Weill Cornell Medicine | NewYork-Presbyterian | Columbia

NYP Guidelines for Airway Management of Suspected or Confirmed COVID-19 Patients
(as of March 23, 2020)

PPE Kit

Inventory:

- HEPA filter
- N95 masks x 4 (2 small, 2 regular)
- Welder mask x 2 preferred (surgical Face shields x 2 if no Welder mask available)
- McGrath, #4 blade x 3, #4 blade x 2, #3 blade x 2#3 blade x 2
- Isolation gown x 2 (yellow, not waterproof)
- Waterproof (blue) gown x 2
- Bouffant hat x 2
- Long "Beard" hat x 1 **(**beards will interfere with the effectiveness of the N95!**)**
- Sterile gloves: 6.0, 6.5, 7.0, 7.5
- Bag for McGrath Handle / battery post intubation

Directions:

- These bags/supplies are stored with **the unit clerk** and should be requested when the intubating team arrives at the floor/ICU.
- In addition the intubating team should take a bag with COVID supplies **besides, not instead of**, the arrest bag to all intubations/arrests of PUI/confirmed COVID-19 cases.
- A McGrath handle should be retrieved from the attending of that unit; if not readily available use the McGrath handle from arrest bag.
- **Do not take the COVID/arrest bag into the room** with PUI/confirmed COVID-19 patient.
- Take **only the things** that you need with you **into the room**.
- Prepare medications and intubation equipment outside of the patient's room
    - Induction agent, Paralytic, Vasopressor, Flush syringes and a sedative for post intubation
- Have a dedicated provider outside of the room to hand additional equipment/medications that may be needed to avoid contaminating the bag.
- If the bag is contaminated, discard all disposable items. Clean non-disposable items with wipes following manufacturer's directions.
- **Return the used COVID bag to the unit clerk** and the **McGrath handle** back to the **attending** of that unit.
- **Unit clerk** to **call local supply chain** number and **request bag swap** and/or extra McGrath batteries
- **If reserve COVID hbag is used, return together with arrest bag and restock**

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Example of supply bag

Airway management

Personnel:

- Most experienced practitioner available should perform the intubation
- The team caring for the patient (for example the ICU, floor or ED) needs to ensure that sufficient personnel is available in the room to allow a safe intubation. This could include RN, RT or other personnel as requested by the intubating practitioner. All personnel in the room have to don full PPE

Pre-intubation:

- Advance planning and clear communication are paramount
- Ensure that a well functioning IV is available
- Ideally place the patient in a negative pressure room.
    - If a negative room is not available, place the patient in a single room and close the door.
    - If no rooms are available (e.g., ED), isolate the patient and ensure that other patients/HCW maintain > 6 feet (2 m) distance.
- **Most experienced provider available should intubate**
- **Respiratory Therapy** to set up Ventilator: makes sure there is a HEPA filter on the expiratory limb of the ventilator
- Confirm ETCO2 waveform capnography is functional (if available); if colorimetry is used place EZCap after HEPA filter
- Minimize personnel in the room
- Bring the **COVID PPE kit in addition to** the arrest bag
    - Do not take COVID/arrest bag into the room, just the necessary equipment

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- **Don PPE (contact, airborne, droplet precautions) outside of the patient's room** in the anteroom, a small room between the patient and the hallway with a sink and PPE that usually accompanies airborne isolation rooms on the floor, or outside of the patient's room, if anteroom is not present: **Hand hygiene, N95, face shield or welder mask, hat, blue/waterproof or sterile gown for intubator; yellow or blue/waterproof gown for assistant, double gloves, hair/beard cover**
    - https://vimeo.com/394529353/9b7fbb98a5
    - Beards are discouraged for best N95 mask fit
- Contact IP&C (contact numbers below), and/or WH&S hotline (below) if questions arise about PPE or potential exposures.

Intubation:

- Prolonged pre-oxygenation for more than 5 minutes: for example with 100% FiO2 non rebreather (caution: expiratory ports may aerosolize secretions) or with Ambu bag and mask with a HEPA filter in between (create good seal)
- Goal is rapid sequence induction
    - If need to use bag-mask ventilation, use 2 hands to provide good seal, use HEPA filter between mask and Ambu bag, deliver small tidal volumes
- **Non-invasive ventilation** (no high-flow nasal cannula, no BIPAP) should **not be used just** for **pre-oxygenation** unless already present
- Avoid awake FOI (risk of aerosolizing the virus with during topicalization and coughing)
- **Most experienced provider available should intubate**
- May apply **cricoid pressure** if feasible
- Use of **video-laryngoscopy** preferred to increase the distance (e.g., McGrath is preferred for ease of decontamination)
- Inflate cuff immediately after intubation
- LMA ventilation maybe warranted in case of difficult ventilation

Post-intubation:

- Attach ETT to the ventilator
- Confirm ETT placement by CO2 sampling or EZCap
    - If Ambu bag is used prior to connecting ventilator, make sure HEPA filter is placed between ETT and Ambu bag
    - ICU level ventilators have a HEPA filter included in their expiratory limb by default. Therefore no additional HEPA filter is required. For non-standard ICU ventilators (for example in the OR) make sure there is a HEPA filter placed on the expiratory limb prior to attaching a PUI or confirmed COVID patient
- Take off top layer of gloves after intubation and prior to touching other equipment
    - **Careful** – do not contaminate yourself during this process

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- Use disposable stethoscope to examine the patient
- RT to set up ventilator prior and help with applying ETT holder
- Secure the tube with ETT holder or tape
- **Dispose used and all disposable** items that were brought into the room in trash cans in patient's room
- McGrath: remove battery and clean all surface areas with wipes, remove outer gloves and then wipe again and **then place into the specimen bag and affix sticker "Wiped" to the bag.**
- **If a different (video) laryngoscope is used, clean as per manufacturer and IP&C instructions or discard if disposable.**
- **Doff PPE**, ideally in anteroom (can remove all pieces including N95, and wash hands). But if anteroom is not present, then doff in patient's room (at least 6 feet away from the patient), except for the N95 mask, which is removed outside of the room. Hand hygiene.
    - Doffing video: https://vimeo.com/394529353/9b7fbb98a5
- If you used the yellow gown for intubation (which you should not do): change scrubs (the gown is not waterproof)
- Wash hands or Purell, Apply new non-sterile gloves and clean McGrath with Purple wipes, allow 2 minute dry time
- Fill out log at bedside
- HCWs who were in direct contact with PUI/COVID-19 patient will need to **self-monitor with delegated supervision** (check temperature twice a day, and report symptoms for 14 days). Can return to work as long as they are asymptomatic, unless there is a breach in PPE. If that is the case, let us know, discuss with IP&C and follow their recommendations.
    - Workforce Health and Safety (WH&S) hotline for questions around protocols relating to COVID-19. 6a-11p, 7 days a week, **646-NYP-WHS0 (646-697-9470)**
- **Return the used COVID bag to the unit clerk** and the **McGrath handle** back to the **attending** of that unit.
- **Unit clerk** to **call local supply chain** number and **request bag swap** and/or extra McGrath batteries

Extubation

Please see NYP guidelines for extubation of COVID patients/PUI for more detail

- Ideally would extubate in a negative pressure room.
    - If in the OR (positive pressure) and going back to negative pressure ICU room, keep intubated.
- Proper hand hygiene and PPE as above
- Limit the number of staff to a minimum
- Consider antiemetic prophylaxis to avoid nausea, retching, or vomiting

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- Extubate to face mask (in case there is coughing) or facetent
    - Avoid extubating to BiPAP/HFNC

Transportation

Please see NYP guidelines for transport of COVID patients/PUI for more detail

- Transportation should be avoided unless necessary
- Hand hygiene and PPE
    - All personnel who **actively transporting** the patient need to wear **PPE: minimum droplet/contact, along with N95 masks if aerosol-generating procedures are in progress (e.g., non-invasive ventilation)**
    - **Another HCW wearing PPE for droplet +/- airborne precautions** (see above) but NOT gown/gloves should be available to in**teract with the environment**. They should keep a distance > 6 feet, if possible
- For intubated patients with a tracheal tube: best to use transport ventilator with HEPA filter in expiratory limb; If Ambu bag used: place HEPA filter between ETT and Ambu bag
- If the patient is not intubated, the patient should wear a surgical mask
- If elevators are used, only the patient and healthcare team should be in the elevator
- If transporting to procedure area, PPE should be changed prior to transfer back to the home unit to avoid contamination of environmental surfaces during return to unit.

For questions about infection control issues, contact the Department of Infection Prevention & Control at your site:
NYP-AH: 212-932-5219
NYP-CU, NYP-MSCH, ACN: 212-305-7025
NYP-LH: 914-787-3045
NYP-LMH: 212-312-5976
NYP-WC, NYP-WBHC, ACN: 212-746-1754
NYP-BMH: 718-780-3569
NYP-HVH: 914-734-3950
NYP-Q: 718-670-1255

Date: 3/24/20
Version: NYP 3.1
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NewYork-Presbyterian

NYP Process for Using Intubation Bags for Suspected or Confirmed COVID-19 Patients (as of March 23nd, 2020)

This is the NYP standard process for creating and maintaining COVID-19 PPE intubation bags across NYP. This process applies for all affected units (ED, med-surg, ICUs, L&D, ORs). This pertains to intubation bags stored on the units, and back-up reserve bags that will be distributed to the anesthesia teams. **Each bag will be used with a McGrath video laryngoscope handle (stored SEPARATELY on unit)** and will contain the following components and be stocked by supply chain:

Item Description	Quantity per Bag (EA)	MFG #	Lawson #	Vendor #	UOM	QTY per UOM
Biohazard Bag	1	LDPEZIP	447241	8015655	CA	250
Bouffant Hat	2	HWT204	440011	8015655	CA	1000
Hepa Filter	1	28022	323510	8022025	CA	20
Long Beard Hat	1	4381	456715	8000202	CA	100
McGrath Mac 1 Blade	2	350-072-000	543177	8014825	BX	50
McGrath Mac 2 Blade	2	350-017-000	508129	8014825	BX	50
McGrath Mac 3 Blade	2	350-005-000	426546	8014825	BX	50
McGrath Mac 4 Blade	2	350-013-000	426547	8014825	BX	50
N95 Mask - Regular	2	46727	157922	8003311	CA	210
N95 Mask - Small	2	46827	157923	8003311	CA	210
Sterile Gloves - 6.0	1	2D72PT60X	283821	8000202	CA	200
Sterile Gloves - 6.5	1	2D72PT65X	283822	8000202	CA	200
Sterile Gloves - 7.0	1	2D72PT70X	283823	8000202	CA	200
Sterile Gloves - 7.5	1	2D72PT75X	283824	8000202	CA	200
Waterproof gown (blue)	2	69600	230052	8003311	CA	100
Welder Mask	2	41204	338085	8003311	CA	40

The McGrath handles should be kept on the unit by the attending and also brought down to the unit by the anesthesia team responding to the request for the rapid response team (if applicable). If your campus does not yet have McGraths, please use Glidescope, CMAC, or any other video laryngoscope you may have on hand until you receive your McGraths. If you need additional McGraths, please reach out to Sarah Yolleck **(sxy9001@nyp.org)** with your request.

PPE Intubation Bag Workflow

1. **Supply chain** – Assemble intubation bags in general stores. Secure each bag with a zip tie.

2. **Supply chain** - Bring appropriate number (see below) of intubation bags for all units housing PUIs or COVID-19 positive patients. Drop off bags with unit clerk for storage under desk. Unit clerk or charge nurse is responsible for distributing and managing bags.
    - **MICUs/SICUs:** 4 bags
    - **EDs:** 3-4 bags
    - **OB:** 2-3 bags
    - **All other units with COVID-19 patients:** 2-3 bags
    - **Reserve bags:** 4 per anesthesia team.
        - Anesthesia will be responsible for bringing reserve bags and McGraths to the units for intubations, and calling supply chain and/or submitting a Sentact request to have them replenished. These bags serve as a back-up in case there is not a fully stocked intubation bag on the unit.

3. When call for intubation is made, the **unit clerk and attending** should take the following measures:
    1. **Unit clerk -** Cut zip tie from intubation bag, and bring bag to outside of isolation room;
    2. **Attending -** Give McGrath handle to anesthesiologist responding to Rapid Response request;
    3. **Unit clerk -** Bring additional PPE to isolation cart. Unit clerk or other defined designee is responsible for managing extra PPE for additional staff:
        - Regular N95 masks
        - Small N95 masks
        - Isolation gowns
        - Welder's masks
        - Masks with face shields
        - Other available eye protection

4. **Rapid Response team** – For intubation, retrieve McGrath from attending and select essential PPE from intubation bag. Only bring in essential supplies (**necessary PPE and McGrath blades**) into isolation room, and leave bag and remaining supplies outside of room.
    - **If an intubation bag is accidentally brought into an insolation room and therefore contaminated, it should be disposed of**.

5. **Defined Designee** – Defined Designee should put on gloves, retrieve biohazard bag from intubation bag, and wait outside of isolation room with open biohazard bag for intubation to be complete.
    - *Defined Designee can be resident, attending, anesthesia tech, CRNA, etc.*
    - **If Rapid Response team needs additional equipment from the intubation bag after entering the isolation room, they should ask Defined Designee to retrieve equipment to avoid contaminating the bag. Contaminated bags should be disposed of.**

6. **Rapid Response team** – After intubation, place used McGrath handle in biohazard bag (held open by defined designee).

7. **Defined designee** – Seal bag, clean McGrath handle with purple top PDI wipe, and allow handle to dry for 2 minutes. After the handle is dry, place in a clean non-biohazard bag. Label bag “CLEAN MCGRATH HANDLE” if possible. Give handle back to the attending for storage. Store in attending office.

8. **Rapid Response team/unit clerk**– Submit Sentact request (if applicable) and/or call local supply chain and request bag swap and/or extra McGrath batteries. See chart below(page 4) for supply chain contact information.

9. **Supply chain** – Within **an hour and a half**, retrieve used bag from unit, and replace with restocked bag and/or batteries.

10. **Supply chain** - Bring used bag down to general stores and replenish. Keep in general stores until unit needs another bag.

Supply Chain Contact Information by Campus

Campus	Hours	Contact Instructions	Additional Instructions
NYP/Columbia NYP Morgan Stanley	24/7	Submit Sentact request and follow up with call to Supply Chain: 212-305-2852	**If leaving message, please indicate location where bag is required and time of request.**
NYP/Weill Cornell	24/7	Submit Sentact request and follow up with call to equipment center: 212-746-0364	
NYP Lower Manhattan	Monday-Friday: 7am-11pm	Call General Stores (212-312-5047) or call covering MMA on mobile heartbeat	
	Saturday & Sunday: 8am-4pm		
	Off Hours	Call Nursing Administrator: 646-668-1683	
NYP Allen	8am-4:30pm	Submit Sentact request and follow up with call to Supply Chain: 212-932-4028	
	11pm-7am	Submit Sentact request and follow up with call to Ops Supervisor: 212-832-4463	
	24/7	Call Nursing Office: 212-932-4322	
NYP Hudson Valley	7am-5pm	Call Supply Chain: 914-734-3351	
	4pm-7am	Call Nursing Supervisor: 914-734-3284	
NYP Lawrence	7am-11pm	Call Supply Chain: 914-787-2213	
	11pm-7am	Call Nursing Office: 914-787-5036	
NYP Queens	Monday-Friday: 7am-3pm	Call Supply Chain: 718-670-1698	
	Off Hours	Additional Inventory will be left with nursing managers; Call/email Command Center for replenishment : 718-670-2880	
NYP Brooklyn Methodist	Monday-Friday: 7am-6pm	Call Supply Chain: 718-780-3181	
	Saturday-Sunday: 8am-4pm		
	Off Hours	Additional Inventory will be left with nursing managers; Call/email Command Center for replenishment : 718-780-3695, Commbmh@nyp.org	