Symptom Management and Supportive Care of Serious COVID-19 Patients and their Families in India

Naveen Salins¹, Raj Kumar Mani², Roop Gursahani³, Srinagesh Simha⁴, Sushma Bhatnagar⁵

ABSTRACT

Coronavirus disease-19 (COVID-19) pandemic is causing a worldwide humanitarian crisis. Old age, comorbid conditions, end-stage organ impairment, and advanced cancer, increase the risk of mortality in serious COVID-19. A subset of serious COVID-19 patients with serious acute respiratory illness may be triaged not to receive aggressive intensive care unit (ICU) treatment and ventilation or may be discontinued from ventilation due to their underlying conditions. Those not eligible for aggressive ICU measures should receive appropriate symptom management. Early warning scores (EWS), oxygen saturation, and respiratory rate, can facilitate categorizing COVID-19 patients as stable, unstable, and end of life. Breathlessness, delirium, respiratory secretions, and pain, are the key symptoms that need to be assessed and palliated. Palliative sedation measures are needed to manage intractable symptoms. Goals of care should be discussed, and advance care plan should be made in patients who are unlikely to benefit from aggressive ICU measures and ventilation. For patients who are already in an ICU, either ventilated or needing ventilation, a futility assessment is made. If there is a consensus on futility, a family meeting is conducted either virtually or face to face depending on the infection risk and infection control protocol. The family should be sensitively communicated about the futility of ICU measures and foregoing life-sustaining treatment. Family meeting outcomes are documented, and consent for foregoing life-sustaining treatment is obtained. Appropriate symptom management enables comfort at the end of life to all serious COVID-19 patients not receiving or not eligible to receive ICU measures and ventilation.

Keywords: COVID-19, Palliative care, Supportive care, Symptom management.

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BACKGROUND

Worldwide we are facing an unprecedented humanitarian crisis in the form of COVID-19 pandemic.¹ As of March 31, 2020, approximately 800,000 population are infected with novel coronavirus, and 39,000 people died due to COVID-19 and still counting. India is probably in its initial stages of the pandemic with approximately 1,250 people infected and 32 deaths. However, estimates and mathematical models project a major humanitarian crisis in India, with millions getting affected and a proportional number dying due to COVID-19. The country has already begun preparation on a war footing, with a countrywide lockdown and social distancing measures. On the health front, India is building many exclusive COVID-19 hospitals and producing, on a mass scale, personal protective equipment and ventilators to manage the patients presenting with serious respiratory illness secondary to COVID-19. However, we need to learn from the experiences of the countries that were the epicenters of COVID-19 pandemic and translate those experiential learnings to our practice.² In a subset of the population, COVID-19 presents with severe symptom burden and respiratory distress and not all will be eligible for aggressive intensive care management due to their underlying conditions.³ When the healthcare system is overwhelmed with COVID-19 patients, some with a serious acute respiratory illness will be triaged to receive aggressive intensive care management. However, a subset of COVID-19 patients with serious acute respiratory illness, who are elderly with multiple comorbidities, end-organ impairment, and advanced cancer may be triaged only for supportive treatment.³ Triage policy needs are set depending upon the local exigencies.⁵ Those with serious acute respiratory illness secondary to COVID-19 not receiving or not eligible to receive these aggressive intensive care management should receive appropriate symptom management measures.⁶ This article addresses the symptom management and supportive care strategies in patients with serious COVID-19 illness not suitable for intensive care treatment and ventilation.

NEED FOR SYMPTOM MANAGEMENT AND PALLIATIVE CARE IN SERIOUS COVID-19 PATIENTS

In 81% of patients, COVID-19 causes mild or uncomplicated illness; and in around 19% of patients, it causes severe illness needing
hospitalization.7 The overall case fatality rate of COVID-19 is 2–7%.8–11 However, there is a steep increase in mortality in elderly patients with COVID-19.11 Although breathlessness was found in less than one third of COVID-19 patients in uncomplicated illness, it was the most common symptom in patients with COVID-19 needing ICU admissions and in nonsurvivors of COVID-19.13 An Italian survey showed that palliative care should be an integral part of disaster management in COVID-19 patients, which should be flexible and innovative to meet the rapidly rising need.13

**Suffering in Patients and Their Families Affected by Epidemics of Life-threatening Infections Like COVID-19**

**Physical Suffering**
The physical suffering could be due to the direct effect of the illness and side-effects of the treatment. It can be mitigated by rapid assessment of symptoms and treatment and training of the emergency healthcare providers in the basics of palliative care.

**Psychological Suffering**
The psychological suffering could be due to stigmatization of illness, social isolation, anxiety, depression, and delirium. It can also be due to the grief associated with loss and the survivor’s guilt. It can be mitigated by having protocols for rapid assessment of anxiety, depression, and delirium. Immediate steps include (a) making benzodiazepines, selective serotonin reuptake inhibitors, and haloperidol as part of the emergency and essential medications; (b) training the emergency and community healthcare providers in rapid assessment of psychological symptoms; (c) providing counseling support to people in social isolation via phone or video communication; and (d) creating support groups for the survivors and bereaved family members.

**Social Suffering**
The social suffering could be due to disease stigmatization, social isolation, being barred from the community due to illness, negative perception of the illness, authoritarianism, and poverty. It can be mitigated by taking steps to meet the basic needs like food, shelter, and clothing. Further steps include (a) community education about the illness and fear of illness and stigma; (b) creating voluntary social support groups; and (c) involving the community and religious leaders for social support.

**Spiritual Suffering**
The reasons for spiritual suffering may include loss of sense of the meaning of life, guilt, and loss of faith or anger toward God. It can be mitigated by providing spiritual support with all infection control strategies in place. One possible approach is to develop community spiritual groups and involving religious leaders who can provide spiritual support telephonically or via video chat.

### Palliative Care Triaging in Humanitarian Crisis like COVID-19

Palliative care triaging in a humanitarian crisis like COVID-19 is classified into four categories. Serious COVID-19 patients who have severe acute respiratory illness and not responding to invasive ventilation or not eligible for ventilation because of underlying medical conditions will be coded as red and blue categories. In these patients, palliative care should be integrated with the acute services and disaster response team for rapid and emergency palliative care (Table 1).

### Categorizing COVID-19 Patients not Suitable for Ventilation

According to a recent article by Tanja et al.,15 COVID-19 patients not suitable for ventilation are categorized as stable, unstable, and end of life. The categorization is based on the early warning parameters recommended by the National Health Services, UK and WHO.16,17 The parameters used in categorization are EWS,18 respiratory rate, and oxygen saturation (Tables 2 and 3).

### Assessment and Management of Common Symptoms in COVID-19 Patients

The COVID-19 patients with severe acute respiratory illness experience symptoms that need assessment and management. Breathlessness, delirium, respiratory secretions, and pain are the key symptoms that need immediate attention.

**Breathlessness (Algorithm 1)**

Severe acute respiratory illness of COVID-19 can present with intractable breathlessness refractory to medical management and high flow oxygen.19 The breathlessness can be assessed using dyspnea numerical scale (DNS) and verbal descriptor scale (VDS) for dyspnea intensity.20 Based on the DNS score and VDS, breathlessness is classified as mild, moderate, or severe (Table 4).

**Mild Breathlessness**21

Continue medical management and oxygen. Use nonpharmacological strategies like positioning (upright, sitting, leaning forward), relaxing environment, and cooling the face with a cold

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**Table 1: Palliative care triaging in COVID-19 situations**

<table>
<thead>
<tr>
<th>Category</th>
<th>Color code</th>
<th>Description</th>
<th>Palliative care involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>Red</td>
<td>Survival only possible with immediate treatment</td>
<td>Emergency palliative care integrated with active care and disaster response</td>
</tr>
<tr>
<td>Expectant</td>
<td>Blue</td>
<td>Survival not possible given the care available</td>
<td>Emergency palliative care integrated with active care and disaster response</td>
</tr>
<tr>
<td>Delayed</td>
<td>Yellow</td>
<td>Not in immediate danger of death but treatment needed</td>
<td>Palliative care as required for symptom management</td>
</tr>
<tr>
<td>Minimal</td>
<td>Green</td>
<td>Will need medical treatment sometime in the future</td>
<td>Palliative care may be required for relief of symptoms</td>
</tr>
</tbody>
</table>

(Adapted from the World Health Organization [WHO] guidelines for integrating palliative care and symptom relief into the response to humanitarian emergencies and crises)
flannel. Handheld fans and portable fans are discouraged due to the risk of aerosol dispersion.

**Moderate Breathlessness**

Above strategies + oral morphine for relief of distress of breathlessness (2.5 mg immediate release morphine twice daily to three times daily (BD-TDS) + 2.5 mg as required (SOS) for breakthrough breathlessness and titrate the dose daily by 2.5 mg/24 hours up to a maximum of 20 to 40 mg/24 hours). A rapid titration may be needed if the symptoms are difficult to control. If the breathlessness is associated with anxiety, start with lorazepam 0.5 mg bedtime (HS) and titrate the dose by 0.5 mg upwards every day up to a maximum of 4 mg/24 hours.

**Severe Breathlessness and Breathlessness in the End of Life**

Patients with severe breathlessness or breathlessness in the end-of-life situation will need parenteral opioids and benzodiazepines. Inj morphine 2 mg subcutaneously (SC) every 4 hourly + inj midazolam 2 mg SC every 4 hourly + same doses SOS if the patient has breakthrough breathlessness. If the patient is in shock, intravenously (IV) route is preferred instead of subcutaneous. If a syringe driver is available, inj morphine 10–15 mg/24 hours + inj midazolam 10–15 mg/24 hours can be administered as a continuous infusion either SC or IV. Oral and parenteral morphine can cause constipation and vomiting. The patient should be prescribed a stimulant laxative like bisacodyl 10 mg HS prophylactically to avoid constipation. Tab or inj metoclopramide 10–20 mg should be provided as an anticipatory prescription for morphine-associated vomiting.

**Delirium (Algorithm 2)**

Delirium is common in patients with acute and serious illness needing ICU care or at the end of life. Delirium in COVID-19 patients, delirium may be due to sepsis, metabolic disturbances, cerebral hypoxia, or due to medications. Most patients may have a hypoactive or mixed type of delirium with fluctuating levels of activation. It can initially present as altered sleep–wake cycle, and patients gradually develop irritability, changes in behavior and disorientation, and difficulty in maintaining attention and can extend to altered consciousness and coma. Severe agitated delirium can present with restlessness and violent behavior and managing these patients can be challenging. Delirium in patients with serious COVID-19 with a critical and terminal illness can be assessed using a simple 4AT test (Table 5).

Haloperidol is the preferred pharmacological agent for the management of agitated delirium in critical illness. The starting dose for delirium with mild symptoms can be as low as 0.5 mg BD. The dose can be titrated up incrementally up to 10–15 mg/24 hours. In patients with severe agitation, parenteral haloperidol is preferred. Starting dose of 1.5–5 mg SC stat and an intermittent dose of 2.5 mg SC every 8 hourly (Q8H) or every 6 hourly (Q6H). If the patient is in shock IV route is preferred. If the syringe driver is available, haloperidol 5–10 mg/24 hours can be given as a continuous infusion either by subcutaneous or by intravenous route. Atypical antipsychotics such as olanzapine, risperidone, and quetiapine are less preferred in delirium in critical illness. Benzodiazepines are not the first-line agents in delirium. It can be used alongside haloperidol. Midazolam 10–15 mg/24 hours as an infusion or 2 mg Q4H can be used alongside haloperidol if the agitation is not controlled by haloperidol. One of the adverse effects of haloperidol in critically ill patients that should be considered is the QT interval prolongation. Use of mechanical or physical restraints is not encouraged unless absolutely necessary. It can cause harmful consequences to the patient and worsen agitation. Pharmacological restraint is preferred over the physical restraint.

Nonpharmacological management also plays a vital role in managing symptoms of delirium. The patient should be nursed in a quiet room with less auditory and visual excitation. A family presence in the room may not be possible due to the risk of virus transmission. Reorientation techniques and clock and calendar in the room can be beneficial. If possible, consistency of the nursing staff and a bed by the side of the window that helps patient to differentiate day and night might be helpful.

**Respiratory Secretions (Algorithm 3)**

Respiratory secretions are seen in 20–90% of patients in the last days or hours of life. Majority of these secretions are due to nonpathological accumulated bronchial secretions that can be seldom expectorated out. Although it may not cause any distress
to the patients, the families and healthcare workers are often rattled by the noise of the secretions prompting action. The first step in managing overt respiratory secretions is optimizing hydration. Judicious use of parenteral hydration is critical. Ororharyngeal suctioning is seldom beneficial as a majority of secretions are below glottis. Nursing interventions to prevent aspiration and repositioning are beneficial. Moving the patient from supine to lateral recumbent position with the head slightly raised encourages drainage, maintains airways, and decreases pooling of the secretions.

Glycopyrrolate is the preferred pharmacological agent used in managing respiratory secretions. The dose is 0.2 mg Q8H or Q6H SC or IV. In severe respiratory secretions, 0.8–1.2 mg can be used as a continuous subcutaneous or intravenous infusion. The other drugs that can be used are atropine 0.2–0.4 SC or IV Q4H to Q6H. Atropine is less preferred as it can cross the blood–brain barrier and cause delirium. Scopolamine 0.3–0.6 mg SC or IV also can be used Q4H to Q6H to decrease respiratory secretions.

Pain (Algorithm 4)

It is estimated that up to 70% of patients admitted to ICU experience moderate to severe pain that is seldom addressed. The etiology of pain in an ICU setting could be multifactorial and can be due to illness per se or due to medical procedures and invasive interventions. Poorly controlled pain can cause physical and emotional distress and can interfere with the patient’s recovery. In a conscious patient with intact cognition and verbalizing, a numerical rating scale can be used to assess pain intensity (Table 6).

In cognitively deteriorated, altered sensorium, or intubated patients, the behavioral pain scale (BPS) is used (Table 7). Mild pain is best managed with paracetamol. Oral paracetamol up to 2–4 g/24 hours in four divided doses can be effective in pain management. In patients who cannot take orally, paracetamol injection 2–4 g/24 hours can be given IV. Nonsteroidal anti-inflammatory drugs are best avoided in COVID-19 patients. Step 2 analgesics like tramadol and tapentadol have minimal role in managing pain in an acute ICU setting. In moderate pain, oral morphine immediate release can be initiated at 5 mg Q4H after monitoring the renal functions. If the patient is unable to take orally, inj morphine can be initiated at 1–2 mg Q4H SC or IV. In severe pain, oral morphine immediate release can be started at 10 mg Q4H, and if the patient is unable to take orally, inj morphine 2–2.5 mg can be initiated Q4H SC or IV. In the presence of renal failure, fentanyl is a better analgesic as morphine metabolites are renally cleared.
Fentanyl transdermal patch may not be an effective option as it takes around 12 hours for its onset of action and subcutaneous absorption may be ineffective in the presence of a shock. The dose of fentanyl for pain management is 0.2–0.5 μg/kg/hour IV as a continuous infusion. Methadone may not be a safe option in critically ill patients due to its complex pharmacokinetics. If the patient has coexisting neuropathic pain, gabapentin is the preferred drug with a starting dose of 100 mg HS and titrated upward by 100–300 mg/24 hours up to a maximum dose of 2700–3600 mg/24 hours.43

Intractable Symptoms (Algorithm 5)

There will be a subset of patients who may not have relief of symptoms with the above measures and can have serious distress. These patients are managed by administering medications to induce a state of decreased awareness to relieve the suffering caused by intractable symptoms. It is known as palliative sedation.43 Uncontrolled breathlessness, intractable pain, and severe delirium are common reasons to provide palliative sedation. Before initiating palliative sedation, a thorough assessment is required to ascertain the reversibility of the clinical condition and the symptoms. Once irreversibility is established, families should be communicated about the refractoriness of illness, severity of symptoms, and the lack of effective strategies to manage the symptom within a reasonable period of time. The need for initiating sedation should be discussed in a sensitive manner and family should be encouraged to participate in decision-making. Once the family is willing, consent has to be obtained stating the clinical condition, prognostication of illness, the intractable nature of the symptoms, the proposed approach, the probable duration of sedation, and any anticipated side effects.44

Midazolam is used as the first-line agent. A stat dose of 2 mg is administered IV, and a maintenance dose of 10–15 mg/24 hours as a continuous intravenous infusion can be initiated. The dose of midazolam can be up/down titrated based on the depth of sedation.

Phenobarbitone is recommended as the second-line agent. A stat dose of 100 mg is administered IV, and a maintenance dose of 400–800 mg/24 hours can be maintained as a continuous intravenous infusion. The dose of phenobarbitone can be up/down titrated based on the depth of sedation.

Propofol can be used as a third-line agent if the symptoms are intractable with above measures, and the propofol dose of 0.5 mg/kg is administered stat IV and maintained on 1–4 mg/hour as a continuous intravenous infusion.

The sedation should be initiated with the smallest dose as possible, and the goal is to have light sedation. Around 30% of the initial dose can be increased every hour until the desired sedation level is obtained. However, if patients have deep sedation or apneic spells, the sedation can be temporarily stopped and lightened. Opioids are never used for palliative sedation.45

**Emergency Toolbox for Symptom Management of Serious COVID-19 Patients**14

**Emergency Resources**

Personal protection equipment guidance, aerosol, and airborne infection protection guide, hand hygiene and infection control protocol, pain scale, dyspnea scale, delirium screening scale, symptom management algorithms, standard templates for a family meeting, documenting patient and family communication, and foregoing life-sustaining treatments.

**Emergency Medications**

Morphine (oral immediate release tablet 10 mg and injection 10 mg/mL), midazolam (injection 5 mg/5 mL), lorazepam (tablet 0.5 mg and 1 mg), metoclopramide (tablet 10 mg and injection 5 mg/mL), haloperidol (tablet 0.5 mg, 5 mg, and injection 5 mg/mL), paracetamol (tablet 500 mg and 650 mg and injection 1 g/100 mL), pantoprazole (tablet 40 mg and injection 40 mg/vial), dexamethasone (tablet 4 mg and injection 4 mg/mL), hydrocortisone (injection 100 mg/vial), furosemide (injection 40 mg/4 mL), amitriptyline (tablet 10 mg and 25 mg), citalopram (tablet 10 mg), quetiapine (tablet 25 mg), olanzapine (tablet 2.5 mg and 5 mg), glycopyrrolate (injection 0.2 mg/mL), linctus codeine suspension, phenobarbitone (injection 200 mg/mL), and naloxone (injection 0.4 mg/mL).

**Psychosocial Support to Patients with Serious COVID-19 and Their Families**

Individuals and their families experiencing public health emergencies like COVID-19 situations can develop varying degrees of stress disorders and worsening of preexisting mental health conditions. It could be due to social isolation at home, hospital quarantine, or ICU admissions. Due to infection control practices, psychologists and psychiatrist may not always be able to access the patients, and these patients have to be managed remotely or through an emergency health worker having the basic skills in dealing with emotional distress.46

**Discussion of Goals of Care and Advance Care Planning with Patients and Their Families in Serious COVID-19 Situations**

Before shifting elderly patients with multiple comorbidities, patients with end-stage organ impairment, and patients with advanced cancer to ICU, it may be useful to discuss the goals of care and plan for treatment.47 The goals of care discussion should involve talking to the patients and their families about the nature of the treatment they would like to receive and their preferences about the place of care.48 Elderly patients with multiple comorbidities, patients with end-stage organ and patients with impairment and advanced cancer with COVID-19 should be explained the benefit and disadvantages of invasive ventilation and ICU measures, should they develop a serious acute respiratory illness. Their preferences for life-sustaining treatment should be documented. The primary purpose of advance care planning is to avoid intensive care admissions in serious COVID-19 patients who are unlikely to benefit from ICU measures and ventilation.49 The other purpose of advance care planning is to spare the patients and their families from complex triage discussions and decision-making by discussing the goals of care in advance.49
**Decision-making and Documentation of Medical Futility in Serious COVID-19 Patients**

The treating doctors, emergency physicians, or intensivists should determine the futility of initiating or continuing aggressive ICU treatment in patients with serious COVID-19. The futility is determined based on a combination of criteria given below. As there are no established medical futility criteria for serious COVID-19 situations, the treating doctors should use their discretion while considering a combination of criteria.

- High sequential organ failure assessment score
- Irreversible shock
- Progressively worsening neurological condition
- An increasing need for ventilator support
- Older age (especially age >80 years)
- Multiple comorbid conditions/end-stage organ impairment/advanced cancer
- Physician prediction of a low probability of meaningful survival.

The futility should be established by the treating doctor(s) and documented in the medical records and signed. If there is no consensus, then a time-limited trial of intensive care treatment can be initiated, and the patient should be reassessed after 48 hours to determine the need for continuing life-sustaining measures.

The futility assessment and documentation in the medical records should be conducted according to the respective hospital’s end-of-life care policy and protocol.Ideally documentation in the medical records should comprise:

- A statement stating patient has serious acute respiratory illness secondary to serious COVID-19 situation with no reasonable chance of recovery. The burden or harm of initiating/continuation of a life-sustaining treatment outweigh the possible benefits.
- Clear reason justifying the decisions and how it satisfies the futility requirements.
- Summary of treatment provided till date.
- Life-sustaining treatments provided, planned to be withheld/withdrawn.
- Alternative symptom management strategies deployed.

**Communicating Medical Futility and Foregoing Life-sustaining Treatment**

After the treating doctors document the medical futility, a family meeting should be conducted. If possible, it should be conducted in a room that offers privacy to the family and where doctors and family members can sit and discuss. During the family meeting, following points should be addressed.

- Refractory or critical nature of the illness (based on the futility criteria provided before)
- Benefit vs burden of initiation/continuation of aggressive medical management
- Symptom relief measures as an alternative to futile needless intensive care treatment
- Myths, misconceptions about illness, or foregoing life-sustaining treatment
- Consensus/Conflict in the family about the decision to forego life-sustaining treatment
- Discussing the process of dying and symptom relief measures provided.

**Table 8: What statements to avoid and use during communication**

<table>
<thead>
<tr>
<th>Avoid</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is nothing more we can do for the patient</td>
<td>We will do everything possible to take care of the patient</td>
</tr>
<tr>
<td>You must be very strong and brave now</td>
<td>We understand that it is an emotional time and it is ok to feel scared and anxious</td>
</tr>
<tr>
<td>Do not worry patient will die peacefully with these drugs</td>
<td>We will do the best we can to see that the patient does not suffer and made comfortable</td>
</tr>
<tr>
<td>You cannot be with your patient. It can be dangerous for you</td>
<td>I am sorry that you cannot have your loved one around you. We are doing everything possible to protect you, while we are caring for your loved one</td>
</tr>
</tbody>
</table>

(Adapted from the Italian Society of Palliative Care Guidance). More detailed scripts are available as a toolkit at vitaltalks.org (https://www.vitaltalk.org/guides/covid-19-communication-skills/)

It may not always be possible to conduct a face-to-face meeting due to infection control protocols. In these situations, these communications can happen as video chats. After the family meeting, the details of the communication with the family is documented and signed by the healthcare providers participating in the family meeting. If the team feels it necessary, they can ask the family representative to countersign the family meeting documentation (Table 8).

**Documentation of Foregoing Life-sustaining Treatment**

A simple consent form provided below can be used to document the decision to forego life-sustaining treatment. It can be printed as a separate form or can be printed on the case records.

- Name of the patient, address, identification document
- Place and date and time
- Reason for the decision to forego life-sustaining treatment
- Whether the patient has the capacity to make decisions and communicate
- If yes to question 4, document whether the patient has understood and agreed with the plan. Name of the patient and signature/date
- If no to question 4, document whether the surrogate/next of kin has understood and agreed with the plan. Name of the surrogate(s)/next of kin(s) and signature/date
- Countersigned below by the treating doctor(s), name, and signature/date and time

**End-of-life Symptom Management of Serious COVID-19 Patients Not Ventilated or Discontinued Ventilation**

Patients who are not ventilated or discontinued from ventilation can develop severe breathlessness, delirium, and moist breathing. They can be considered a combination of medications either as a continuous infusion or as an intermittent dosing along with breakthrough medications.

Inj morphine 10 to 15 mg/24 hours + inj midazolam 10–15 mg/24 hours can be combined and administered as an infusion or inj morphine 2 mg + inj midazolam 2 mg Q4H. If respiratory secretions are present, inj glycopyrrolate 0.2 mg every 6–8 hours.
The breakthrough medications are given SOS for symptoms, and breakthrough medications can be given in the intervals of 1–2 hours as required. The breakthrough doses are one sixth of the regular doses. Anticipatory prescribing is recommended not to consider palliative extubation in serious and intractable symptoms before. As palliative extubation can lead to aerosol generation, risking other health workers and families, it is recommended not to consider palliative extubation in serious acute respiratory illness of COVID-19 situations. It is recommended to decrease ventilator support gradually and continue symptom relief measures.55

**Anticipatory Prescribing**

Patients with serious COVID-19 not ventilated/withdrawn from ventilator can develop severe symptoms. These should be anticipated, and an anticipatory prescription should be provided for all the patients (Table 9).

Patients who have intractable symptoms should be managed according to the palliative sedation guidance provided in the intractable symptoms before. As palliative extubation can lead to aerosol generation, risking other health workers and families, it is recommended not to consider palliative extubation in serious acute respiratory illness of COVID-19 situations. It is recommended to decrease ventilator support gradually and continue symptom relief measures.55

**Table 9: Anticipatory prescription for patients with serious COVID-19 not ventilated or withdrawn from ventilator**

<table>
<thead>
<tr>
<th>Symptom anticipated</th>
<th>Treatment plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Inj morphine 1–2 mg SC or IV</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>Inj morphine 1–2 mg SC or IV</td>
</tr>
<tr>
<td>Distress/Agitation</td>
<td>Inj midazolam 1–2 mg SC or IV</td>
</tr>
<tr>
<td>Delirium</td>
<td>Inj haloperidol 1–2 mg SC or IV</td>
</tr>
<tr>
<td>Delirium with severe agitation</td>
<td>Inj haloperidol 1–2 mg SC or IV +</td>
</tr>
<tr>
<td>Respiratory secretion</td>
<td>Inj glycopyrrolate 0.2 mg SC or IV</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>Inj metoclopramide 20 mg SC or IV</td>
</tr>
</tbody>
</table>

**Anxiety and Distress among Healthcare Providers**

The healthcare providers caring for COVID-19 patients suffer anxiety and depression due to the risks to their own life, worry over risks to families, loss of morale, burnout, and compassion fatigue. A qualitative study among healthcare providers caring for Middle East respiratory syndrome coronavirus showed that healthcare providers experience prejudicial behavior, stigmatization, traumatic fear, and despair.55 The Chinese survey study showed that frontline healthcare workers caring for COVID-19 patients experienced depression, anxiety, and insomnia.55 Therefore, self-care and mental health support to the healthcare workers are crucial during this pandemic. Interventions like providing a place for healthcare staff to isolate from their families, and guaranteed provision of food, personal protective equipment, and training are helpful. They should be provided with an opportunity to debrief and receive counseling support.56

**Conclusion**

The COVID-19 pandemic will test human resolve over the next year and perhaps beyond. Not all patients will benefit from or be eligible for ICU care and ventilation. We provide a toolkit for the provision of basic palliative care by intensivists, pulmonologists, and other medical professionals involved in the management of these patients.

**References**


### Algorithm 1: Management of breathlessness in patients with serious COVID-19 infections

<table>
<thead>
<tr>
<th>Mild DNS score 1–4/VDS mild</th>
<th>Moderate DNS score 5–6/VDS moderate</th>
<th>Severe DNS score 7 and above/VDS severe</th>
<th>Intractable breathlessness not amenable to palliative management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Medical management</td>
<td>• Strategies used for mild + oral morphine immediate release 2.5 mg BD-TDS + 2.5 mg SOS. Slow upward titration by 2.5 mg daily up to 40–60 mg/day. If pain is present, titration according to pain scores/pain relief</td>
<td>• Strategies used for mild + Inj morphine 2 mg SC Q4H + Inj midazolam 2 mg SC Q4H</td>
<td>See Algorithm 5: management of intractable symptoms</td>
</tr>
<tr>
<td>• High-flow oxygen</td>
<td>• Oral lorazepam 0.5 mg if anxiety is present. Increase by 0.5 mg daily up to 4 mg/day.</td>
<td>• If syringe driver is available Inj morphine 10–15 mg + Inj midazolam 10–15 mg as a 24 hours infusion</td>
<td></td>
</tr>
<tr>
<td>• Positioning (upright, sitting, leaning forward)</td>
<td>• Tab metoclopramide 10 mg SOS for nausea and vomiting</td>
<td>• Inj metoclopramide 20 mg IV SOS for vomiting</td>
<td></td>
</tr>
<tr>
<td>• Cold flannel on the face</td>
<td>• Tab bisacodyl 10 mg HS</td>
<td>• T bisacodyl 10 mg SOS</td>
<td></td>
</tr>
</tbody>
</table>

### Algorithm 2: Management of delirium and agitation in patients with serious COVID-19 infections

<table>
<thead>
<tr>
<th>Mild delirium</th>
<th>Delirium with agitation</th>
<th>Agitation/restlessness without delirium</th>
<th>Intractable delirium and agitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pharmacological:</td>
<td>Non-pharmacological strategies for mild delirium + Pharmacological:</td>
<td>Mild symptoms:</td>
<td>See Algorithm 5: management of intractable symptoms</td>
</tr>
<tr>
<td>• Quiet room</td>
<td>• Oral haloperidol 0.5 mg BD and titrate dose upwards to a maximum of 10–15 mg/24 hours</td>
<td>• Non-pharmacological strategies used for mild delirium + relaxation therapies if possible</td>
<td></td>
</tr>
<tr>
<td>• Less visual/auditory excitation</td>
<td>• Avoid benzodiazepines if possible</td>
<td>• Tab lorazepam 0.5 mg HS titrated by 0.5 mg up to 4 mg</td>
<td></td>
</tr>
<tr>
<td>• Bed by the side of window</td>
<td>Pharmacological:</td>
<td>Severe symptoms:</td>
<td></td>
</tr>
<tr>
<td>• Reorientation techniques</td>
<td>• Inj haloperidol 2.5 mg SC Q6H–Q8H</td>
<td>• Inj midazolam 2 mg SC/IV Q4H or as continuous SC/IV infusion 10–15 mg/24 hours</td>
<td></td>
</tr>
<tr>
<td>• Consistency of the nursing staff</td>
<td>• If syringe driver is available Inj haloperidol 5–10 mg/24 hours continuous SC or IV infusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Avoiding physical restraints</td>
<td>• If agitation not controlled add Inj midazolam 2 mg SC/IV Q4H or as continuous SC/IV infusion 10–15 mg/24 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Algorithm 3: Management of respiratory secretions in patients with serious COVID-19 infections

<table>
<thead>
<tr>
<th>Non-pharmacological</th>
<th>Pharmacological</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Optimizing hydration</td>
<td>• Inj glycopyrrolate 0.2 mg Q8H to Q6H SC or IV. If severe, 0.8–1.4 mg/24 hours in divided doses or as a continuous SC or IV infusion over 24 hours</td>
</tr>
<tr>
<td>• Judicious use of parenteral hydration</td>
<td>• Inj atropine 0.2–0.4 mg SC or IV Q4H to Q6H</td>
</tr>
<tr>
<td>• Avoiding oropharyngeal suctioning</td>
<td>• Inj scopolamine 0.3–0.6 mg SC or IV Q4H to Q6H</td>
</tr>
<tr>
<td>• Preventing aspiration</td>
<td></td>
</tr>
</tbody>
</table>
### Algorithm 4: Management of pain in patients with serious COVID-19 infections

<table>
<thead>
<tr>
<th>Mild NRS score 1–3</th>
<th>Moderate NRS score 4–6</th>
<th>Severe NRS score 7 and above</th>
<th>Intractable pain not amenable to palliative management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Oral paracetamol 2–4 g/24 hours in four divided doses</td>
<td>• Strategies used for mild + Oral morphine immediate release 5 mg Q4H and breakthrough dose is 1/6th the 24 hour dose. Upward titration by 50% of dose everyday</td>
<td>• Strategies used for mild + Inj morphine 2–2.5 mg SC Q4H</td>
<td>See Algorithm 5: management of intractable symptoms</td>
</tr>
<tr>
<td>• If patient is not taking orally, Inj paracetamol 2–4 g/24 hours in four divided doses</td>
<td>• If patient unable to take orally. Inj morphine 1–2 mg SC or IV every 4 hours</td>
<td>• If syringe driver is available, Inj morphine 10–15 mg as a 24 hour infusion</td>
<td></td>
</tr>
<tr>
<td>• If neuropathic pain is present, start gabapentin 100 mg HS and upward titration by 100–300 mg/24 hours to a maximum of 2,700–3,600 mg/24 hours</td>
<td>• Consider fentanyl, if patient, has renal failure. Fentanyl dose is 0.2–0.5 μg/kg/hour</td>
<td>• Consider fentanyl, if patient has renal failure. Fentanyl dose is 0.2–0.5 μg/kg/hour</td>
<td></td>
</tr>
<tr>
<td>• AVOID NSAIDs</td>
<td>• Tab/metoclopramide 10–20 mg SOS for nausea and vomiting</td>
<td>• Inj metoclopramide 20 mg IV SOS for vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Tab bisacodyl 10 mg HS</td>
<td>• Tab bisacodyl 10 mg SOS other strategies for managing constipation if patient is unable to take oral bisacodyl</td>
<td></td>
</tr>
</tbody>
</table>

### Algorithm 5: Management of intractable symptoms in patients with serious COVID-19 infections

<table>
<thead>
<tr>
<th>First line</th>
<th>Second line</th>
<th>Third line</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Midazolam 2 mg stat</td>
<td>• Phenobarbitone 100 mg stat IV</td>
<td>• On very rare occasions, severe distressing symptoms not controlled by first and second line agents, to consider propofol 0.5 mg/kg IV stat and maintenance of 1–4 mg/hour IV as a continuous infusion</td>
</tr>
<tr>
<td>• Midazolam 10–15 mg/24 hour IV or SC infusion</td>
<td>• Phenobarbitone 400–800 mg/24 hour as continuous IV infusion up to 1600 mg/24 hour</td>
<td></td>
</tr>
<tr>
<td>• Midazolam dose can be incrementally increased by 30% of the initial dose until desired sedation is achieved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If there is no response to incremental doses or severe distress persists at high doses of midazolam (75–100 mg/24 hour), second-line agent should be considered</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>