

CANADIAN ASSOCIATION OF EMERGENCY PHYSICIANS

COVID-19

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The Rational Use of Analgesics and Sedative Agents in the Emergency Department during the COVID Era

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The COVID-19 pandemic, declared in March, has revealed planning deficiencies on a national/regional level in Canada.

We are all aware of the shortages of testing capabilities, personal protective equipment, health human resources and ventilators.

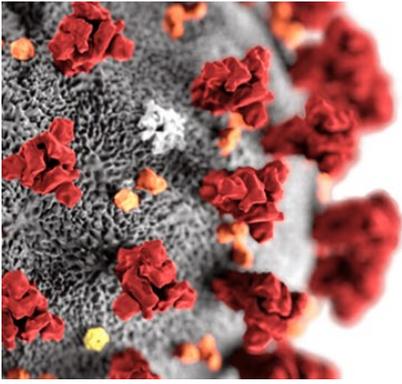
The issue of ventilator access and resource allocation has been particularly pressing and garnered much media attention.

Receiving far less attention has been the concern for inadequacies in the supply of the necessary medications to permit mechanical ventilation. Media and anecdotal reports from within the Canadian medical community have suggested that these medications are in short supply and may be reaching a critical shortage in the coming weeks. This would have significant clinical impact and therefore requires immediate investigation and action.

Ventilation is a physiologically complex, painful and anxiety inducing process. Patients who do not have control over their breathing, especially those who require paralytics to allow adequate ventilation, can be terrified, and some ICU patients can develop delirium. All these patients require specific medications to provide sedation, pain control and, in some cases, paralysis.

The list of medications used in managing the ventilated patient is short, and includes: Propofol, a short-acting sedative agent, and the short-acting benzodiazepine, Midazolam. The addition of analgesics such as Fentanyl and Morphine is usually necessary for patient comfort and reduces the amount of sedative required. Neuromuscular blockade or paralytic agents, such as Succinylcholine and Rocuronium are generally required for intubation and for short term use in the management of the ventilated patient. COVID patients appear to require the support of a ventilator for longer times than other ICU patients and, as such, require more of these essential drugs.

These medications are increasingly used in the Emergency Department, in addition to their traditional use in the OR and ICU. As such, emergency physicians have some agency with respect to their use and, increasing responsibility for their stewardship.



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Their current limited availability is a complex problem involving factors within and beyond our profession.

Responsibilities of local, provincial and national authorities:

- 1) In order to understand the scope of the problem and allow optimal time for preparation, there should be local processes to inform physicians of existing stock and alternatives including the use of older or alternative drugs than our traditional first line choices.
- 2) We call for national review of existing stocks, their distribution across provinces, and management of existing stocks to ensure appropriate sharing.
- 3) Lastly, we call for national management of procurement and distribution, and efforts to incentivize domestic production.

Responsibilities within the medical profession:

Emergency physicians must continue to strive to protect our current stockpile by:

- 1) Using alternate sources of analgesia where appropriate (e.g., hematoma blocks, regional nerve blocks, with ultrasound guidance).
- 2) Reducing waste of intravenous analgesics and sedatives
- 3) Careful choice of medications, considering nonpharmacological approaches and opportunities to apply alternate techniques, all in order to effect compassionate care in the emergency department, particularly as it relates to analgesia and procedural comfort.

We must also endeavour to collaborate with our anesthesiology and intensive care colleagues to provide the best possible analgesia and sedation to our emergency patients and safeguard our supply of agents required for the mechanical ventilation of our most critically ill.

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