consensus among Infection Prevention and Control leaders at multiple institutions in Ontario (see footnote) in order to provide more clarity.

	AGMP	Not AGMP		
Description	Procedures that can produce aerosols and have been previously associated with a higher risk of infection transmission	Many of the procedures below can result in coughing and subsequent droplet spread of COVID-19 and should be avoided unless necessary in patients with suspect or confirmed COVID-19 infection		
Type of Precautions	Airborne(N95) + Droplet and Contact Precautions during procedure and washout time after procedure	Droplet and Contact Precautions during procedure and NO washout time		
Procedures	Endotracheal Intubation and Extubation Intubation and Manual Ventilation during Cardiopulmonary Resuscitation/Code Blue High-flow oxygen (AIRVO, Optiflow) Manual ventilation (e.g. bag-mask ventilation) *Avoid where possible Non-invasive ventilation (e.g., CPAP, BiPAP) *Avoid where possible Bronchoscopy (diagnostic or therapeutic) *Avoid where possible Sputum Induction (diagnostic and therapeutic) *Avoid where possible Nebulized medications *Avoid where possible Open airway suctioning (including suctioning of disconnected ventilator circuit or via tracheal device; or, deep insertion for nasopharyngeal or tracheal suctioning) *Avoid where possible Humidified oxygen therapy by large volume nebulizer *Avoid where possible Humidified oxygen therapy by large volume nebulizer *Avoid where possible Autopsy of airway or lung tissue Surgery, including:	Ventilator circuit disconnect Pulmonary function testing Thoracentesis Chest compressions alone Oral suctioning (eg. Yankauer) Collection of nasopharyngeal or throat swab Care for a patient on ventilator Chest tube removal or insertion (unless in the setting of emergent insertion for ruptured lung/pneumothorax) Coughing Oral suctioning Oral suctioning Oral suctioning Oral hygiene Gastroscopy or Colonoscopy Laparoscopy (Gl/pelvic) ERCP Cardiac stress tests Caesarian section or vaginal delivery of baby done with epidural Any procedure done with regional anesthesia Electroconvulsive Therapy (ECT) Transesophageal Echocardiogram (TEE) Nasogastric/nasojejunal tube/ gastrostomy/gastrojejunostomy/jejunostomy tube insertion Bronchial artery embolization Chest physiotherapy (outside of breath stacking) Oxygen delivered by nasal prongs, Venturi masks, oxymasks and non-rebreather masks		

APPENDIX 2: AGME'S

AGMPS: UPDATE FEBRUARY 4TH

- THE MAIN CHANGE IS THE REMOVAL OF MECHANICAL VENTILATION AND VENTILATOR DISCONNECT FROM THE AGMP LIST
- ROOM PRIORITIZATION FOR SUSPECT OR CONFIRMED COVID-19 PATIENTS UNDERGOING AGMPS, INCLUDING NON-INVASIVE VENTILATION, WILL BE IN ORDER OF PREFERENCE:
- 1) AIRBORNE ISOLATION ROOM
- 2) SINGLE ROOM WITH DOOR CLOSED AND EXHAUSTED/DUCTED HEPA FILTER
- 3) SINGLE ROOM WITH DOOR CLOSED (+/- NON-DUCTED HEPA FILTER, IF AVAILABLE)

APPENDIX 3: CODE BLUE PPE



APPENDIX 3: CODE BLUE PPE



Donning Personal Protective Equipment (PPE)

For COVID-19 Protected Code Blue/Pink, Intubation and Bronchoscopy

Protected Code Blue/Pink of patient with confirmed COVID-19 or PUI

Donning Steps: Progress from Steps 1-6

Donning Step and PPE Type

Clean your hands

before reaching for







Instructions

 Use Alcohol Based Hand Rub (ABHR), or soap and water if hands are visibly soiled



N95 Respirator (must be fit tested) and Bouffant





- · Place mask over nose and under chin
- Secure straps
- · Mould metal piece to your nose bridge Perform a seal-check
- · Put on bouffant





- · Choose which face shield you are using (with/without
- Put on face shield.
- · If using Face Shield with Bib, Remove strip from adhesive and press onto scrub top (using adhesive is optional)



Gown



· Put on gown over top of face shield with bib.



Gloves



· Put on gloves, taking care not to tear or puncture gloves





· Recorder will do a visual inspection prior to patient encounter.

APPENDIX 3: CODE BLUE PPE



Protected Code Blue (PCB) Personal Protective Equipment (PPE) Update





APPENDIX 4: BIPAP/CPAP



Guidance for Adult Non-Invasive Ventilation (BIPAP/CPAP) during COVID-19 Pandemic

Clinical Scenario	Guidance	Priority of rooms for non-invasive ventilation. Optimize bed space appropriately prior to moving to next option (1,2,3)	PPE	Consultation Prior to Implementing				
COVID-19 Positive or COVID-19 Status Unknown								
COVID positive or suspected case with moderate/high probability ¹²	Avoid non-invasive ventilation. ²	Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed (Portable HEPA units are not required)	Droplet + Contact + N95 ³ when on machine and washout time	Consult ICU				
Low/Moderate probability of COVID with high suspicion of CHF or non- infectious COPDE ⁴	Carefully consider if felt could be beneficial over intubation.	Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed. (Portable HEPA units are not required)	Droplet + Contact + N95 ³ when on machine and washout time	Consult ICU				
Asymptomatic new admission and COVID test pending with home non-invasive ventilation with clinical consensus non-COVID ⁶	If needed use non-invasive ventilation, including home machine as per usual procedure.	 Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed (portable HEPA units are not required)) 	Droplet + Contact + N95 ³ when on machine and washout time	All should be tested for COVID. Consider withholding, if safe to do so, until testing. If testing is negative, then transition to isolation room and Droplet + Contact when on machine.				
COVID-19 Ruled Out/Resolved								
Acute respiratory failure with 2 or more negative tests and clinical consensus non-COVID	If needed use non-invasive ventilation.	 Semi-private - separate patient spaces with physical barriers (curtains or dividers) Multi-bed room - separate patient spaces with physical barriers (curtains or dividers) 	Droplet + Contact when on machine and NO washout time	Consult IPAC prior to any multi- bed room considerations				
Chronic Respiratory Failure with single negative COVID test, and clinical consensus non-COVID ⁶	If needed use non-invasive ventilation, including home machine as per usual procedure.	 Semi-private - separate patient spaces with physical barriers (curtains or dividers) Multi-bed room - separate patient spaces with physical barriers (curtains or dividers) 	Droplet + Contact when on machine and NO washout time	Consult IPAC prior to any multi- bed room considerations				
Asymptomatic new admission, single negative COVID test with home non- invasive ventilation with clinical consensus non-COVID ⁶	If needed use non-invasive ventilation, including home machine as per usual procedure.	 Semi-private - separate patient spaces with physical barriers (curtains or dividers) Multi-bed room - separate patient spaces with physical barriers (curtains or dividers) 	Droplet + Contact when on machine and NO washout time	Consult IPAC prior to any multi- bed room considerations				

¹E.g. Bilateral CXR infiltrates, fever, respiratory failure, known contact.

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²No strong evidence for non-invasive ventilation in pneumonia, as we learn more about disease this recommendation may change.

³Fitted N95, face shield, level 2 gown (yellow ones), gloves. Can consider bouffant.

⁴No evidence of pneumonia clinically or on imaging, no fever, significant history of CHF or COPD, classic presentation of CHF or COPD.

⁵No other clear reason for respiratory failure plus criterion in 1.

⁶No hypoxic respiratory failure, use of CPAP or BiPAP at home for OSA or other hypercapnic conditions.

APPENDIX 5: OPTIFLOW

Guidance for Adult Use of Heated High Flow Oxygen (HFFO, e.g. Optiflow and AIRVO) during COVID-19 Pandemic

Clinical Scenario	Guidance	Priority of rooms for heated high flow oxygen. Optimize bed space appropriately prior to moving to next option.(1,2,3)	PPE	Consultation
COVID-19 Positive or COVID-19 Status	Unknown			
COVID positive or suspected case with Moderate/High probability ¹	If indicated	 Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed. (portable HEPA units is not required) 	Droplet + Contact + N95 ² when on HHFO and washout time after discontinuation	Consider ICU Consult if over 60% O ₂ Notify IPAC
Low probability of COVID with high suspicion of CHF or non-infectious COPDE	If indicated	 Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed. (portable HEPA units is not required) 	Droplet + Contact + N95² when on HHFO and washout time after discontinuation	Consider ICU Consult if over 60% O ₂ Notify IPAC
COVID-19 Ruled Out/Resolved				
COVID-19 negative and clinical consensus non-COVID ³	If indicated	 Semi-private - separate patient spaces with physical barriers (curtains or dividers) Multi-bed room - separate patient spaces with physical barriers (curtains or dividers) 	Droplet + Contact when on HHFO and NO wash out time	Consult IPAC prior to any multi-bed considerations

¹E.g. Bilateral CXR infiltrates, fever, respiratory failure, +/- exposure.

²Fitted N95, face shield, level 2 gown (yellow ones), gloves. Can consider bouffant.

³This also applies for tracheostomy patients

APPENDIX 6: TRACHEOSTOMY SUCTIONING

Guidance for Adult Tracheostomy Suctioning during COVID-19 Pandemic

Clinical Scenario COVID-19 Positive or COVID-19 Status	Guidance	Priority of rooms Tracheostomy suctioning. Optimize bed space appropriately prior to moving to next option.(1,2,3)	PPE	Consultation
COVID positive or suspected case with Moderate/High probability ¹	If indicated	 Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed. (portable HEPA units is not required) 	Droplet + Contact + N95 ² when suctioning and washout time after procedure	Consider ICU Consult
Low probability of COVID with high suspicion of CHF or non-infectious COPDE	If indicated	 Airborne infection isolation room (AIIR) with negative pressure and anteroom Single room with HEPA unit ducted to exhaust system or exhausted outside Single room and door closed (portable HEPA units are not required) 	Droplet + Contact + N95 ² when suctioning and washout time after procedure	Consider ICU Consult
COVID-19 Ruled Out/Resolved				
COVID-19 negative and clinical consensus non-COVID	If indicated	 Semi-private - separate patient spaces with physical barriers (curtains or dividers) Multi-bed room - separate patient spaces with physical barriers (curtains or dividers) 	Droplet + Contact and NO wash out time	Consult IPAC prior to any multi-bed considerations

¹E.g. Bilateral CXR infiltrates, fever, respiratory failure, +/- exposure.

²Fitted N95, face shield, level 2 gown (yellow ones), gloves. Can consider bouffant.