

End-of-life care in the Emergency Department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19)

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Introduction

This document provides a framework for health care providers caring for Emergency Department (ED) patients with confirmed or suspected COVID-19 who are nearing end of life. Care of the imminently dying patient should not differ significantly from standard best palliative care practices, but there are some pertinent modifications to consider with respect to:

- Non-pharmacological management
- Pharmacological management
- Withdrawal of life sustaining treatments (WLST)
- Support for staff who are providing end-of-life care

Overview

- Coronavirus disease 2019 (COVID-19) causes a spectrum of disease, from mild respiratory illness to severe acute respiratory distress syndrome.
- Current estimates show that 15% of patients with COVID-19 will develop severe disease and 5% will require intensive care-level support. In certain scenarios, escalation of life sustaining therapies (defined as intubation, mechanical ventilation, vasopressor support and/or hemodialysis) will either not be within the patient's goals of care (GOC), or will unfortunately be unsuccessful. Overall mortality risk from COVID-19 is estimated to be between 3-5%^{1,2}.
- Decision-making around GOC should, as always, be patient-centred and addressed early in the patient's illness trajectory. Concerns around overall resource utilization in COVID-19 should not affect individualized decision-making in the absence of clear guidance from administrators and ethicists.
- The safety and health of care providers and family members of a patient with COVID-19 must be carefully balanced with meticulous symptom assessment and management to allow the patient to die comfortably and with dignity.

For all patients:

- Document the discussion around GOC with the patient and/or substitute decision makers and update the patient's category status in the medical record.
- Consider involving Spiritual Care, Social Work, and/or Palliative Care if appropriate. Ensure you have communicated the patient's COVID-19 testing status, whether confirmed or pending, so that all providers are aware of the need for appropriate personal protective equipment.
- Notify provincial or territory Organ Donation Organization as per local recommendations.

- Place the patient in a private room if possible, with clear instructions to follow contact and droplet precautions.
- Visitation
 - Due to COVID-19, visitation in most centres is being restricted. Please refer to the most up-to-date local protocols.
 - When visiting, family members must follow droplet and contact precautions, including wearing a procedure mask with face shield, isolation gown, and gloves, and perform hand hygiene prior to and after their visit³.
 - Encourage visits with relatives via telephone or video conferencing if possible to minimize physical visitors.

Non-pharmacological symptom management

- Recognize that nursing assessments of patients dying of highly transmissible acute respiratory infections are intensive, time consuming, and require a high degree of cognitive load. This will likely require a lower patient to nurse ratio and/or frequent relief of nursing duties.
 - Assessments will involve:
 - Frequent symptom assessments using validated tools for signs of distress (pain, agitation, dyspnea) and provision of medication as appropriate for symptoms⁴⁻⁶.
 - Frequent patient repositioning.
 - Eye and mouth care (**avoiding deep suctioning**).
 - Emotional support to patient and family.
- Review all medications and discontinue those not contributing to patient comfort.
- Discontinue devices not necessary for comfort or medication administration (i.e. monitors, nasogastric tubes, additional intravenous lines).
- Discontinue or minimize intravenous fluids and enteral feeding as this does not contribute to patient comfort nearing end of life^{7,8}. If the decision is made to continue enteral feeding of intravenous fluids, monitor closely for complications including aspiration and pulmonary or peripheral edema.
- Consider insertion of a subcutaneous lock for medication delivery.

- **Avoid the use of the following as they may generate aerosolized SARS-CoV2 virus particles and infect healthcare workers and family members⁹⁻¹².**
 - Fan
 - Oxygen flow greater than 6L/min
 - High-flow nasal cannula oxygen
 - Continuous positive airway pressure (CPAP) or bilevel positive airway pressure (BiPAP)
 - All nebulized treatments (bronchodilators, epinephrine, saline solutions etc)

Pharmacologic symptom management

While the information below provides recommended dosing of medications to manage common symptoms patients experience at end of life, dosing and frequency of medication administration should be individualized based on the patient's response. Consultation with Palliative Care is recommended if there is difficulty in managing symptoms.

- **Airway secretions**

- Glycopyrrolate 0.4mg subcut/IV q 4 hrs prn OR
- Scopolamine 0.4 mg subcut/IV q 4 hrs prn (scopolamine crosses the blood-brain barrier and will cause more sedation, which may be helpful if the patient is agitated)

- **Agitation/delirium**

- First line: haloperidol 0.5-1mg subcut/IV q 2 hrs prn
- Second line: midazolam 0.5-1mg subcut/IV q 30 mins prn
- Refractory delirium: consider adding methotrimeprazine 12.5-25mg subcut q 4 hrs prn

- **Pain**

- If opioid naive
 - Morphine 2.5-5 mg subcut/IV q 2 hrs prn OR
 - Hydromorphone 0.5-1 mg subcut/IV q 2 hrs prn
- If opioid tolerant, refer to opioid equi-analgesia and conversion tables for equivalent subcut/IV dosing

- **Dyspnea**

- If opioid-naïve, low-dose morphine (50-75% of dose used for pain relief) is the medication of choice
 - Morphine 1-2.5 mg subcut/IV q 30 mins prn OR
 - Hydromorphone 0.25-0.5 mg subcut/IV q30 mins PRN OR
 - Fentanyl 12.5-50 micrograms subcut/IV q 15 mins prn
- If opioid tolerant, give breakthrough doses to effect
 - Breakthrough dose is calculated as 10% of the total daily dose of subcut/IV opioid in 24 hrs
- Second line: midazolam 0.5-1mg subcut/IV q 30 mins prn
- For severe respiratory distress, consideration can be given to ketamine in dissociative dosing (1-2 mg/kg IV or 4 mg/kg IM) as a temporizing measure until the above medications can be titrated to effect.

- **Nausea/vomiting**

- Haloperidol 0.5-1mg subcut/IV q4h prn OR
- Ondansetron 4 mg subcut/IV q6h PRN

- **Fever**

- Acetaminophen 650 mg po/pr q4h prn

Withdrawal of life sustaining therapy

There will be instances where decisions will be made to withdraw life sustaining therapy such as mechanical ventilation. For patients who are mechanically ventilated, please refer to local institution guidelines for best

practices to wean ventilatory support. Given that extubation is considered an aerosol generating procedure and thus can be high risk to health care workers and family members present in the room, our recommendation is to **not extubate the patient in the Emergency Department, but to decrease ventilatory support and ensure comfort throughout** (see appendix). If extubation is being considered, the patient should be in a negative pressure room and all providers should be prepared with airborne personal protective equipment. Prior to this, we recommend speaking with experts in Critical Care and following best practices for withdrawal of mechanical ventilation.

Support to staff who are providing end of life care

Being responsible for decisions around resource rationing and utilization, on top of witnessing an increased frequency of suffering and death means ED health care workers are at heightened risk of burnout, compassion fatigue, and moral injury during pandemics¹³. It will be imperative for workplace colleagues to support each other and to perform frequent debriefs. Resources to support ED staff will vary by region and they should be made easily accessible to all. Additionally, resources can be accessed through various licensing authorities and should be strongly encouraged.

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