COVID-19 Out-of-OR Airway Management Guidelines:

Created by UVA Dept. of Anesthesiology, March 2020; adapted from Columbia University Department of Anesthesiology

Version 2, *Last edit 3/18/2020*

COVID BAG:

Contents:

- ❏ Unfitted N-95 Mask
- ❏ Head cover x1
- ❏ Plastic goggles x1
- ❏ Mask with plastic shield x1
- ❏ Waterproof blue gown x1
- ❏ MAC 4 blade and laryngoscope handle
- ❏ 7.0 mm ETT and 8.0 mm ETT
- ❏ Stylet x1
- ❏ 10 mL syringe

Location:

- Ready Room Conference Room
- If one bag is used up, please page 1311 to restock

Directions:

- These bags should be taken in addition to, not instead of, the 1311/arrest bag to all out-of-OR intubations/arrests
- Do not take the COVID/arrest bag into the room: take only the things that you need with you into the room
- Prepare medications and intubation equipment outside of the patient's room
- Have a dedicated anesthesia 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.
- Do not forget to restock at the end or page 1311

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AIRWAY MANAGEMENT

Pre-Intubation:

- Advance planning and clear communication are paramount
- 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 and providers maintain > 6 feet (2 m) distance.
- Goal is to intubate early: **Do not use non-invasive ventilation**
- **Most experienced provider should intubate**
- Set up and confirm ETCO2 waveform capnography is working
- Minimize personnel in the room
    - Recommendation: 2 anesthesia providers in the room, 1+ outside of the room; ventilator can be set up prior to intubation by RT (if non-emergent) or after intubation. Make sure there is a HEPA filter on the expiratory limb of the ventilator. If not, place HEPA filter between ETT and Y of the ventilator tubing. RT/nursing does not need to be in the room during intubation, unless clinically necessary.
- Bring the COVID bag in addition to the 1311 arrest bag
    - **Do not take COVID/arrest bag into the room**, just the necessary equipment
    - Current location of COVID bags: ready room
- Don PPE outside of the patient's room: **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**

Intubation:

- Prolonged pre-oxygenation for more than 5 minutes: for example with 100% FiO2 non-rebreather (caution: expiratory ports may aerosolize secretions)
- Avoid positive pressure ventilation prior to induction
- Goal is RSI

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    - If need to BMV, use 2 hands to provide good seal, use HEPA filter between mask and Ambu bag, deliver small tidal volumes
- Goal is to intubate early: **Do not use non-invasive ventilation**
- **Most experienced provider should intubate**
- Recommend to apply cricoid pressure if feasible
- Preferred use of video-laryngoscopy to increase the distance (e.g., McGrath is preferred for ease of decontamination)
- Inflate cuff immediately after intubation
- **Take off top layer of gloves after intubation and prior to touching other equipment**
    - **Careful** – do not contaminate yourself during this process
- Attach HEPA filter to ETT, then the rest of the system
- Use disposable stethoscope to examine the patient
- Secure the tube with tape
- Avoid awake FOI (risk of aerosolizing the virus with during topicalization and coughing)
- Avoid LMA ventilation, unless warranted for a difficult airway

Post-intubation:

- RT to set up ventilator prior or after intubation
    - RT does not need to be in the room during intubation, unless they are clinically needed
    - If in the OR: Attach HEPA filter to ETT if able, otherwise attach to the expiratory limb of the ventilator
- Connect the patient to the ventilator and secure the tube
    - If need to disconnect the patient from the ventilator, put it in standby first
- 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 and then place into the biohazard bag
- Doff PPE, 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.
- If yellow gown is used for intubation (which is not recommended): change scrubs (the gown is not waterproof)

Extubation:

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- 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
- Extubate to face mask (in case there is coughing), then can change to nasal cannula/face tent
    - o Avoid extubating to BiPAP/HFNC

CPR

- Hand hygiene and PPE prior to entering the room
- Goal is early intubation
- Minimize BMV. If necessary:
    - 2-hand masking to ensure a tight seal by the most experienced provider
    - HEPA filter between mask and Ambu bag
- **Hold chest compressions while intubating to minimize aerosolization** of the virus and infectious risk to all providers involved in resuscitation. Please clearly alert code leader and providers doing chest compressions.

DONNING Checklist	DOFFING Checklist
Before donning: · Remove all personal items such as jewelry, watches, cell phones, pagers, and pens. · Keep on ID badge and hands-free Vocera device, if available *Coach, please state* "I am going to direct you through this. Listen to each step completely before proceeding to the next"	*Coach, please state* "I am going to direct you through this. Listen to each step completely before proceeding to the next. Prior to doffing, move at least 6 feet away from the patient's head. Check integrity of PPE; check for breaks/visible soil. If breach, see below*
1. Cleanse hands.	1. Take a bleach wipe and clean gloved hands. Allow to remain wet for one minute (*only allowed for special pathogen isolation*).

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2. Choose appropriately sized PPE: a. Yellow or waterproof blue Gown, Double Gloves b. Mask: N95 respirator plus surgical mask ideally with built-in face shield c. Eye protection: Reusable goggles or Eye shields (if not using Regular mask with built-in face shield)	2. With one thumb, pop waist tie at side of gown. Cross arms and grasp gown at anterior portion of shoulders and pull away from body to break neck stay. Hold gown away from body. Roll up gown, rolling it up inside-out into a bundle with gloved hands. Peel off gloves while holding the rolled-up gown, touching only inside of gloves and gown with bare hands.
3. Inspect PPE for tears or breaches prior to donning.	3. Dispose of gown/gloves in regular trash^. **Do not compress** discarded PPE in trash bin, to avoid airborne spread of contaminants.
4. Cleanse hands	4. Cleanse hands. If hands are visibly soiled, perform soap and water hand washing.
5. Don gown. Fasten ties.	5. In setting of Operating Room: a. You may remove N-95 mask once patient airway is secured. However, you must don N-95 mask again during extubation. b. See below for appropriate doffing of eye protection and mask: i. Remove eye protection 1. Reusable goggles: Grasp frame at ears. Remove and wipe frame with disinfect wipe 2. Eye shields: Grasp frame at ears. Remove and dispose of removable visor. Wipe frame with disinfect wipe 3. Regular mask with built-in face shield: Pull off ear loops simultaneously while “giraffing” the neck forward
6. Don proper mask: a. N95 respirator i. If wearing glasses, remove them from bridge	6. Cleanse hands.

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of nose before applying respirator. ii. Secure elastic bands at crown of head (top strap) and at nape of neck below ears (bottom strap). iii. Perform a seal check by inhaling and exhaling, testing for air leaks. b. Place facemask over N95	
7. Don eye protection.	8. Remove mask/respirator (if not already done): a. Facemask: i. Pull off ear loops simultaneously while “giraffing” the neck forward. ii. Do not touch front of facemask b. N95 respirator: i. Grasp bottom elastic and bring forward over the head, then ii. Grasp top elastic and bring forward over the head. Allow mask to come off and dispose of mask in trash^.
8. Don 2 layers of gloves: Extend to cover wrist of isolation gown.	9. Cleanse hands.
9. Verify the integrity of PPE ensemble (i.e. no tears/breaches). All areas of the body should remain covered during full range of motion.	

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