Guide to Surgery and Procedural Workflows

COVID Positive, Presumptive Positive and PUI Patients

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# Table of Contents

## Workflows
- Guiding Principle/Transportation Key Elements .............................................................................. Page 3
- Operating Room .................................................................................................................................. Page 4
- Endoscopy ........................................................................................................................................ Page 8
- EP ................................................................................................................................................... Page 10
- Labor and Delivery .............................................................................................................................. Page 15
- Cardiovascular Unit ............................................................................................................................ Page 19
- Cardiology ......................................................................................................................................... Page 20
- Interventional Radiology ................................................................................................................... Page 24
- Dialysis ............................................................................................................................................... Page 28
- Bronchoscopy ..................................................................................................................................... Page 31
- Outpatient Admission to Discharge Home
  - Labor and Delivery .......................................................................................................................... Page 32
  - EP and Surgery ............................................................................................................................... Page 34
  - EP Device Check ............................................................................................................................. Page 36

## Resource Documents
- Endoscopy Travel Cart Cleaning ........................................................................................................ Page 37
- Operating Room Roles/.Tasks for COVID Positive, Presumptive Positive or PUI Patients... Page 38
- Perioperative PPE with FIT Style Mask Donning and Doffing Steps for Scrub Role........... Page 40
- Perioperative PPE with FIT Style Mask Donning and Doffing Steps for Non Scrub Role...... Page 41
- Perioperative PAPR (Under Gown)/PPE Donning and Doffing Steps for Any Periop Role.... Page 42
- Perioperative Intubation and Extubation Non COVID Patients..................................................... Page 43
- Perioperative Intubation and Extubation PUI and COVID Positive Patients.......................... Page 44
- Anesthesia Process for Intubation and Extubation for PUI and COVID Positive Patients.... Page 45
- Pre-Huddle For COVID-19 Positive Patient Checklist ................................................................. Page 46
Guiding Principle
Any procedure, when possible, should be performed in the patient’s room to minimize exposure—locations and staff.

Transportation: Key Elements (Refer to Intra-Hospital Transport Workflow and Protocol for Transportation of Ventilated NON COVID Patients to ICU)
* Sending department to prepare patient for transport to surgery/procedure area, including any necessary equipment:
  o Clean and disinfect the surfaces of the stretcher that will be touched during transport
  o Moves patient from the bed to stretcher
  o A surgical mask must be placed on the patient
  o Prior to transport call the ANC (Pager 0702) who will coordinate with security and RT as needed. Security to assist with clearing the halls for transport
  o Oxygen Devices for Transport
    o Patients actively on BIPAP, HFNC, Venturi Mask, and Oxymizer cannot be transported through the hospital
    o Oxygen devices permissible to transport the patient through the hospital with a surgical mask barrier in place include Nasal Cannula (NC) and Non Rebreather (NRB)
  o Intubated patient
    o Immediately attach and ventilate with a transport ventilator with following system set up:
      ▪ HME between ETT and Y piece to drape vapor/droplets
      ▪ Viral filter on expiratory limb pre-transport vent to limit exposure to internal aspects of ventilator and release of virus into room
      ▪ Transport to non-negative pressure operating room for care
      ▪ Clamp the ETT when transferring from transport to OR ventilator and back (if applicable)

*Preparing our UVMMC staff:
  o Follow appropriate PPE guidelines
    o Gown, gloves, face shield
  o Mask - **Contact 847-9911 for Just In time Fit Testing is Needed**
    o PUI Non Aerosol = Universal N95 or surgical mask
    o PUI Aerosol = N95 Respirator and face shield/PAPR
    o Positive/Confirmed = N95 Respirator/PAPR

* Receiving unit sends “clean team” to transport patient to their destination
* Following completion of the procedure, the receiving unit sends “clean team” to transport the patient back to their room

**CLEANING** - PUI/Positive COVID-19 procedural room cleaning: All procedural/surgical rooms have to sit for **30 minutes prior to cleaning.**
Operating Room:

* MPU 1 is the **primary negative pressure room**

* MPU 3 and MOR 6 are additional negative pressure rooms if needed

*A Pre-Huddle will be arranged by the Leader on Call to include the surgeon, anesthesiologist, OR nurses, and PACU nurses

* The surgeon should limit the number of assistants to as few as possible (none preferred). No unnecessary residents, learners etc. are permitted.

Intubation and Procedure:

PUI and COVID Positive Patient:
- Anesthesia to don PAPR or fit-tested N95* (see below) and full PPE
- Intubate in negative pressure room, MPU 1 (primary room)
- Patient remains in MPU1 unless requires specialty room with transport Ventilator
- Surgeons and nurses to wear fit-tested N95* and full PPE during procedure

Non-COVID Patient
- Anesthesia to don PAPR or fit-tested N95* with full PPE
- Intubate in OR room with only anesthesia in room
- Surgical Tech should cover instruments on the field prior to exiting the room
- Once intubated, wait 10 min
- Circulating nurse should set a timer and will constantly observe anesthesia providers during this process from outside the room
- Then other OR team members, wearing standard OR attire, enters room
- For Spinal/Regional Anesthesia, patient to wear surgical mask for entire procedure (staff including Anesthesia with standard OR attire)

Extubation and Post-op:

PUI and COVID Positive Patient:
- Upon completion of the procedure, if patient was in a specialty room; move back to negative pressure room, MPU 1 (primary) for extubation
- In fit-tested N95 and full PPE*, anesthesia extubates patient.
- Patient is put in surgical mask
  - If patient is going home or to M6, PACU RN recovers patient in OR
  - If patient going to ICU, patient is recovered in ICU. *** see Intra-Hospital Transport Guideline
- Recovery room staff: wear fit-tested N95* and full PPE
- After extubation, 30 minute wait period prior to cleaning
Non-COVID Patients:
- Upon completion of the procedure, patient is moved to transport stretcher
- Everyone except anesthesia providers leave OR
- Anesthesia (continue with fit-tested N95 with full PPE*) extubates patient
- Place surgical mask on patient and wait 10 minute prior to patient transport
- Circulating nurse should set a timer and will constantly observe anesthesia providers during this process from outside the room
- Patient then transferred to PACU
- PACU staff: if patient coughing, maintain surgical mask on patient and staff wear fluid shield (eye protection attached to surgical mask)
- No need for further wait time in OR prior to cleaning

For Patients Moved from Periop to McClure 3, and All other Extubations on McClure 3
- RT (and all other providers in room) don fit-tested N95 and face shield, gown and gloves during extubation in private room only (not in open PSCU or M301-305).
- RT places sign on door indicating need for N95/face shield (full PPE) and closed door for 1 hour following extubation.

*Note:
- One Fit-tested N95 is to be used all day by one user for multiple patients.
- Use a Face shield over fit-tested N95 mask; face shield to be cleaned with Oxyvir between each patient OR
- Eye protection WITH surgical mask (e.g. Fluid shield or goggles combined with surgical mask) over Fit-tested N95; new surgical mask for each patient and throw away surgical mask after each encounter

Anesthesia Process for COVID Positive and PUI (patient under investigation)
- Intubated and extubated in negative pressure rooms MPU 1 (primary)
- Will do procedure in MPU 1 (primary) unless needing a specialized room.
- Minimize people in the room – only people participating in the intubation and extubation procedure
- If in negative pressure room (MPU 1, MPU3, OR 6): use room anesthesia machine with inhalational agent.
- If in specialty OR (positive pressure room): Use transport LTV vent for use to the OR instead of room anesthesia machine for entire procedure and Anesthesia will do a TIVA.
- Use inline suction set up on all these patients
  - In the instance where the intubation is occurring in negative pressure room and the patient needs to move to another specialty room, there will be an intubation team that and hands over to the surgical and new anesthesia – keeping clean and dirty separate and in keeping with all transport standards.
  - Transport ventilator needs to be appropriately filtered for use in hallways and positive pressure room.
  - Plan for filter change/exchange should be made with respiratory therapy as needed.
Inpatient/ ED Direct to OR for PUI or COVID Positive

Pre-Op Preparation
- Floor nurse/ED Nurse
  - Completes pre-op preparation using Pre-op Checklist
  - Places surgical mask on patient
- Members of the surgical team (Anesthesia Provider and Nurse) who will be involved in the case arrive at patient’s room and wait outside room to receive patient from floor nurse to transport to OR
  - Surgical team brings clean stretcher and hands over to nurse in room
  - Nurse(s) in room transfers patient to stretcher
  - Surgical team dons full PPE attire per guidelines
    - Gown
    - Gloves
    - Face shield
    - Mask
      - PUI Non Aerosol = Universal N95 or surgical mask
      - PUI Aerosol = N95 Respirator/PAPR
      - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- Surgical team accepts patient from floor nurse outside patient’s room

Transport
- Surgical team transports patient directly to MPU 1 (primary)
- Patient is brought directly into the room by the surgical team
- Patient is transferred to surgery/procedure bed if indicated
- Transport stretcher remains in the room. Do not place in hallway.

Procedure
- N95 Respirator and PAPR available in room if needed
- Intubation and Extubation
  - All staff change to Aerosol Generating PPE = N95 Respirator/PAPR
  - Only Anesthesia is in room for intubation or extubations

Recovery
- Anesthesia provider present during case remains with patient
- PACU Nurse arrives in OR
  - Dons full PPE attire per guidelines
    - Gown
    - Gloves
    - Face shield
    - Mask
      - PUI Non Aerosol = Universal N95 or surgical mask
      - PUI Aerosol = N95 Respirator/PAPR
      - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- Patient recovers in the OR room with the Anesthesia Provider and PACU Nurse present
- Patient ready for transfer when discharge criteria met
- Place surgical mask on patient
Anesthesia provider and PACU Nurse transfer patient to a clean stretcher
  o  Clean stretcher following standard precautions

Transport
  o  Clean team comes to OR to pick up patient in appropriate PPE attire
  o  Clean anesthesia in appropriate PPE attire receives patient from the OR room
  o  Nurse/provider from floor will meet with clean anesthesia to receive patient outside restricted zone and will transport patient to their room
    o  Dons full PPE attire per guidelines
      ▪  Gown
      ▪  Gloves
      ▪  Face shield
      ▪  Mask
        •  PUI Non Aerosol = Universal N95 or surgical mask
        •  PUI Aerosol = N95 Respirator/PAPR
        •  Presumptive Positive/Confirmed = N95 Respirator/PAPR
  o  Floor nurse accepts patient at patient’s room

OR Room Cleaning
  o  OR room needs to remain empty for 30 minutes prior to cleaning
  o  Cleaning process follows Standard Precautions procedure
  o  If PAPR used during case, follow cleaning procedure outline in Powered Air Purifying Respirator (PAPR) Fact Sheet

Contacts: Stephen Godbout and Don Mathews
Endoscopy

* Procedure to be performed in patient’s room

* All Endoscopy procedure rooms are negative procedure

*Procedure Room #7 to be designated room for COVID Positive or Presumptive Positive Patients if needed

* MPU 1 (primary), MPU 3, or MOR 6 can be used if trying to minimize number of locations where procedures are being performed. Operating Room inpatient/ED workflow to be followed.

Inpatient/ ED for PUI or COVID Positive

Arrival on Floor

- Endoscopy team arrives at patient’s room with Endoscopy Travel Cart
  - Stock cart with minimal supplies needed
  - Keep extra supplies outside room if indicated
- Prior to entering the room the staff dons full PPE attire per guidelines and follows proper donning and doffing protocol
  - Hand hygiene
  - Gown
  - Gloves
  - Face shield
  - Mask
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR

Post Procedure *see Endoscopy Travel Cart Cleaning Workflow

- Clean scope in patient’s room per protocol and place in closed container:
  - Policy INFC 00002: Cleaning, Sterilization, Disinfection and Transport of Instruments
  - INFC 101: Flexible and Semi Rigid Endoscopic Guidelines for Cleaning and High Level Disinfection
- When case is complete leave PPE on (either in ante room or close to the door if no ante room)
- Doff gloves, perform hand hygiene, doff gown
- Perform hand hygiene and don clean gloves and gown
- Clean travel cart and outside of tray holding scope with Oxivir wipes except Dispatch for C-Diff
- Remove gloves, gown, and perform hand hygiene
- Step out of room and perform hand hygiene
- Don clean gloves
- Doff face shield and clean with Oxyvir wipe
- Doff gloves and perform hand hygiene
- Doff mask
Save in paper bag labelled on one side with name/date/type of respirator
- Don new gloves
- Re-clean Travel Cart and outside of try holding the scope using Oxivir wipes except Dispatch for C Diff
- Perform hand hygiene

Recovery
- Floor nurse/ED Nurse recovers patient in room

Contacts: Mary Brennan and Richard Zubarik
**EP: Inpatient**

*Procedures will be performed in MPU 1 (primary), MPU 3, or MOR 6 which are negative pressure rooms*

**Inpatient/ ED Direct to OR - COVID positive or PUI**

**Pre-Op Preparation**
- Floor nurse/ED Nurse
  - Completes pre-op preparation using Pre-op Checklist
  - Places surgical mask on patient
- Members of the procedural team (Nurses) who will be involved in the case arrive at patient’s room and wait outside room to receive patient from floor nurse to transport to OR
  - Procedural team brings clean stretcher and hands over to nurse in room
  - Nurse(s) in room transfers patient to stretcher
  - Procedural team dons full PPE attire per guidelines
    - Gown
    - Gloves
    - Face shield
    - Mask
      - PUI Non Aerosol = Universal N95 or surgical mask
      - PUI Aerosol = N95 Respirator/PAPR
      - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- Procedural team accepts patient from floor nurse outside patient’s room

**Transport**
- Following transport guidelines on page 3. The Procedural team transports patient directly to MPU 1 (primary), MPU 3, or MOR 6
- Patient is brought directly into the room by the procedural team
- Patient is transferred to surgery/procedure bed if indicated
- Transport stretcher remains in the room. Do not place in hallway. Remains in room and is cleaned at the time that the room is cleaned.

**Procedure**
- All Members of the procedural -
  - Procedural team dons full PPE attire per guidelines
    - Gown
    - Gloves
    - Face shield
    - Mask
      - PUI Non Aerosol = Universal N95 or surgical mask
      - PUI Aerosol = N95 Respirator/PAPR
      - Presumptive Positive/Confirmed = N95 Respirator/PAPR
  - Scrub personal do not enter room until scrubbed to minimize PEE use.
- Staff member will be outside the room in PPE to hand in supplies if needed. This person will also assist with transporting the patient back to the unit.

**Urgent Intubation - NON COVID**
- N95 Respirator and PAPR available in room if needed
  - All staff change to Aerosol Generating PPE = N95 Respirator/PAPR
  - All personnel (except anesthesia team) is encouraged to stand a minimum of 6 feet away from patient’s head (6 foot radius) and any other time where there is a higher likelihood of contamination with droplets.

**Planned Intubation and Procedure:**

**PUI and COVID+:**
- Anesthesia to don PAPR or fit-tested N95* (see below) and full PPE
- Intubate in negative pressure room MPU 1 (primary), MPU 3, or MOR 6
- Patient remains in MPU 1 (primary) unless requires specialty room with transport ventilator
- Surgeons and nurses to wear fit-tested N95* and full PPE during procedure

**Non-COVID Patient**
- Anesthesia to don PAPR or fit-tested N95* with full PPE
- Intubate in OR room with only anesthesia in room
- Surgical Tech should cover instruments on the field prior to exiting the room
- Once intubated, wait 10 min
- Circulating nurse should set a timer and will constantly observe anesthesia providers during this process from outside the room
- Then other OR team members, wearing standard OR attire, enters room
- For Spinal/Regional Anesthesia, patient to wear surgical mask for entire procedure (staff including Anesthesia with standard OR attire)

**Extubation and Post-op:**

**PUI and COVID+:**
- Upon completion of the procedure, if patient was in a specialty room; move back to negative pressure room, MPU 1 (primary), MPU 3, or MOR 6 for extubation
- In fit-tested N95 and full PPE*, anesthesia extubates patient.
- Patient is put in surgical mask.
  - If patient is going home or to M6, PACU RN recovers patient in OR.
  - If patient going to ICU, patient is recovered in ICU. *See Intra-Hospital Transport Guidelines
- Recovery room staff: wear fit-tested N95* and full PPE
- After extubation, 30 minute wait period prior to cleaning

**Non-COVID Patients:**
- Upon completion of the procedure, patient is moved to transport stretcher
- Everyone except anesthesia providers leave OR
- Anesthesia (continue with fit-tested N95 with full PPE*) extubates patient
- Place surgical mask on patient and wait 10 minute prior to patient transport
- Circulating nurse should set a timer and will constantly observe anesthesia providers during this process from outside the room
- Pt then transferred to PACU
- PACU staff: if patient coughing, maintain surgical mask on patient and staff wear fluid shield (eye protection attached to surgical mask)
- No need for further wait time in OR prior to cleaning

*Note: One Fit-tested N95 is to be used all day by one user for multiple patients.
- Use a Face shield over fit-tested N95 mask; face shield to be cleaned with Oxivir between each patient
- Eye protection WITH surgical mask (e.g. Fluid shield or goggles combined with surgical mask) over Fit-tested N95; new surgical mask for each patient and throw away surgical mask after each encounter

**Recovery and transport – EP cases done with Conscious sedation**

- 2 EP Staff Nurse(s)/ physician remain with patient
- Patient recovers in the OR room with EP Nurse(s) and Physician
- The 2 EP staff stay with patient
- The 2 staff that will be transporting the patient doff contaminated PPE inside the room
- Remove mask outside of the room
- Don clean PPE Outside the OR the nurses don full PPE attire per guidelines in preparation to transport the patient back to room
  - Gown
  - Gloves
  - Face shield
  - Mask
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- Transport team brings clean stretcher and hands over to nurse in room
- Nurse(s)/ physician in room transfers patient to stretcher
- Place surgical mask on patient
- Nurse(s)/physician in room hand patient over to staff in clean PPE
- Following transport guidelines on page 3. Staff in clean PPE transport patient
- Floor nurse accepts patient at patient’s room
- EP nurses remove PPE attire before exiting the room

**Recovery – EP Cases done with anesthesia**

- Anesthesia provider present during case remains with patient
- PACU Nurse arrives in OR
  - Dons full PPE attire per guidelines
    - Gown
    - Gloves
    - Face shield
Mask
- PUI Non Aerosol = Universal N95 or surgical mask
- PUI Aerosol = N95 Respirator/PAPR
- Presumptive Positive/Confirmed = N95 Respirator/PAPR

- Patient recovers in the OR room with the Anesthesia Provider and PACU Nurse present
- Patient ready for transfer when discharge criteria met
- Place surgical mask on patient
- Anesthesia provider and PACU Nurse transfer patient to a clean stretcher
  - Clean stretcher following standard precautions

Transport
- Anesthesia Provider and PACU Nurse remove PPE attire before exiting the room
- Anesthesia Provider and PACU Nurse dons full PPE attire per guidelines for transport of patient back to room
  - Gown
  - Gloves
  - Face shield
  - Mask
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR

- Floor nurse accepts patient at patient’s room
- Anesthesia Provider and PACU Nurse remove PPE attire before exiting the room

OR Room Cleaning
- OR room needs to remain empty for 30 minutes prior to cleaning
- Cleaning process follows Standard Precautions procedure
- If PAPR used during case, follow cleaning procedure outline in Powered Air Purifying Respirator (PAPR) Fact Sheet

Pacemaker/ ICD check for Covid-19 positive or PUI

Routine device checks will not be preformed

Device checks can be done to trouble shoot suspected device malfunction and/or to reprogram a device if such changes are clinically relevant to the patient’s condition.

Consider Magnet application to disable ICD therapies if needed.

Checks are to be done by UVMMC staff only (no industry representatives)

Procedure
- Device checks should be done at the bedside.
- The patient should wear a mask throughout the device check

- The check should be performed by a single person EP MD/ nurse or fellow.

- Prior to entering the room the person checking the device should don full PPE attire per guideline
  - Gown
  - Gloves
  - Face shield
  - Mask
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR

- When check is complete leave PPE on - either in anti-room or close to the door (in rooms without an anti-room) doff gloves sanitize hands and don clean gloves

- Sanitize programmer and thumb drive w/ dispatch or Oxivir – allow proper dwell time (at least 1 minute)

- Pass programmer out of room to clean staff wearing gloves and gown. Clean person to sanitize programmer again w/ dispatch or Oxivir.

- Staff in the room doff gloves, doff gown - step out of room sanitize hands Don clean gloves – doff face shield, doff mask, doff gloves

- Sanitize hands.

Contact: Sue Calame
Labor and Delivery

*A sign will be placed on the door of ALL COVID/PUI rooms. If you see the sign, limit exposure. Feel free to check in with charge RN for clinical details. L&D has an iPad with Zoom for virtual anesthesia and NICU consults.

*Charge RN is expected to call anesthesiology team when COVID/PUI patients arrive on M7.

*Scheduled CD for COVID/PUI will occur in MPU 1 (Primary): Baby MPU 2.

*If unscheduled CD indicated in COVID/PUI patient, CD will likely occur in the M7 OR 1.

*If emergent CD indicated, this will occur in M7 OR 1.

*When possible, neuraxial anesthesia is the best option; however, GETA is sometimes indicated for fetal or maternal compromise.

*PPE is indicated for all “invasive procedures,” intubation/extubation.

*When intubating a COVID/PUI, the most experienced anesthesiology provider should be performing the intubation/extubation. All other providers should be outside of the OR during these procedures; use clinical judgement in these patients... OB patients are 8X more likely to have difficult airway.

*COVID/PUI patients laboring will be placed in room 9, if feasible, converted to negative pressure.

*L&D Rooms 9 & 10 are able to be converted to negative pressure rooms. Room 9 will be the primary labor room for COVID + or PUI patients and Room 10 a triage room/back up labor room. Room 11, neutral pressure, will be set up for neonatal resuscitation. The fire doors will be closed on the back hallway of the unit to limit traffic through this area if we have COVID + or PUI patients.

Scheduled C Section

*Patient admitted to McClure 6; If mom refuses separation from baby- pre-op/PACU to occur on either L&D or Baird 7
* MOR 5 to be used for baby evaluation by NICU Team
* Baby considered PUI status at birth
Need to communicate with OR team as OR 5 is often utilized for other cases.
May consider performing the scheduled CS on M7 if M6 is full and/or Main OR not available.

Pre-Op Preparation (L&D RN to be PRE-OP RN)
- Labor and Delivery nurse will complete Pre-op on McClure 6 (if bed available)
  - Completes pre-op preparation using Pre-op Checklist
  - Consents to be done over phone or iPad; RN in room to support and obtain signature
  - Places surgical mask on patient
  - Transfers patient to stretcher

- Members of the obstetrical surgical team who will be involved in the case arrive at patient’s room and wait outside room to receive patient from labor and delivery nurse to transport to OR
Obstetrical team brings clean stretcher and hands over to nurse in room

Obstetrical team dons full PPE attire per guidelines in preparation to transport patient
- Gown
- Gloves
- Face shield
- Mask
  - PUI Non Aerosol = Universal N95 (not fit tested) or surgical mask
  - PUI Aerosol = Fit tested N95 Respirator/PAPR
  - Presumptive Positive/Confirmed = Fit tested N95 Respirator/PAPR

Obstetrical team accepts patient outside patient room

Transport
- Obstetrical team transports patient directly to MPU 1 in full PPE attire
- Patient brought directly into room by obstetrical team
- Patient transferred to surgery/procedure bed if indicated
- Transport stretcher remains in the room. Do not place in hallway.

Procedure (L&D RN to be Baby RN; OR RN to be Circulator)
- N95 Respirator and PAPR available in room if needed
- NICU Team stands ready to receive baby outside OR room MPU 2
  - Dons full PPE attire for Droplet Precautions
    - Gown
    - Gloves
    - Face shield
    - Mask - Universal N95 or surgical mask
- Obstetrical team in MPU 1
  - Main OR Nurse = Circulator
  - L&D RN = Baby Nurse
  - Anesthesia Provider
  - OB Surgeon
- Intubation and Extubation if applicable
  - All staff change to Aerosol Generating PPE = Fit Tested N95 Respirator/PAPR
  - All personnel (except anesthesia team) is encouraged to stand a minimum of 6 feet away from patient’s head (6 foot radius) and any other time where there is a higher likelihood of contamination with droplets.
- Baby nurse places baby in awaiting clean PRAM to NICU team at doorway of the OR
- NICU team brings newborn to MPU 2 to evaluate baby

Recovery (L&D RN to be PACU RN)
- Mom returns to McClure 6 for recovery (or same location that pre-op completed)
  - Place surgical mask on mom
  - Clean stretcher following standard precautions
  - Transfer mom to stretcher
- Baby to return to Mother Baby Unit (Baird 7) or NICU as indicated. Transport via isolette.
- If mom declines separation from newborn, recovery to occur on M7 or B7 as appropriate.
Transport
  - Obstetrical team and NICU team remove PPE attire before exiting the room
  - Each team dons full PPE attire per guidelines for transport of mom and baby back to rooms
    - Gown
    - Gloves
    - Face shield
    - Mask
      - Baby – Universal N95 (non-fit tested) or surgical mask
      - Mom
        - PUI Non Aerosol = Universal N95 or surgical mask
        - PUI Aerosol = Fit Tested N95 Respirator/PAPR
        - Presumptive Positive/Confirmed = Fit Tested N95 Respirator/PAPR
  - L&D nurse recovers patient in room
  - Baird 7 or NICU nurse accepts baby and places in isolation
  - Obstetrical team and NICU team remove PPE attire before exiting the room

OR Room Cleaning
  - OR room needs to remain empty for 30 minutes prior to cleaning
  - Cleaning process follows Standard Precaution procedure

Emergency C-Section to occur in M7 OR: Shared decision making with obstetric and anesthesiology team- all urgent and emergent cases to occur in M7 OR.

* Patient admitted to McClure 7 Labor and Delivery
* To use McClure 7 OR. This room is not negative pressure
* Baby considered PUI status

Pre-Op Preparation - L&D RN to be Pre-OP RN
  - Labor and Delivery nurse
    - Completes pre-op preparation using Pre-op Checklist
    - Places surgical mask on patient
    - Patient transported to M7 OR on Labor Bed (per usual procedure)
  - Members of the obstetrical team who will be involved in the case arrive at patient’s room and wait outside room to receive patient from labor and delivery nurse to transport to Main OR
    - Dons full PPE attire per guidelines
      - Gown
      - Gloves
      - Face shield
      - Mask
        - PUI Non Aerosol = Universal N95 or surgical mask
        - PUI Aerosol = N95 Respirator/PAPR
        - Presumptive Positive/Confirmed = N95 Respirator/PAPR
  - Obstetrical team accepts patient outside room
  - Anesthesiology team meets Patient and OB team in the OR
Transport
- Obstetrical team transports patient directly into operating room
- Patient transferred to surgery/procedure table
- Labor Bed to be brought back to patient room (Room 9 or 10)-not to remain in hallway.

Procedure- L&D RN to remain Circulator in M7 OR
- Fit Tested N95 Respirator and PAPR available in room if needed
- NICU Team stands ready to receive newborn in set up resuscitation room (room 11)
  - Dons full PPE attire for Droplet Precautions
    - Gown
    - Gloves
    - Face shield
    - Mask - Universal N95 or surgical mask
- Intubation and Extubation if applicable
  - All staff change to Aerosol Generating PPE = N95 Respirator/PAPR if not already donned.
  - All personnel (except anesthesia team) is encouraged to stand a minimum of 6 feet away from patient’s head (6 foot radius) and any other time where there is a higher likelihood of contamination with droplets.
  - Baby nurse places baby in awaiting isolette for transfer to the resuscitation room where NICU is waiting

Recovery - L&D RN to be PACU RN per usual M7 protocol
- Mom returns to McClure 7 Labor and Delivery for recovery
  - Place surgical mask on mom
  - Clean stretcher following standard precautions
  - Transfer mom to stretcher
- Baby to return to Mother Baby Unit (Baird 7) or NICU
  - Place baby in isolette for transport
  - If mom declines separation, keep newborn with healthy caregiver in recovery room

Transport
- Obstetrical team and NICU team remove PPE attire before exiting the room
- Each team dons full PPE attire per guidelines for transport of mom and baby back to rooms
  - Gown
  - Gloves
  - Face shield
  - Mask
  - Baby = Universal N95 or surgical mask
  - Mom
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- L&D nurse recovers patient in room
- Baird 7 or NICU nurse accepts baby and places in isolation or with healthy caregiver if refusing separation

OR Room Cleaning
- OR room needs to remain empty for 30 minutes prior to cleaning
Cleaning process follows Standard Precaution procedure

**Laboring/Unscheduled C-Section:** Shared decision-making with obstetric team and anesthesiology team re: optimal operating room (likely M7 OR 1, consider main OR – MPU 1)

* Patient admitted to McClure 7 Labor and Delivery
* If main OR- MPU 2 to be used for baby evaluation by NICU Team
* Baby considered PUI status

*IF surgery to Occur in the Main OR- follow Scheduled CS workflow with exception of Pre-Op and PACU care occurring on M7.

*IF surgery to Occur on M7 OR- follow Emergency CS workflow

**Contact:** Sandra Sperry

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**Cardiovascular Unit (CVU)**

* No COVID positive or presumptive positive cases
* No direct admits for urgent day cardiac catheterization. Patients being admitted to Miller 4.

**Contact:** Gayle Hagen-Peter
Cardiology

STEMI Activations in the Field, Transferred from another Hospital, or the Emergency Department:

1. EMS team provides patient update to ED communication Center to include the following:
   a. ETA
   b. **COVID Status**
      ED Communication Center to ask:
      What is the patient’s COVID-19 status?
      i. COVID: positive
         ▪ Confirmed positive
      ii. COVID: PUI
         ▪ COVID test is ordered and results pending
      iii. COVID: needs review
         ▪ Team to huddle and evaluate patient COVID status
   c. STEMI status

2. ED Communication Center activates STEMI team to include COVID status as above

3. The Emergency Medicine Attending will screen all STEMI patients on arrival and will communicate the patient disposition or any diversion with the Interventional Cardiology Attending/fellow prior to the patient coming to the Cath lab. (This does not apply to patients self-presenting directly to the Emergency Department)
   a. If the Patient is unstable, they will be brought immediately in the emergency department for evaluation
   b. If the patient is found to be febrile or screens positive for COVID, or EKG and history **NOT** consistent with STEMI, the patient will be diverted into the emergency department.

4. Interventional Cardiologist will inform Cath lab call team of patient status.

**COVID positive or PUI**

1. Cath Lab Team arrives to Cath Lab and preps room 3.

2. The receiving unit care team (CATH lab team) will transport the patient to the procedural area. The emergency department will call the ANC to coordinate patient transfer to the cath lab. Security will assist in clearing the hallways for transport
I. When staff have arrived and the Cath Lab is prepped, the Cath Lab team will arrive to the ED with PPE donned to transport the patient to the Cath Lab.

II. If another staff member is necessary for transport, the ED charge RN will identify a staff member to assist with transport.

3. Patients actively on BIPAP or HFNC cannot be transported through the hospital
   - It is permissible to transport the patient through the hospital on the following oxygen devices with a surgical mask as an external barrier:
     - Non Rebreather Mask (NRB)
     - Nasal Cannula (NC)

4. Once the case is complete and the patient is ready for transport, the receiving unit care team (M4) will transport the patient to the inpatient unit. The Cath Lab team will call the ANC to coordinate patient transfer. Security will assist in clearing the hallways for transport.
   - The Cath Lab will call the unit (M4) receiving the patient and the unit care team will arrive to the Cath Lab and don PPE for transport.

NOT Positive or PUI

1. The patient meets all three criteria, as determined by the Emergency Medicine Attending evaluation in the ambulance bay
   I. Afebrile
   II. COVID screening negative
   III. EKG and history consistent with STEMI

2. Cath Lab Team arrives to Cath Lab and preps room 3

3. The Emergency Medicine Attending will notify the interventional Cardiology Attending/Fellow the patient has been cleared for arrival to the CATH lab, in the event the Interventional Cardiology Attending/Fellow does not come to the ED.

4. The patient will go to the CATH lab from the ambulance bay or emergency department

5. The Cath lab on call team will call the ED when they are ready to accept the patient

6. EMS or the Emergency Department will transport the patient to the Cath lab

7. Once the case is complete and the patient is ready for transport to their inpatient unit, the Cath lab team will transport the patient to the receiving unit
STEMI Activations on Inpatient Unit:

The Cardiology Fellow will be stat consulted for any suspected STEMI, and will activate a STEMI alert as deemed appropriate.

1. STEMI Team activated to include the following information:
   a. **COVID Status**: PAS to ask:
      - What is the patient’s COVID-19 status?
        a. COVID: positive
           ▪ Confirmed positive
        b. COVID: PUI
           ▪ COVID test is ordered and results pending
        c. COVID: needs review
           ▪ Team to huddle and evaluate patient COVID status
   b. STEMI Status

2. Cath Lab Team arrives to Cath Lab and preps room 3

3. The Cardiology fellow will review with the Interventional Cardiology Attending prior to patient transport to the Cath Lab.

4. **If patient is COVID+ or PUI** the receiving unit care team (CATH lab team) will transport the patient to the procedural area. The sending unit will call the ANC to coordinate patient transfer. Security will assist in clearing the hallways for transport.

   - Once room 3 in the Cath lab is prepped, the Cath team will don PPE and go to the patients unit to transport the patient to the Cath Lab.
   - If another staff member is necessary for transport, the primary RN and/or charge RN will don clean PPE and assist with transport

Patients actively on BIPAP or HFNC cannot be transported through the hospital

   - It is permissible to transport the patient through the hospital on the following oxygen devices with a surgical mask as an external barrier:
      1. Non Rebreather Mask (NRB)
      2. Nasal Cannula (NC)

5. **If patient is NOT PUI or COVID+, the Cath lab will call the sending unit when they are ready to receive the patient and the sending unit (or appropriate emergency team) will transport the patient to the Cath lab**
6. **Post Cardiac Cath**

   **If Patient is COVID + or PUI:**
   - Once the case is complete and the patient is ready for transport, the receiving unit care team (M4) will transport the patient to the inpatient unit. The Cath lab will call the ANC to coordinate transport. Security will assist in clearing the hallways for transport.
   - The Cath Lab will call the unit (M4) receiving the patient and the unit care team will arrive to the Cath Lab and don PPE for transport

   **If patient is NOT PUI or COVID +:**
   - Once the case is complete and the patient is ready for transport to their inpatient unit, the Cath lab team will transport the patient to the receiving unit.

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*Protocol developed with input from: Harry Dauerman MD, Ramsey Herrington MD, Mariah McNamara MD, Karen McKenny RN, Kristin Baker RN, Liz Devlin RN, Gil Allen MD, Lauren Rolandini RN, Becca Wilson RN*

*Reviewed by: Kristin Baker RN, Harry Dauerman MD, Liz Devlin RN, Ramsey Herrington MD, Karen McKenny RN, Mariah McNamara MD*

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*Contacts: Karen McKenny and David Schneider*
Interventional Radiology

Transport Guidelines: Procedure that is requested on a positive or presumed positive Covid-19 patient.

IR team will determine COVID status by using the banner in Epic. Once we know if the patient is either positive, presumed positive, or not suspected we will transport the patient for their procedure.

If Positive:

The radiology team will wear the Fit N-95 mask as well as a gown and gloves to receive the patient from where they are located.

The IR team will bring down the patient to either Angiography suite 26, 23 or CT-25 depending of the type of procedure requested.

The angiography team will complete the procedure and call the floor where the patient is or will be admitted to.

The Floor team will come get the patient from the angiography suite and transport the patient back up for recovery.

The ANC and security will also be called to help with the patient’s transport.

If Presumed Positive:

The radiology team will wear a universal N-95 mask with gown and gloves when getting patient from the ER.

Floor patients should be transported directly into Angiography suite 26, 23 or CT-25.

IR team completes the procedure and the floor or ER staff will come get the patient.

On-Call:

IR call team will be paged by either the resident, fellow or attending.

If the procedure is a trauma or a stroke the COVID status will also be paged out to the call team.

For all other call cases the team will assess COVID status with the IR attending and the ordering provider.

For other details please see Radiology’s procedure document on the intranet titled: Coronavirus (2019-nCoV) Radiology Screening and Workflow.
COVID Patient Management and Workflow in IR

All IR patients: Once they come into the procedure room, they will put on a surgical mask.

Non-COVID, sedated patients:
- Patient wears surgical mask
- Nurse wears Universal N95 mask
- Everyone else wears surgical masks
- Patient takes off surgical mask when awake in CVU

**Any Non-COVID/PUI patient undergoing sedation may require airway rescue, which would require utilization of full PPE precautions, including Fitted N95 Respirator and full PPE. So if you need to escalate O2 beyond 6 LPM via NC, or need to do suctioning, then pause the procedure and everyone in room stops to put on full PPE (Fitted N95 respirator, face shield, gown, gloves).**

Non-COVID, no sedation:
- Patient wears surgical mask
  If thoracentesis: Nurse wears Universal N95

COVID positive and all PUI (regardless if Aerosol Generating Procedure):
- All IR staff to wear fit-tested N95 and full PPE during procedure

COVID positive/PUI who require an AGP:
- Procedure will be performed in a negative pressure room. IR has NO negative pressure rooms
  - If possible, procedures will be performed bedside
    - Ex. Thoracentesis, Chest tubes
  - If procedure can be done with C-arm fluoroscopy: It will be done in OR negative pressure room
    - Ex. G-tubes, GJ tubes
  - If procedure needs to be done in IR: Patient will be intubated in OR negative pressure room before coming down to IR
    - Ex. Bronchial artery embolization, PE interventions

Anesthesia Cases:
Need to find out AHEAD OF TIME if they plan on intubating as this will change the workflow

COVID positive, presumptive positive, or PUI:

Intubation YES:
- Anesthesia to don PAPR or fit-tested N95 and full PPE
- Intubate in negative pressure room (MPU 3 or MOR 6)
- Patient transported to IR intubated
- All IR staff to wear fit-tested N95 and full PPE during procedure
- Patient transported to negative pressure room (MPU 1 Primary) for extubation
- IR room can be cleaned after 1 hour

Perioperative Services, Endoscopy, Cardiology, Interventional Radiology, Labor and Delivery, Dialysis, Cardiovascular Unit, Bronchoscopy
**Intubation NO:**
- Patient wears surgical mask
- Anesthesia to don PAPR or fit-tested N95 and full PPE
- All IR staff to wear fit-tested N95 and full PPE during procedure
- IR room can be cleaned after 1 hour

**COVID negative, NOT PUI:**

**Intubation YES:**
- Anesthesia to don PAPR or fit-tested N95 and full PPE
- Intubate in IR room with only anesthesia staff. All IR staff out of the room.
- Once intubated, wait 10 minutes until IR staff can enter the room
- Then IR staff can enter the room and wear standard IR attire
- At completion of procedure, patient is moved to transport stretcher
- All IR staff leave the room during extubation
- After extubation, wait 10 minutes before entering
- If patient coughing – wear face shield
- Routine room cleaning – no need to wait

**Intubation NO:**
- All IR staff wears standard attire
- Anesthesia may wear N95 respirator

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**What is an AGP? (Aerosol Generating Procedure)**

<table>
<thead>
<tr>
<th>Any procedure involving a patient who:</th>
<th>Any procedure that may induce coughing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• requires intubation/extubation</td>
<td>• Lung biopsy</td>
</tr>
<tr>
<td>• is receiving a form of ventilatory</td>
<td>• Lung ablation</td>
</tr>
<tr>
<td>support associated with the risk of</td>
<td>• Thoracentesis</td>
</tr>
<tr>
<td>mechanical dispersal of aerosols</td>
<td>• Pleural drains</td>
</tr>
<tr>
<td>• requires active airway suctioning</td>
<td>• Chest tube for pneumothorax</td>
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<tr>
<td>(i.e. tracheostomy patient)</td>
<td>• Bronchial artery embolization</td>
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<tr>
<td></td>
<td>• Nasogastric Tube (NG tube) or</td>
</tr>
<tr>
<td></td>
<td>Orogastric tube (OG tube) placement</td>
</tr>
<tr>
<td></td>
<td>• Any procedure that requires NG tube</td>
</tr>
<tr>
<td></td>
<td>placement:</td>
</tr>
<tr>
<td></td>
<td>• Gastrostomy</td>
</tr>
<tr>
<td></td>
<td>• Gastro-jejunostomy tube placement</td>
</tr>
<tr>
<td></td>
<td>• Jejunostomy</td>
</tr>
</tbody>
</table>

In addition, these are conditions that can lead to aerosolization:
- Nebulizers, High Flow NC, non-closed system suction
- Intubation/Extubation
- CPR
**IR Checklist**

- Receive a call for a procedure on a COVID positive.
- Meet as a team in either room 24 or 23 depending on the attending.
  - A. Talk about what the procedure is.
  - B. The attending will tell you the correct type of PPE that needs to be worn.
  - C. The attending will tell you any special considerations for the procedure.
  - D. Select all supplies you think you will need before the procedure.
- Once all supplies are pulled, prep the room so that all extra supplies on a cart (mostly in room 23) are taken out of the room.
  - A. Tape the datels shut with masking tape.
  - B. If you need something in a datel please get the item you need.
  - C. If datel is opened all supplies need to get cleaned.
- The nurse will call the floor where the patient is located. Discuss if they have coordinated with Security, ANC, transport and/or respiratory/anesthesia if needed.
- IR team goes up and gets the patient wearing the correct PPE.
- Patient travels down directly into the room with transport, security and the IR team.
- Patient’s bed stays in the procedure room.
- Procedure will be done with all doors closed at all times.
- Extra set of hands (Heather M) will be around to help give inventory as needed.
- Procedure is complete.
- IR nurse will call the ANC to coordinate for transport back to the floor.
- IR nurse calls up to the floor to have the nurse come get the patient.
- Staff takes off PPE before they leave the room, per the hospital guidelines (Please watch video on intranet).
  - A. In room 24 this will be done in the scrub room.
  - B. In room 23 please exit the room into the hallway.
- Room is left with doors shut for 1 hours.
- Environmental services is called to clean the room after the 1 hours is up (Tech please do this).

Treat all vented patients like they are aerosol type procedures. Wear your FIT N-95 mask for these cases.

Important note: Subject to change as we learn more.

**Contacts: Heather McCuin and Geoffrey Scriver**
Dialysis

All outpatient satellite dialysis patients that test positive for COVID-19 will receive dialysis treatment at the Home Program at Joy Drive in South Burlington in one of the private rooms.

Patients under investigation (screen positive for COVID-19 or have COVID-19 test results pending) will receive dialysis treatment in their home dialysis center.

All dialysis patients will wear a surgical mask while inside a dialysis center.

Bedside commodes will be used for PUI and COVID positive patient toileting needs during dialysis

Patients Under Investigation (PUI)

Care Team PPE: universal n95 mask, face shield or googles, gown, gloves

Patient PPE: surgical mask

Cleaning Solution: 2:100 bleach. The patient care area can be cleaned immediately upon patient exit.

Staff caring for the patient will don PPE per above, the patient will don a surgical mask and be brought to one of the designated dialysis stations. Please refer to PPE conservation strategies (3-27-2020) document for guidance on PPE utilization and re-use.

If the patient has not been tested yet, the RN will notify Dr. Rimmer and Infectious Disease MD on call through PAS.

- Nephrology attending will be responsible for entering the order for COVID-19 testing in EPIC and contact designated testing location to make referral.

After treatment, patient care area, dialysis station (machine, chair, TV, bedside table etc.), and any additional equipment will be cleaned with 2:100 bleach solution.

- Dialysate jugs will be cleaned prior to removal from patient care area and contents discarded in the dirty utility room.
- Used commodes will be emptied of their bagged contents in a biohazard container and the commode cleaned with the bleach cleaning solution
- The patient care area and dialysis station can be utilized once cleaning is complete
- Additional precaution will be taken to clean other surfaces touched by the patient such as door knob, grab handle, wheel chair etc.
COVID Positive Dialysis Patients

All COVID-19 positive patients will be dialyzed in the home program private rooms at Joy Dr. in South Burlington.
The home program at Joy Dr. in South Burlington consists of six private dialysis rooms.
24 COVID positive patients can be dialyzed in the home program rooms at Joy Dr. Rooms 1-3 will be used for the first 12 COVID positive patients which will allow continued use of rooms 4-6 for the home program (currently there is one patient transitioning to home dialysis and requiring a room). Once there is a 13th COVID positive patient requiring dialysis, rooms 4-6 will be utilized and the home program will shift to the nephrology clinic.

Care Team PPE: n95 mask, face shield or googles, gown, gloves

Patient PPE: surgical mask

Cleaning Process: 2:100 bleach. Home program rooms at Joy Drive have ‘neutral’ air flow, and therefore need to sit for 1 hour prior to being cleaned. If COVID+ patients are being dialysis back-to-back, the room does not need to sit for 1hr prior to being cleaned.

All staff caring for COVID positive patients will be fit-tested with an n95 mask. Please refer to PPE conservation strategies (3-27-2020) document for guidance on PPE utilization and re-use.

Staff member caring for the patient will don PPE and await patient arrival at the designated entrance

Patient will be brought into the building (masked with surgical mask) though a separate side entrance that does not pass through the waiting room.

- The corridor from the patient room to the exit door will be cleared of any patients and staff (as best we can)

Patient will be brought into one of the private rooms in the home program for dialysis. The door will remain closed and the patient will remain masked throughout the procedure.

A clean commode will be readily available and will remain outside of the patient room until needed.

Any assistive equipment for mobility (wheelchair, walker, cane, etc.) will remain in the patient room

Once treatment is completed, and the patient is ready to exit the facility, the following will occur:

- A staff member caring for the patient will don clean PPE to escort the patient out of the building
- The patient will don a clean surgical mask and wash their hands
- The corridor from the patient room to the exit door will be cleared of any patients and staff (as best we can)
After treatment, patient care area, dialysis machine, and any additional equipment will be cleaned with 2:100 bleach solution. Home program rooms at Joy Drive have ‘neutral’ air flow, and therefore need to sit for 1 hour prior to being cleaned. If COVID+ patients are being dialysis back-to-back, the room does not need to sit for 1hr prior to being cleaned.

- Dialysate jugs will be cleaned prior to removal from patient care area and contents discarded in the dirty utility room.
- Used commodes will be emptied of their bagged contents in a biohazard container and the commode cleaned with the bleach cleaning solution
- Additional precaution will be taken to clean other surfaces touched by the patient such as door knob, grab handle, wheel chair etc.
- The patient care area and dialysis station can be utilized once cleaning is complete

Reviewers: Jayesh Shukla, Mary Miller, Janessa Little-Cable, Heidi Guevin, Dr. Jeff Rimmer with input from Dr. Gil Allen, Carolyn Terhune, Dr. Cindy Noyes

References:
American Society of Nephrology https://www.asn-online.org/ntds/
Mitigating Risk of COVID-19 in Dialysis Facilities https://cjASN.ASNjournals.org/content/early/2020/03/20/CJN.03340320
On the Frontline of the COVID-19 Outbreak Keeping Patients on Long-Term Dialysis Safe https://cjASN.ASNjournals.org/content/early/2020/03/28/CJN.03540320

Contact: Jayesh Shukla
Bronchoscopy
Specifics related to our practice at UVM:

1. In general, we will not perform bronchoscopy for suspected COVID cases;
2. We are canceling any elective case for a patient that has a fever and lower respiratory tract symptoms;
3. Given rising prevalence of COVID-19 in community, negative pressure and use of N95 respirator, gown, face shield, and gloves will be mandated for all bronchoscopies during the procedure;
4. Recovery under negative pressure will only be mandated in patients suspected of TB;
5. If we need to perform a bronchoscopy emergently for a suspected COVID case, we will not include the fellows, trainees, or students, and minimize the number of individuals in the room. However, bronchoscopy is STRONGLY discouraged for any patient suspected of having COVID-19.

Patients may go through pre-op without specific precautions
Patients should be wearing a surgical mask/face shield in recovery as they’ll be coughing.
Patients having a bronchoscopy have already been evaluated prior to the procedure and are not covid19 suspicious. We will use N95 PPE in the OR due to the aerosol generating nature of the procedure. We DO NOT need N95 PPE precautions in PACU. The patient should wear a facemask and the PACU RN *can* wear a surgery mask (not an N95).
Confirmed COVID positive patients and those who are PUI’s will not be having bronchoscopies, or the circumstances for these patients will likely not involve the PACU.
As a layer of caution, the pulmonary and anesthesia attending will have a conversation at the end of the procedure to confirm this and will communicate any deviations from this protocol to the PACU prior to transfer. Deviations are not likely as the screening process happens prior to the bronchoscopy procedure.
Pediatric bronchoscopies will need to be discussed on a case by case basis prior to initiating the procedure given the higher likelihood of non-symptomatic spread. A plan will need to be in place for disposition prior to initiating the procedure.

Contact: Matt Kinsey and Bradley Holcomb
Outpatient Admission and Discharge to Home

L&D Admit/Discharge – COVID Positive/PUI Patients

Outpatient Arrival to L&D and Discharge to Home (either triage, labor admit, or scheduled admit/postpartum discharge)

Registration

- If patient is an established patients then there’s no need to obtain a signature for billing purposes.
  - If they are on the expected list, does that mean they are established?
  - For any new patient, the Registration team and Financial Advocates will follow up over the phone for their “verbal” signatures

Arrival

- Prior to the patient’s arrival the L&D nurse notifies ANC (pager 0702) who will coordinate with Security the need for patient transport
- Patients arrives at the ACC 3rd floor entrance (daytime arrival) or ED (off-hours arrival)
  - Arrival time discussed with patient when they call or during pre-op call
  - Patient given instructions not to exit their car until the L&D nurse is present to greet the patient. Visitors will not be allowed to accompany patient.
  - If a healthy care giver is coming to care for the newborn, they will then park the car or valet and enter through visitor screening before coming up to L&D
- L&D RN
  - Dons appropriate PPE attire per transport PPE guidelines
  - Brings wheelchair for transportation
  - Meets patient by car
  - Gives patient a surgical face mask

Transport

- Patient transported to L&D Negative Pressure Room (negative pressure room) following Transport Guidelines or other location as pre-determined (follow Birthing Center admission algorithm for COVID+ or PUI patients)

L&D

- Registration
  - L&D Unit Sec completes registration of patient without obtaining signature if patient is established; paper consent if needing to obtain consent; prints wristband per usual fashion
- Necessary care occurs on L&D; follow surgical guidelines if needing cesarean section
Discharge home from triage

- Patient ready for discharge home
- Call ANC to notify transport needed
- Transport team brings clean wheelchair and hands over to nurse in room.
- L&D/B7 RN assists patient to wheelchair
- Place surgical mask on patient

Transport and Discharge

- Staff in clean PPE transport patient to ACC 3rd floor (day time hours) or ED (off hours) and assist patient into car
- Transport team changes gloves and wipes down wheelchair
- Doff PPE and sanitize hands

Contact: Sandra Sperry
Outpatient Admission and Discharge to Home – EP and Surgery

Registration

- If patient is an established patient, then there is no need to obtain a signature for billing purposes.
  - If Registration is provided a schedule for next day patients, then Registration can review the patient’s status, new versus established, prior to the procedure
  - For any new patient, the Registration team and Financial Advocates will follow up over the phone for their “verbal” signatures

Arrival

- Prior to the patient’s arrival the Pre-op nurse notifies ANC (pager 0702) who will coordinate with Security the need for patient transport
- Patients arrives at the ACC 3rd floor entrance
  - Arrival time pre-determined by procedural area
  - Patient given instructions not to exit their car until the Pre-op nurse is present to greet the patient. Visitors will not be allowed to accompany patient.

Pre-op nurse

- Dons appropriate PPE attire per transport PPE guidelines
- Brings wheelchair for transportation
- Meets patient by car
- Gives patient a surgical face mask

Transport

- Patient transported to Comfort Zone Room #35 (negative pressure room) following Intra-Hospital Transport guidelines

Pre-op

- Registration
  - Pre-op nurse notifies Registration that the patient has arrived before performing any service
  - Registration needs to “arrive” patient in Epic before pre-op or any other service can be documented in the patient’s chart.
    - It is absolutely necessary that the call to Registration takes place before documentation begins, otherwise, it causes issues down the road if Registration arrives the encounter after the service is provided
  - Registration will tube wrist band and any patient documents to Pre-op
- Receiving nurse in full PPE attire completes pre-op preparation and prepares patient for transport
- When pre-op preparation complete, nurse notifies procedural/surgical team patient is ready for transport
Transport OR
- Procedural/surgical team transports patient directly to assigned negative pressure room
- Patient is brought directly into the room by the procedural/surgical team
- Patient is transferred to surgery/procedure bed if indicated
- Transport stretcher remains in the room. Do not place in hallway
  - Stretcher is cleaned at the time that the room is cleaned

Intra-op – Follow EP or Surgery Workflows

Transport to PACU
- Staff that will be transporting the patient doff contaminated PPE inside the room
- Remove mask outside of the room
- The nurses don clean, full PPE attire per guidelines outside the OR in preparation to transport the patient back to room
  - Gown
  - Gloves
  - Face shield
  - Mask
    - PUI Non Aerosol = Universal N95 or surgical mask
    - PUI Aerosol = N95 Respirator/PAPR
    - Presumptive Positive/Confirmed = N95 Respirator/PAPR
- Transport team brings clean stretcher and hands over to nurse in room
- Nurse(s)/physician in room transfers patient to stretcher
- Place surgical mask on patient
- Nurse(s)/physician in room hand patient over to staff in clean PPE
- Staff in clean PPE transport patient to PACU Room #65 (negative pressure)

Recovery
- Patient recovers in the PACU
- Patient ready for discharge when discharge criteria met
- Call ANC to notify transport needed
- Transport team brings clean wheelchair and hands over to nurse in room
- PACU Nurse(s) assist patient to wheelchair
- Place surgical mask on patient

Transport and Discharge
- Staff in clean PPE transport patient to ACC 3rd floor and assist patient into car
- Transport team changes gloves and wipes down wheelchair
- Doff PPE and perform hand hygiene

EP Outpatient Admission and Admitted to Inpatient / Conscious Sedation
* Follow above steps and recovery same as conscious sedation workflow

**EP Outpatient – Device Checks**

* Procedure scheduled as an ambulatory encounter

- The EP charge nurse calls the ACC desk x74916 - to inform Kevin Barry’s team that the patient is coming for a pacemaker check and what time -
- The patient is given telephone instructions:
  - What time to meet the EP nurse at the ACC 3rd floor entrance
  - To park just past the second revolving door
  - Not to leave their car and to leave windows rolled up until nurse approaches
  - The patient is told that the nurse will be wearing PPE and that the nurse will give the patient a mask and ask them to put it on.

- 2 EP nurses bring the pacemaker Cleaning/trash cart, power cord and the programmer to the ACC
  - Plug in extension cord to outlet and programmer to extension cord.
  - 1 nurse dons PPE (gown, gloves, mask and face shield) brings programmer to curbside
  - 2nd nurse dons gloves, gown and surgical mask -remains outside the door to assist with cleaning programmer
  - Cleaning supply cart / trash cart placed 6 feet from curb

- Patients arrives at the ACC 3rd floor entrance
  - Arrives at pre-determined time
  - Ep nurse approaches the car gives patient a surgical mask and asked them to put it on.
  - Once the patient is masked nurse hands the programmer wand into patient- patient holds wand over device –
  - device check reprogramming completed
  - Patient hands the wand back to nurse and drives away.

- Doffing and clean programmer
  - When check is complete the nurse doing the check leaves PPE on - return to Cleaning supply cart / trash cart - doff gloves sanitize hands and don clean gloves.
  - Sanitize programmer, extension cord and thumb drive w/ Oiyvir – allow proper dwell time (at least 1 minute)
  - Pass programmer to clean staff wearing gloves and gown. Clean person to sanitize programmer again w/ dispatch or Oxyvir.
  - Nurse who did check doff gloves, doff gown - sanitize hands Don clean gloves tie up inner trash bag –
  - Sanitize hands Don clean gloves doff and clean face shield – wipe down surface of cleaning supply trash cart, doff mask to paper bag, doff gloves – into outer trash bag
  - Clean nurse doff PPE into outer trash bag
  - Sanitize hands

**Contact: Sue Calame**
Endoscopy Travel Cart Cleaning Workflow 3/31/2020 Time 1630

1. **Endoscopy Team** dons appropriate PPE attire per guidelines prior to entering the room.

2. Bring Travel Cart into patient's room (stocked with minimal supplies needed).

3. Perform procedure.

4. Clean scope in patient's room per protocol and place in closed container.

5. When case is complete leave PPE on—either in ante room or close to the door if no ante room.

6. Doff gloves, perform hand hygiene, and doff gown.

7. Perform hand hygiene, don clean gloves and gown.

8. Clean Travel Cart and outside of tray holding scope with Oxyvir wipes. Use Dispatch if positive for C Diff.

9. Remove gloves, gown and perform hand hygiene.

10. Step out of room and perform hand hygiene.

11. Don clean gloves.

12. Doff face shield and clean with Oxyvir wipe.


15. Doff mask.

16. Save in paper bag labelled on one side with name/date/type respirator.

17. Perform hand hygiene.

18. Don new gloves.

19. Re-clean the Travel Cart and outside of tray holding the scope using Oxyvir wipes. Use Dispatch if positive for C Diff.

20. Perform hand hygiene.
<table>
<thead>
<tr>
<th>NURSE IN CHARGE</th>
<th>OR RUNNER (one RN one PCA, AT avail)</th>
<th>OR NURSE/SCRUB TECH</th>
<th>ANESTHESIA PROVIDER</th>
<th>PCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activate Team Contact</td>
<td>Place isolation tags on doors</td>
<td>Don full PPE &amp;/or PAPR</td>
<td>Nurse ensures adequate PAPR available &amp; functioning</td>
<td>Don full PPE &amp; assist scrub and circulator as needed</td>
</tr>
<tr>
<td>Leader on call to discuss case</td>
<td>Place PPE cart outside of room</td>
<td>Prepare OR accordingly</td>
<td>Don full PPE &amp; PAPR</td>
<td>Assist in patient positioning</td>
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<tr>
<td></td>
<td>Ensure all non-essential supplies and equipment are out of room</td>
<td>Scrub nurse to scrub up &amp; prepare back table</td>
<td>Obtain required consumables, drugs &amp; new pen from injection &amp; intubation trolley (in induction room)</td>
<td>Remain in OR for duration of case</td>
</tr>
<tr>
<td></td>
<td>Ensure supply cart outside of room and accessible</td>
<td>Circulating nurse to pass off all additional disposables/instruments to Runner (before patient enters OR)</td>
<td>Place drug tray &amp; airway adjuncts on respective cart outside of room</td>
<td></td>
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<tr>
<td></td>
<td>Place a clean push cart in OR near door to place supplies on during case</td>
<td></td>
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<tr>
<td>PREPARATION PHASE</td>
<td>Place any requested items on a cart as needed for room</td>
<td>Unused consumables/drugs placed in OR intra-op MUST be thrown away</td>
<td>Wipe down patient bed and leave in OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specimen Handling:</td>
<td>Contact OR runner if require any other items. Runner will place items onto a designated cart inside the OR room.</td>
<td></td>
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<tr>
<td></td>
<td>- Specimen to be double bagged (one in room and one clean once it leaves the room)</td>
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<tr>
<td></td>
<td>- Send direct to Core Lab via cooler box</td>
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<tr>
<td></td>
<td>- Porter to don only gloves during transport</td>
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<td></td>
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<tr>
<td>INTRA-OPERATIVE PHASE</td>
<td></td>
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</tr>
<tr>
<td>POST-OPERATIVE RECOVERY PHASE</td>
<td>If recovering in OR:</td>
<td>If going straight to ICU:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PACU and OR Circulating RN's recover patient in negative pressure OR (see Recovery guidelines)</td>
<td>- If intubated follow transport guidelines</td>
<td>- If extubating, transport patient to negative pressure room to extubate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- PACU RN runner remains outside room to support</td>
<td>- if extubating, transport patient to negative pressure room to extubate</td>
<td>- Follow Transport guidelines</td>
<td></td>
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<tr>
<td></td>
<td>- Clean team from floor/unit comes to OR to transport patient (see Transport guidelines)</td>
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<tr>
<td></td>
<td>Removal of PPE &amp; PAPR:</td>
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<tr>
<td></td>
<td>- Items to be removed in OR room include gloves, PAPR, gowns, face shield, cap &amp; shoe covers</td>
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<tr>
<td></td>
<td>- Items to remove outside room in Pod include N95</td>
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<tr>
<td></td>
<td>- Don new cap &amp; gloves outside room</td>
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</tbody>
</table>
### Operating Room Roles and Tasks for COVID Positive, Presumptive Positive, Patient Under Investigation (PUI)

<table>
<thead>
<tr>
<th>NURSE IN CHARGE</th>
<th>OR RUNNER (one RN one PCA, AT avail)</th>
<th>OR NURSE/SCRUB TECH</th>
<th>ANESTHESIA PROVIDER</th>
<th>PCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Turnover</td>
<td>Instrument sets send directly to Sterile Supply Unit</td>
<td>Place used PAPR on designated cart for proper disinfection.</td>
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<td></td>
<td>Perform telephone handover with floor nurse</td>
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<tr>
<td></td>
<td>Disinfection Guidelines:</td>
<td></td>
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<td></td>
<td>All Operating room to sit empty for 30 minutes</td>
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<tr>
<td></td>
<td>- Follow standard protocols for room turnover but include all furniture surfaces, case cart, stools etc. Use Oxivir</td>
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<tr>
<td></td>
<td>- Turn over team to wear standard precaution PPE (gloves, surgical mask, eye protection), this is not the same as EVS</td>
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<tr>
<td></td>
<td>Replenish supplies &amp; prepare OR in readiness.</td>
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</tbody>
</table>
Perioperative Services, Endoscopy, Cardiology, Interventional Radiology, Labor and Delivery, Dialysis, Cardiovascular Unit, Bronchoscopy
Periop PPE with FIT STYLE MASK Don and Doff Steps for NON SCRUB ROLES
COVID – 19 Positive or Presumptive Positive Patients
Date: 4/29/2020 Time: 1630

PPE DONNING STEPS

Hand Hygiene and & 1st Hat

Shoe Covers (mandatory for surgeons & anyone else wearing shoes from the outside. Shoes must be designated for Periop. When don/doff shoe covers HAND FOAM)

N95 Mask

2nd Hat

Procedural All in One Mask with Face Shield/a Surgical Tie Mask with a Separate Face Shield

1st Pair of Gloves (smaller) Keep gloves tucked under gown’s cuff

Gown

2nd pair of gloves (larger) Hold cuff high on palm & place glove over cuff

PPE DOFFING STEPS

Remove Outer Gloves (if hands or inner gloves become contaminated remove gloves and hand foam and don new gloves)

Remove gown by untying & leaning forward. Place in linen bag

Hand Hygiene (if inner gloves become contaminated hand hygiene)

Remove Procedural Mask with Face Shield

Remove Outer Hat

If Anyone in Shoe Covers Remove at this Time

Remove Gloves and HAND FOAM

Leave OR

WASH Hands with Soap and Water (4% Chlorhexidine recommended)

Don Gloves & remove N95 Mask If saving for reuse place in brown paper bag with your name & date or recycle

Remove gloves and Hand Hygiene

Note: Shower is recommended; plan ahead for your shower supplies

M. Haley/ L. Gruppi 4/22
Periop PAPR (UNDER GOWN) and PPE Don and Doff Steps for ANY Periop Role
COVID – 19 Positive or Presumptive Positive Patients 4/29/2020 1600

**ALERT:** For the Scrub Role wear the surgical tie mask & hat underneath the head cover PAPR

**PAPR and PPE DONNING STEPS**
- Pick up PAPR in storage area, check Battery Light & Flow Meter before leaving area.
- Clean PAPR before Wearing
- Hand Hygiene
- Connect all PAPR parts (machine, battery, hood & hose)
- Don PAPR by Attaching Waist Band belt
- TURN ON unit & place Hood over Head
- 1st Pair of Gloves (smaller)
- Gown
- Make sure that the Gown does not cover the Air Intake
- If at anytime you hear a Change in Airflow a Beeping will begin. Leave the isolation area. You have 4-5 min. before the air stops to your PAPR
- 2nd pair of gloves (larger)

**PAPR and PPE DOFFING STEPS**
- Remove Outer Gloves (remove gloves using glove to glove, skin to skin technique)
- Hand Hygiene PRN
- Remove gown by untlying & leaning forward. Place in linen bag
- If Anyone in Shoe Covers, remove at this time
- Remove gloves, Hand Hygiene & Leave OR stepping into Pod
- Don clean gloves
- Reach Back and Uncip Hose from PAPR Hood
- Turn OFF PAPR machine
- Uncip Belt, carefully lower/remove PAPR machine with attached Hose & place on Table
- Remove PAPR Hood (back to front)
- Disconnect Hose from other end, set aside REMOVE PAPR HOOD BACK TO FRONT
- Clean PAPR BEFORE & AFTER Use in the following order. (Use Oxivir wipe for each cleaning step)
  - Remove gloves, foam hands, don double gloves
  - Clean face shield wipe Oxivir wipe & remove gloves
  - Clean outside of the hood with Oxivir wipe followed by hand hygiene
  - Clean inside of the hood with Oxivir wipe, hand to clean assistant, & hand hygiene
  - Clean & saturate the PAPR machine, belt & hose, hand all parts to clean assistant
- Remove gloves & WASH Hands in sink with soap & water (4% Chlorhexidine recommended)
- Hang the PAPR Hood for Drying & Disconnect Battery (if 3M) prior to returning to the Charging Station

Note: Shower is recommended; plan ahead for your shower supplies

M. Haley/L. Gruppi
Perioperative Intubation and Extubation NON COVID Patients

Date: 4/22/2020 Time: 1000

Intubation

- Anesthesia Dons FIT tested N95 or PAPR

  Spinal or Regional Anesthesia?
  - YES: Place Surgical Mask on Patient & keep ON for Entire procedure
  - NO: All team members Leave Room Except Anesthesia Provider

- Anesthesia Intubates patient and Waits 10 minutes

  After 10 minutes, other team members, wearing standard attire enter the room

- Surgical Tech Covers Instruments on field Prior to Exiting

Extubation/Post-op

- Move patient to Transport Stretcher

  Is patient going to ICU Intubated?
  - YES: Transport to ICU for Recovery (follow Intra-Hospital Transport Guidelines)
  - NO: All team members Leave Room Except Anesthesia Provider

- Anesthesia Extubates patient, Places Surgical Mask on patient & Waits 10 minutes

- If patient Coughing Maintain Surgical Mask on patient & Staff Wear Fluid Shield

  Patient Transferred to PACU

  Patient Transferred to ICU

  Transport to ICU for Recovery (follow Intra-Hospital Transport Guidelines)

KEY Points for PPE

- ONE Fit-tested N95 to be Used All Day by one user for multiple patients
- Use a Face Shield Over Fit-tested N95 mask; Clean with Oxivir Between each Patient

OR
- Eye Protection WITH Surgical Mask Over Fit-test N95; New Surgical Mask for each Patient & Throw Away surgical mask after each Encounter

D. Mathews/L. Godbou/L. Gruppi 4/22/2020
Perioperative Intubation and Extubation PUI and COVID POSITIVE Patients

Date: 4/22/2020  Time: 0930

**Intubation (NEGATIVE PRESSURE ROOM)**
- Team Dons FIT tested N95 or PAPR & Full PPE
  - Intubate Patient
  - Patient Remains in MPU 1 for Entire procedure, unless Specialty Room required
  - If Specialty room needed, use Transport Ventilator

**Extubation/Post-op (NEGATIVE PRESSURE ROOM)**
- In FIT tested N95 or PAPR & Full PPE
  - Anesthesia Prepares to Extubate patient
  - Is patient going to ICU intubated?
    - YES
      - Transport to ICU for Recovery (follow Intra-Hospital Transport Guidelines)
    - NO
      - If Specialty room used, Move Patient Back to MPU 1 (primary negative pressure room) with Transport Ventilator
      - For all extubations in ICU
        - Extubate in private room only
        - RT/all providers in room don fit-tested N95, face shield, gown, & gloves
        - RT places sign on door indicating need for N95, face shield, gown, gloves
        - Keep door closed for 1 hour following extubation
      - Place Surgical Mask on Patient
      - Patient Going Home or to M6
      - Patient Going ICU
      - Recovery Room Staff Wear Fit-tested N95 and Full PPE
      - Transport to ICU for Recovery (follow Intra-Hospital Transport Guidelines)
      - Patient recover in OR

**KEY Points for PPE**
- ONE Fit-tested N95 to be Used All Day by one user for multiple patients
- Use a Face Shield Over Fit-tested N95 mask; Clean with Oxivir Between each Patient
- Eye Protection WITH Surgical Mask Over Fit-test N95; New Surgical Mask for each Patient & Throw Away surgical mask after each Encounter

D. Mathews/J. Godbout/L. Gruppi 4/22/2020
Anesthesia Process for Intubation and Extubation
PUI and COVID POSITIVE Patients  Date: 4/22/2020  Time: 1100

Intubate/Extubate in Negative Pressure Room (MPU 1 Primary, MPU 3, OR 6)

Is Specialty OR needed for Procedure?

YES
Use Transport LTV Ventilator

NO
Use Room Anesthesia Machine with Inhalation agent

Continue with Procedure in Negative Pressure room

Intubation Team Hands Over patient to Surgical & New Anesthesia Team (if staffing permits) to Bring to Specialty OR (positive pressure room)

Continue using Transport LTV ventilator for entire procedure; Anesthesia will do a TIVA

Bring patient Back to Negative Pressure Room for Extubation

- Use Inline Suction set up on all patients
- Needs to be appropriately filtered for use in hallways & positive pressure room
- Plan for filter change/exchange to be made with Respiratory Therapy as needed

Note: If patient to be transferred to ICU intubated:
- Transport to ICU following Intra-Hospital transport Guidelines
- Extubate in private room only
- RT/all providers in room don fit-tested N95, face shield, gown, & gloves
- RT places sign on door indicating need for N95, face shield, gown, gloves
- Keep door closed for 1 hour following extubation

D. Mathews/S. Godbout/L. Gruppi 4/22/2020
Pre-Huddle For COVID-19 Positive Patient Checklist

- Have all teams been notified and aware of situation (OR, PACU, Anesthesia)?

- Determine Post-Op location: Recover in OR or direct transport to unit
  - PACU call person called if necessary
  - OR call person called if necessary

- Have they located the COVID-19 Binder to review protocol

- Confirm MPU 1 available and room reading negative

- ANC contacted and transport plan discussed

- All staff providing patient care have necessary PPE
  - PSS called if additional PAPR needed
  - 79911 called if staff member needs fit testing

- All staff knowledgeable of proper PPE donning/doffing?

- Room set up per protocol?

- Confirm all members are in agreement on their roles and responsibilities