



The use of continuous perineural catheters and other practices to optimize regional anesthesia in COVID-19 patients

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To the Editor,

As anesthesiologists, we are on the front line of the fight against coronavirus disease (COVID-19), whether in the intensive care unit, operating room, or elsewhere in the hospital. Given the highly contagious nature of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus via contact, droplets, and aerosols, it is critically important for anesthesiologists to have proper personal protective equipment (PPE) and for healthcare systems to create protocols to minimize exposure.¹ In the operating room, regional anesthesia has the potential to allow providers to avoid the aerosol generation associated with general anesthesia and its requisite bag mask ventilation, airway suctioning, and endotracheal intubation.² Regional anesthesia, therefore, has the potential to decrease SARS-CoV-2 spread to healthcare workers, in addition to the many other benefits nerve blocks offer to surgical patients.³ Based on our experience performing regional anesthesia in COVID-19 patients, we recommend performing all blocks in the patient's isolation room before transportation to the perioperative area. Additionally, we recommend continuous peripheral nerve blocks for all COVID-19 patients expected to have multiple surgeries or significant prolonged postoperative pain.

Some authors have recommended bringing COVID-19 patients to the operating room for the nerve block to be performed, waiting for the block to fully set-up, and then checking the block with ice prior to proceeding with surgery.² We feel that this not only unnecessarily increases

the operating room time but also potentially increases exposure to personnel in the operating room without providing significant benefit. In contrast, our practice is to perform blocks in the patient's own isolation room using standard monitors⁴ and limited sedation with intravenous midazolam and fentanyl, allowing us to assess adequacy of the block and then proceed to the operating room. This practice offers the benefits of ensuring the block will work adequately for surgery while minimizing time in the operating room and exposure of the perioperative staff. When performing blocks on COVID-19 patients, the most experienced regional anesthesiologist performs the block and should utilize the Centers for Disease Control and Prevention recommended PPE.⁵ This ideally is done without anyone else in the room in order to limit the potential SARS-CoV-2 exposure. If assistance is needed with catheter placement, sedation, or monitoring, we recommend that this be provided by a capable assistant (e.g., regional anesthesia fellow) also wearing full PPE.

Single injection nerve blocks only last hours, while continuous peripheral nerve blocks can last days or longer.³ In addition to the conventional benefits of improved analgesia and decreased opioid consumption, continuous nerve blocks allow for repeated trips to the operating room without additional exposure for the regional anesthesiologist. Alternatively, with a well-functioning continuous peripheral nerve block, debridements or other small procedures that would normally be done in the operating room may be done bedside. This further limits the exposure of operating room personnel. Furthermore, given the improved analgesia associated with continuous peripheral nerve blocks, these patients may be discharged and returned to quarantine earlier than if a single injection nerve block is utilized. It is, therefore, our practice to place perineural catheters for all appropriate COVID-19 surgical

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patients receiving regional anesthesia. These practices have allowed us to provide the benefits of regional anesthesia to COVID-19 patients with no viral transmission to the regional anesthesiology staff.

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