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A Liternational	Original Research Paper	Anaesthesiology
	CORONAVIRUS DISEASE 2019 (COVID-19): ANESTHETIC CONCERNS, AIRWAY MANAGEMENT AND INFECTION CONTROL –A REVIEW	
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KEYWORDS .		

The novel coronavirus disease 2019 (COVID-19 or nCoV) and other respiratory infectious agents can be transmitted to clinicians involved in their care, particularly during aerosol-generating procedures (eg, endotracheal intubation andextubation). Infection control to limit transmission is an essential component of care in patients with suspected or documented COVID-19. Elective surgery has not been performed during the COVID-19 pandemic, but as the pandemic wanes, some institutions are starting to perform elective procedures. Elective procedures should not be performed in patients who are symptomatic with COVID-19, who are suspected of having COVID-19, or who are likely to be still shedding virus after COVID-19 infection. Elective surgery should be avoided because patients with COVID-19 may have high rates of perioperative morbidity and mortality¹ and they place operating room (OR) staff at risk for infection during aerosol generating procedures Institutional protocols for preoperative evaluation and testing should be followed.

- Frequent hand hygiene and proper donning and doffing of personal protective equipment (PPE) are essential to preventing transmission of coronavirus disease
- Aerosol-generating procedures increase the risk of transmission of COVID-19 to health care workers. Aerosol-generating procedures include tracheal intubation or extubation, bag mask ventilation, bronchoscopy and interventional pulmonology procedures, non invasive ventilation, administration of high-flow oxygen or nebulized medications, tracheotomy,open suctioning of airways, upper endoscopy, and colonoscopy.
- For patients with confirmed or suspected COVID-19 who undergo aerosol generating procedures, clinicians involved in their care should use personal protective equipment (PPE) appropriate for contact, aerosol, and air borne precautions
- Use of N95) or other respirator (eg, a powered air purifying respirator [PAPR]) that offers a higher level of protection, Eye protection (goggles, face shield that covers the front and sides of the face, or full face PAPR),
- Gloves (double gloves for intubation).
- Water resistant gown.
- In addition, a disposable hair cover cap, beard cover, and shoe covers shouldbe used.
- For patients who undergo non-aerosol-generating procedures, the same level of protection should be used as for aerosol-generating procedures if it is available. If N95 or higher respirators or PAPRs are not available, a surgical mask is an acceptable alternative.
- Patients should wear a surgical mask during transport, and should betransported directly to and from the operating room (OR), bypassing theholding area and preinduction area and the postanesthesia care unit (PACU).
- For intubated patients, a high quality viral filter should be placed between the endotracheal tube and the selfinflating (Ambu) bag used for ventilation

- The anesthesia machine and other equipment should be protected from viralcontamination, using plastic covers, and high quality viral filters in line in thebreathing circuit. Filters should be placed at the end of the endotracheal tube connector, and on the expiratory limb of the breathing circuit where it connects to the anesthesia machine. The gas sampling tubing should be connected on the machine side of the filter connected to the endotracheal tube.
- The choice of anesthetic technique should be based on patient factors and the planned procedure. Regional anesthesia is not contraindicated by COVID
- For general anesthesia, a rapid sequence induction and intubation should be performed, modified for patient factors.
- Goals for endotracheal intubation are to secure the airway rapidly, on the firstattempt, and to reduce or eliminate aerosolization of respiratory secretions.
- Key considerations during intubation include the following $^{\scriptscriptstyle 2}$
- Minimize the number of persons in the room during intubation.
- Preoxygenate and position the patient optimally for intubation
- Have the most experienced clinician perform the intubation.
- Use double gloves for intubation.
- Use whatever type of laryngoscope the clinician finds
 most
- Comfortable and is likely to achieve intubation most rapidly.
- Videolaryngoscopy is typically preferred.
- If rescue ventilation is required, use a supraglottic airway.
- If mask ventilation is required, use low pressure, low tidal volumes with a two person, two hand technique.
- Use end-tidal carbon dioxide (CO) and proper tube depth during videolaryngoscopy to confirm endotracheal tube placement, rather than bilateral breath sounds.
- Immediately dispose of contaminated equipment.
- For mechanically ventilated patients who are not breathing spontaneously, leave the filter on the ETT or pause the ventilator and clamp the endotracheal tube for all breathing circuit disconnects.
- Extubation is as high risk for aerosolization of respiratory secretions as intubation; similar precautions should be followed. Key considerations during extubation include the following.

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