

**Department of Anesthesiology and Pain Medicine Policies, Procedures, and Guidelines for Anesthesia and Airway management of patients with suspected or confirmed COVID-19 infection – Version 2 (3/15/20)**

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**Situation:**

Patients with COVID-19 pose particular risks to anesthesiologists, cRNAs, anesthesiology trainees, to other caregivers who participate in anesthetic/airway care, and to nearby patients. In particular, we perform procedures that may aerosolize virus. This policy, procedure, and guideline document serves as a guide for the anesthetic/airway care of patients with suspected, confirmed, or probable COVID-19 patients. This document complements UW Medicine COVID-19 policies and procedures. You will find the most up to date UW Medicine information, policies, and procedures related to care of patients with COVID-19 at <https://huddle.uwmedicine.org/news/covid-19-update>

**Background:**

In the Puget Sound area where community transmission is occurring, **suspected** COVID-19 patients are those with acute respiratory illness (that is, fever and at least one sign or symptom of respiratory disease, for example, cough or shortness of breath) AND with no other etiology that fully explains the clinical presentation. This definition is consistent with the current World Health Organization criteria for COVID-19 patients. If a patient meets these criteria or is designated as suspected or pending COVID-19 by the hospital, the patient falls into the category of suspected COVID-19.

A **confirmed** COVID-19 patient is one with a laboratory confirmation of infection with the SARS-CoV-2 virus.

The WHO also designates some patients as “probable”. **“Probable”** patients are those who meet the criteria of “suspected” but for whom the laboratory testing results are inconclusive. For the purposes of these policies and procedures, probable patients will be considered suspected.

**Analysis:**

Policies, Procedures, and Guidelines have to satisfy a duty of appropriate patient care while minimizing exposure of staff to infection. To meet these goals, we need a set of policies, procedures, and guidelines for anesthetic and airway management that protect caregivers and patients with judicious use of resources, including PPE.

**Policies, Procedures, and Guidelines:**

1. Early planning of intubation should occur whenever possible in order to control exposure and manage the setting to the fullest degree possible. In all cases, the provider most experienced at

laryngoscopy as determined by the responsible attending anesthesiologist should perform the intubation to minimize failed intubations and increased aerosol exposure.

2. For OR procedures in order to reduce aerosol production outside of the isolation room, consideration of intubation of the patient in their ICU or ward isolation room and then direct transport to the OR should be considered with the decision based on personnel and equipment availability and potential for difficult airway.
3. Emergent intubations or procedures can only proceed with correctly placed PPE in situ. Full airborne PPE precautions are to be adhered to regardless of the emergency or acute deterioration in patient status. Placement and removal should be performed under the supervision of appropriately trained monitoring personnel with the aid of the official UW Medicine donning and doffing protocol.
4. For anesthesia care, the primary anesthesia provider should be prepared to spend considerable time in the PPE device before being relieved; therefore, they should be adequately hydrated, have visited the restroom, and generally be prepared for a physically demanding episode of care.
5. Full PPE for anesthesia or airway management consists of a disposable protective gown, double gloves, eye protection, and the use of PAPR equipment or N95 with face shield. Apply the first set of gloves, then the PAPR or N95 with face shield. This is followed by donning the gown over the PAPR and lastly, the second pair of gloves.
6. Full PPE should be worn by the primary manager of the airway and the person assisting. Only anesthesia providers who have received training in COVID-19 PPE should be utilized for the care of COVID-19 patients. On site, just in time training is acceptable, if previously trained providers are not available.
7. For anesthesia or airway management, a PPE-trained attending anesthesiologist will preferably manage the case as a solo provider; however, in some complex clinical cases, the attending anesthesiologist may request either standby or in room assistance of other anesthesia providers. If on standby, a second anesthesia provider will be available in the ante-room ready to enter and assist protected by PPE. The primary attending should have no other responsibilities during this time. They may be relieved only by PPE-trained anesthesia personnel who are wearing full airborne PPE.
8. PPE-trained residents and fellows are allowed to care for COVID-19 patients when necessary; however, the fewest number of care givers required to safely care for the patient should be employed. Generally, this would be a solo attending anesthesiologist.
9. Patients should be brought to the OR from the floor or ICU by the anesthesia attending, anesthesia tech, nurse and surgeon. Patients presenting emergently from the ED will be transported by the ED nurse, RT and surgeon, allowing anesthesia personnel to rapidly setup and receive in the OR. If the patient is on a ventilator, the ICU ventilator (with HEPA filter) must NOT be disconnected and should be brought to the OR with the patient. Minimize equipment and supplies within the room to essential items only. Consider using intercom/speaker settings on room phones. The erasable white board may also be used when available. Standard monitoring, IV access, instruments, medications, ventilator and suction should be checked prior to the patient entering the room. Only disposable stethoscopes should be used.

10. After transfer of the patient to the OR table, stretcher/bed should remain in the room if possible or if necessary, can be thoroughly decontaminated by team member and removed to hallway for further immediate cleaning.
11. Videoscopic and direct laryngoscopy are both acceptable options. Videoscopic intubation using a glidescope may reduce exposure to aerosolized fluid and is recommended as the preferred method of intubation by some – preferably with a disposable blade. The primary provider should consider this choice carefully. Alternate blade sizes should be kept readily accessible outside the room to be passed in if needed. Disposable LMA's may be considered a rescue strategy in the setting of a difficult intubation. A difficult intubation cart including a disposable fiberoptic scope must be available outside the room.
12. All breathing circuits should use a HEPA filter, placed as close to the patient mask and subsequent endotracheal tube as possible. If available, the circuit should have inline suction so that suctioning can be performed without disconnecting. Avoid circuit disconnects whenever possible and when necessary, keep the HEPA filter between the patient and the environment at all times.
13. Ensure the patient is hemodynamically stable. If not, resuscitate with IVF and /or pressors before induction to avoid catastrophic hypotension.
14. Preoxygenate with 100% oxygen for 5 minutes using an anesthetic circuit. High flow face mask oxygen but not high flow nasal cannula oxygen is an acceptable alternative outside the OR. Oxygen administered via Ambubag may be less effective.
15. Perform rapid sequence induction (with cricoid pressure if a full stomach is suspected). Bag mask ventilation should be avoided unless absolutely essential because it will result in aerosolization of secretions. If applied, bag mask ventilation should be of minimal duration, using small tidal volumes, low pressure and applied by an experienced provider. The decision for the use of oral airways or any other airway manipulation should balance the potential for improving airway patency with the potential for inducing coughing. Awake fiberoptic intubations and mask inductions are discouraged because of the high potential for aerosol generation.
16. Following intubation, inflate the cuff and ensure there is no leak. Tube position must be confirmed by laryngoscopy (cuff below cords), distance from teeth and end-tidal capnography (color change outside the OR). Use of a stethoscope may not be possible with some PAPR devices. Institute mechanical ventilation and stabilize the patient.  
All non-disposable airway equipment must be sealed in a biohazard plastic bag, for subsequent decontamination.
17. Emergently required equipment and medications should be passed into the operating room door, only by personnel wearing PPE including N95 and face shield.
18. After completion of the procedure, ICU patients should be transported intubated back to the ICU and extubated there, if appropriate. Floor patients can be extubated in OR and recovered there with all other personnel except the anesthesia team out of the room. For transport, an oxygen mask, if needed, should then be closely applied to the patient and then a surgical mask placed over that. Do not transport the patient out of the OR to their isolation room until coughing or the need for suctioning appears to have subsided and the patient can be safely returned to and cared for in their ward isolation room. Patients must be transported by the same team to the ICU or isolation room. The PACU should NOT be used.

19. The anesthesiologist should remain in full PPE until transfer is completed - then remove PPE under the direct observation of an appropriate monitor in the isolation area, as per protocol.
20. The anesthesiologist should then thoroughly wash hands, change any head and feet covering, and change scrubs before moving into contact with other patients.
21. After the patient has left the procedure room, close the room to all personnel until there has been 99.9% air turnover – assume 35 minutes for ORs with no room traffic. The entire OR should be disinfected after any case involving a contagious patient. Terminal cleaning procedures must be performed with ultraviolet light disinfection after the terminal clean. The room may be used 1-hour after patient discharge and terminal cleaning has been completed

This policy will be regularly reviewed and may be adapted in circumstances of supply and staffing constraints, while still maintaining patient and practitioner safety.