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# Guidelines for Anesthesia During COVID-19 Pandemic in a Hospital in British Columbia

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## Introduction

The novel global outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) responsible for the COVID 19 outbreak has been disrupting health care and everyday life around the world [1]. As of April 29, 2020, there are 2,995,758 cases with 204,987 reported deaths according to the World Health Organization [2]. Human to human transmission has been confirmed and the risks towards healthcare workers are significantly high [3,4]. Since the development of symptoms can be delayed after contraction of the virus, anesthetists are at a heightened risk due to their role in surgical intervention. It becomes imperative to minimize aerosol generating procedures where general anesthesia is performed including endotracheal intubation and bag mask ventilation [5], as these procedures were associated with high nosocomial infections during the SARS outbreak in 2003 [6]. Regional anesthesia can be useful in mitigating the risks associated with respiratory viral transmission via coughing during intubation and extubation [5]. This article provides an overview of the guidelines currently implemented to minimize the transmission of SARS-CoV-2 in operating theatres in British Columbian hospitals.

## Practical Guidelines for Anesthetic Delivery

Aerosol generating medical procedures (AGMPs) during general anesthesia carry a high risk of SARS-CoV-2 transmission. These include bag valve mask ventilation, bronchoscopy, bronchoalveolar lavage, intubation, extubation, open airway suction, nebulized therapy and sputum induction. An anesthetist should be accompanied by one assistant at all times and during AGMPs, both should wear full personal protective equipment (PPE), when dealing with symptomatic and COVID-19 positive patients, including N95 mask, visor, head and neck protection (face shield), calf length gown, double gloves and knee-high shoe covering. The anesthetic personnel should be present alone in the operating theatre during induction, intubation and extubation.

Patients are considered low risk if they experience no symptoms of cough, fever, respiratory distress or malaise. In addition, they have had no infectious contacts, have not been self-isolating, no recent overseas travel history, no confirmed or pending COVID-19 swab results and they are not coming from an area of low community transmission or prevalence. For these patients, PPE can be reduced to comply with supply chain issues, although, it is still recommended to perform regional or neuraxial anesthesia over general anesthesia, however, N95 masks should be used in the case of AGMPs.

The operating theatre is under negative air pressure with ventilation rated at 10 changes per hour. Therefore, it takes 30 minutes for aerosols to be cleared from the theatre. Thus, after AGMPs it is imperative that other staff do not enter the theatre for 30 minutes and if they must do so, they should wear an N95 mask. Anesthetists should consider neuraxial or regional anesthetic procedures to minimize transmission associated with AGMPs. Regional techniques will require precautions due to the close contact and thus an adjustable table and pillows should be used to reduce the risk of transmission.

If intubation is required, the use of video laryngoscopy is beneficial as it limits the distance between the anesthetist and the patient. The endotracheal tube should be placed 1-2cm beyond the vocal cords, but since auscultation is not possible while wearing full PPE, capnography must be used. Inline closed suctioning should be performed in the event of endo tracheal suctioning requirement. Nasal and oral temperature probes should not be used. At the end of the procedure, deep extubation should be performed, with the concurrent use of intravenous remifentanil or lidocaine to reduce the risk of coughing. Following extubation, recovery should take place in the operating room. Afterwards, the anesthetist should change scrubs in the specified area and immediately shower in the changing room.

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## Conclusion

Regional anesthesia should be performed to reduce the risk of SARS-CoV-2 transmission, whenever possible. It is important to have regional anesthesia protocols in place to reduce infectious disease transmission, as SARS-CoV-2 will not be the last infectious disease to cause a pandemic of this extent. Having well-constructed anesthetic protocols will ensure patient safety as well as limited exposure to the perioperative team.

## References

1. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet. 2020 2020 Feb 15;395(10223):470-473.
2. WHO COVID-19 Dashboard.
3. Chan JFW, Yuan S, Kok KH, To KWK, Chu H, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet. 2020 Feb 15;395(10223):514-523.
4. Li Q, Guan X, Wu P, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. N Engl J Med. 2020 Mar;382:1199-1207.
5. Lie SA, Wong SW, Wong LT, Ling wong TG, Chong SY, et al. Practical considerations for performing regional anesthesia: lessons learned from the COVID-19 pandemic. Can J Anesth. 2020 Mar:1-8.
6. Yu IT, Xie ZH, Tsoi KK, Chiu LY, Lok SW, et al. Why Did Outbreaks of Severe Acute Respiratory Syndrome Occur in Some Hospital Wards but Not in Others? Clin Infect Dis. 2007 Apr;44(8):1017-1025.