

Letter to the Editor

Palliative Care in a COVID-19 Intensive Care Unit (ICU): Challenges and Recommendations for Palliative Care Teams in a Pandemic ICU

Dear Editor,

A growing number of countries are facing the ominous prospect of their healthcare infrastructure being overwhelmed by the COVID-19 pandemic.¹ As of 20 June 2020, Singapore has a total of 41,615 infections and 26 deaths.²⁻³

Although the World Health Organization (WHO) reports the average death rate from COVID-19 to be between 2–4%, case-fatality rate in elderly patients is estimated to be about 8.0–14.8%.⁴⁻⁵ This figure will rise even more acutely when intensive care units (ICUs) become overwhelmed by surging caseloads.¹ It is therefore important that palliative care teams are integrated into the COVID-ICUs.⁶⁻⁷ Fausto et al shared how their centre developed multifaceted strategies for palliative care to be incorporated into areas like the emergency department, ICUs and acute care services to help address goals of care, symptoms management and support family members.⁸ We add to this rapidly evolving literature by focusing on how our hospital developed an ICU-Palliative Care collaborative strategy in a COVID-19 designated ICU.

Our hospital is a 1500-bed university teaching hospital co-located with the National Centre of Infectious Diseases (NCID) which currently manages the majority of COVID-19 patients in Singapore. The NCID is a 330-bed purpose-built facility with 36 ICU beds designed to strengthen Singapore's capabilities in handling outbreaks of infectious diseases.⁹

We have a dedicated Palliative Care ICU-Service which serves all the ICUs in the hospital. In anticipation of the increasing number of critically ill patients who may require palliative care, the ICU directors and Palliative Care leadership had agreed to foster closer collaboration between our specialties. We share our recommendations of this collaboration in the context of a COVID-19 designated ICU in Singapore.

We present a case of a COVID-19 patient, highlighting the challenges faced by patients and their families and

make recommendations for the integration of palliative care and its principles into a COVID-19 ICU.

Case Vignette 1

Mr L was a socially active 80-year old gentleman with hypertension. He tested positive for COVID-19 and developed respiratory failure and acute respiratory distress syndrome (ARDS) on day 8 of illness. He was intubated and prone ventilated, but continued to deteriorate despite a trial of lopinavir/ritonavir and interferon. Peripheral vasoconstriction secondary to inotropic use resulted in digital gangrene of all four limbs.

He was heavily sedated, precluding any meaningful conversations. The Palliative Care team was referred and conducted a family meeting with the ICU team to establish goals of care. His family members were certain Mr L would not have wanted further aggressive interventions and that his current physical state was not compatible with his own views of life and dignity. His inotropes were not further escalated and he died the following day with three family members beside him. He had tested negative for COVID-19 by then but his family was gowned up in full personal protective equipment (PPE) as a precaution. A favourite grandson who had been exposed to COVID-19 could not be present as he was being quarantined. Mr L's body was 'double-bagged' in strict compliance with infection control protocols. A funeral service was not conducted as his family did not expect relatives to come to the funeral. He was cremated the day after his death.

Integrating Palliative Care into a COVID-19 ICU: How We Did It.

Pre-emptive Screening of COVID-19 Patients using an ICU-Palliative Care Referral Checklist

It is imperative that palliative care teams actively engage their ICU colleagues in a timely manner to identify patients in the COVID-19 ICU who may

benefit from an early palliative care referral. Our ICU-Palliative Care team screens all the COVID-19 positive critically ill patients regularly to promptly identify patients with unmet palliative care needs.

Our current ICU-Palliative Care checklist (Table 1) was formalised in 2015 when the hospital first set up its ICU-Palliative Care Service. These ‘triggers’ were adapted from the IPAL-ICU recommendations and relevant literature.^{10–12} Important criteria which may be most relevant for COVID-19 patients are: (1) status post cardiopulmonary arrest, (2) multi-organ dysfunction involving ≥ 2 organ systems, (3) consideration of mechanical ventilator withdrawal with death expected. Our patient fulfilled the criteria for both points 2 and 3.

Regular Combined Palliative Care and ICU Meetings

As more COVID-19 patients entered the ICU, the ICU teams valued regular input from the Palliative Care team and these combined meetings increased from weekly to 2–3 times per week with daily ad hoc discussions of patients’ progress. Mr L was brought to the attention of the Palliative Care team in one of these multi-disciplinary team meetings. Having joint meetings on a daily to weekly basis depending on patient load helped identify patients with (1) high likelihood of treatment failure, (2) worsening multi-organ failure or (3) complications of treatment. This ensured that all members of the COVID ICU team were aligned to the prognosis and treatment goals which helped better engage distressed families.

Early Engagement of Families

Palliative care teams play an important role in early engagement of families for goals of care discussions when the anticipated prognosis of ICU patients is poor, particularly in the frail, elderly patient population with the multiple co-morbidities.

Process of Withdrawal of Mechanical Ventilation

As a joint unit, the Palliative Care team, in collaboration with the ICU team can discuss withdrawal of ventilation in patients with a poor prognosis and educate family about the illness trajectory following extubation. We can also provide an independent opinion to the ICU team in equivocal cases regarding the timing and decision of withdrawal. This can be perceived as valuable support and a show of solidarity

to our fellow healthcare providers who are facing an overwhelmingly high mortality in the COVID-19 ICUs.

To better prepare and manage the symptoms following terminal withdrawal of mechanical ventilatory support, a workflow detailing the process of preparing the patients, their families and the medical teams for terminal extubation was established (Fig. 1). This flowchart for terminal extubation was drawn with references from available guidelines and recommendations.^{13–15}

Our patient did not have his ventilator withdrawn as both the ICU and Palliative Care teams concurred that he would experience significant respiratory distress on extubation as he was supported on high ventilatory settings and was imminently dying.

Post-ICU Palliative Care

The Palliative Care team plays two important roles after the extubation of terminally ill COVID-19 patients in transition of care and symptom management. We recommend keeping patients who may die within short hours in the ICU and moving those with a relatively longer prognosis (short days) out to single rooms to allow families to be with them (if tested negative subsequently) in their final moments. Patients may develop symptoms like dyspnea, delirium and secretions which the palliative care team can help manage.

Communicating with Families About ‘Care After Death’ of COVID-19 Patients

The traditional way of allowing families to keep vigil by the bedside and even touching the dying patient can no longer be allowed due to the highly contagious nature of the coronavirus. Even though Mr L had tested negative for COVID-19, his family were only allowed into his room fully gowned in PPE as a precautionary measure.

Families will need advice on specific protocols when their next-of-kin passes on from COVID-19. The healthcare providers and social workers will need to provide relevant information on funeral preparations in adherence to strict infection control rules which in the COVID-19 context included ‘double-bagging’ of the body, having a ‘closed’ coffin without a viewing glass, cremation instead of burial and a maximum allowance of 3-days for a memorial service. This information was made known to Mr L’s family members and it allowed them time to understand the processes

Table 1: ICU-Palliative Care Referral Checklist

INDICATORS	Criteria
POOR CANDIDATE FOR CRITICAL CARE Continuing intensive care will not confer overall benefit	<input type="checkbox"/> Status post cardiac arrest <input type="checkbox"/> Active stage IV malignancy <input type="checkbox"/> Advanced dementia (FAST scale stage 7)* <input type="checkbox"/> End-stage valvular heart disease/ heart failure i.e. New York Heart Association (NYHA) Class III or IV, EF <20%, repeated admissions, not for surgery <input type="checkbox"/> End stage renal disease not for renal replacement therapy <input type="checkbox"/> Clinical Frailty Score ≥ 7
POOR TREATMENT RESPONSE The underlying condition is irreversible or the desired outcome cannot be achieved	<input type="checkbox"/> Multisystem organ dysfunction syndrome ≥ 2 organ systems <input type="checkbox"/> Consideration of mechanical ventilator withdrawal after which death is expected
EXTREMELY POOR ANTICIPATED QUALITY OF LIFE There is anticipated poor neurological recovery or long-term ventilator dependence	<input type="checkbox"/> Extensive intra-cerebral / subarachnoid haemorrhage with poor neurological prognosis <input type="checkbox"/> Massive ischaemic stroke with poor neurological recovery <input type="checkbox"/> Hypoxic ischaemic encephalopathy / anoxic encephalopathy
DECISIONAL CONFLICTS/SPECIAL CONSIDERATIONS	<input type="checkbox"/> Difficult-to-control physical symptoms despite usual treatment approaches <input type="checkbox"/> Upon initiation of extracorporeal membrane oxygenation (ECMO) <input type="checkbox"/> Complex family dynamics impacting decisions about use of life-sustaining treatments <input type="checkbox"/> Conflicts among staff or between staff and patients / surrogates about prognosis and/or use of life-sustaining treatments <input type="checkbox"/> Patients / surrogates wish to explore non-ICU supportive care options such as hospice services

FAST: Functional Assessment Staging Test; ICU: Intensive Care Unit

*FAST Scale refers to the Functional Assessment Staging Test (FAST) which is a 16-item scale designed to parallel the progressive activity limitations associated with Alzheimer's disease. Stage 7 and beyond suggest unable to ambulate without assistance; unable to dress without assistance; unable to bathe without assistance; intermittent or constant urinary and faecal incontinence; and no consistently meaningful verbal communication (stereotypical phrases only or the ability to speak is limited to six or fewer intelligible words).

and make a decision to honour patient's wish not to have a 'long memorial service'. He was cremated a day after his death.

Bereavement Follow-up

The pandemic has left many families whose loved ones have passed away from COVID-19 in a terrible state of shock, disbelief and despair. Family members who had spread the virus to the deceased patient can experience significant guilt. This puts them at risk for developing complicated grief and early social worker involvement is recommended.

We called the family a fortnight later to provide bereavement support and they shared their deep sense of loss, sadness and shock. The ICU social workers subsequently continued to follow up with the bereaved family. We recommend post-bereavement phone-calls at least 2–4 weeks after the patient had passed on, after families have had time to settle the patient's immediate affairs and process their grief.

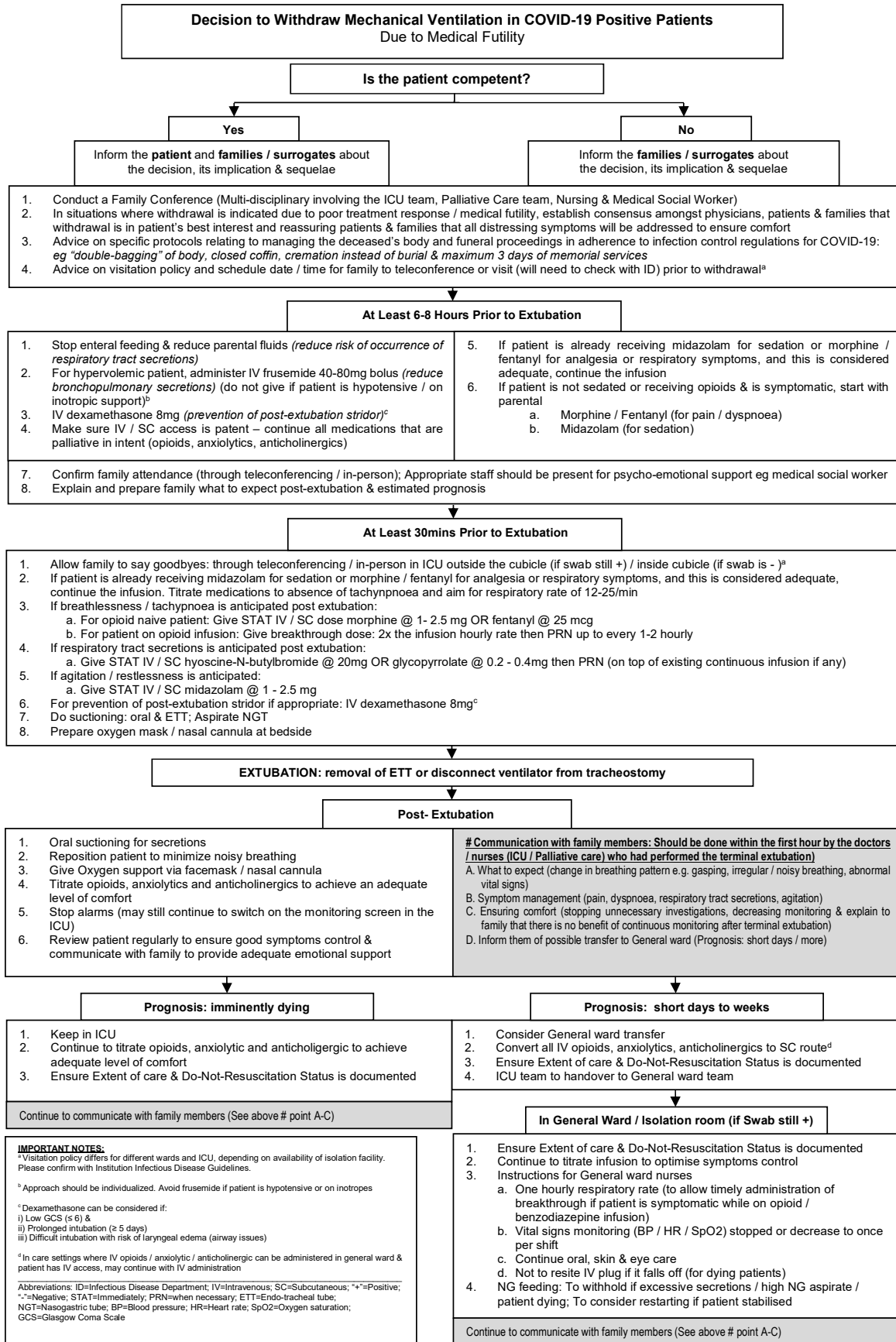
Recommendations on Integrating Palliative Care into a COVID-19 designated ICU

Based on our experiences, we recommend the following strategies for integrating Palliative Care into a COVID-ICU (Table 2).

Conclusion

Palliative care has an important role to play in the COVID-19 ICU. It collaborates with the ICU team to incorporate general palliative care principles with early goals of care discussions, regular communication and education of families about treatment expectations resulting in good symptom management at the end of life for COVID-19 patients. The challenges and recommendations that we share are the results of the lessons we had to quickly learn as the pandemic rapidly evolved. We hope the sharing of our experience will help Palliative Care teams in similar situations to better engage and support their ICU teams in their continued efforts to care for the sickest COVID-19 patients.

Figure 1: Flow chart for Terminal Extubation in COVID-19 Patients



IMPORTANT NOTES:

^aVisitation policy differs for different wards and ICU, depending on availability of isolation facility. Please confirm with Institution Infectious Disease Guidelines.

^bApproach should be individualized. Avoid frusemide if patient is hypotensive or on inotropes

^cDexamethasone can be considered if:

- i) Low GCS (≤ 6) &
- ii) Prolonged intubation (≥ 5 days)
- iii) Difficult intubation with risk of laryngeal edema (airway issues)

^dIn care settings where IV opioids / anxiolytic / anticholinergic can be administered in general ward & patient has IV access, may continue with IV administration

Abbreviations: ID=Infectious Disease Department; IV=Intravenous; SC=Subcutaneous; "+"/"-"=Positive; "-"/"-"=Negative; STAT=Immediately; PRN=when necessary; ETT=Endo-tracheal tube; NGT=Nasogastric tube; BP=Blood pressure; HR=Heart rate; SpO2=Oxygen saturation; GCS=Glasgow Coma Scale

Table 2: Strategies for integrating Palliative Care into a COVID-19 ICU

	Recommendations	Practical Considerations
1	Early conversations between Palliative Care and ICU leadership	<p>Our Palliative Care Leaders were invited by the ICU Leadership to be part of the COVID ICU Crisis Management Committee</p> <ol style="list-style-type: none"> 1. Identify key stakeholders and collaborators (ICU directors and Senior ICU clinicians). 2. Obtain ‘buy-in’ for Palliative Care by emphasising the contributory roles Palliative Care can play in collaboration with the ICU team in supporting the families and patients through <ol style="list-style-type: none"> i) Communication and advocacy ii) Symptom control iii) Psycho-emotional and spiritual support iv) Post-ICU Care These are applicable for either critically ill COVID-19 patients who are still actively receiving life-sustaining support or for terminally ill patients. 3. Palliative Care role in ICU Triage Committee in establishing and designing triage criteria and as part of Rationing Review Committee in adjudication of conflicts.
2	Engage other members of the Multi-Disciplinary Team in supporting patients and families	<p>The Palliative Care team engaged ICU Nursing and Social Work Leaders</p> <ol style="list-style-type: none"> 1. ICU nurses informed families of the ‘No Visitor’ policy for COVID-19 positive patients. 2. Social workers pre-emptively contacted families of ICU patients and informed ICU and Palliative Care Teams of possible issues. They also provided bereavement support after patients passed on. 3. ICU nurses and social workers were briefed on the role of the Palliative Care team in helping to manage and support patients and families. 4. All members of the ICU team familiarised themselves with the ‘Care after Death’ procedures e.g. ‘double-bagging’ of the body, using a coffin without viewing panels, cremation and 3-day funeral service.
3	Establishing an ICU-Palliative Care Referral Checklist	<p>The availability of an ICU-Palliative Care Referral Checklist allowed high risk critically-ill COVID-19 patients who would benefit from palliative care consults to be identified.</p> <p>Important criteria which may be most relevant for this group of patients include:</p> <ol style="list-style-type: none"> 1. Status post cardiopulmonary arrest 2. Multi-organ dysfunction involving ≥ 2 organ systems 3. Consideration of mechanical ventilator withdrawal with death expected
4	Regular Combined Palliative Care and ICU Meetings	<p>We propose daily “huddles” between the Palliative Care and ICU teams to ensure all members of the healthcare team is aligned to:</p> <ol style="list-style-type: none"> 1. Prognosis 2. Realistic treatment goals 3. Symptom optimisation 4. Strategies to engage distressed families
5	Early engagement of families	<p>We communicated with families through teleconferencing and also facilitated face-to-face family meetings in a private meeting rooms (e.g. in the social worker’s office) - away from the ICU to mitigate communication barriers posed by strict visitation policies.</p> <ol style="list-style-type: none"> 1. Communication focused on the patient’s progress on active life-sustaining measures and to reassure families that ‘the best had been done’ for the patient. 2. ICU / Palliative Care teams also worked together to understand the patient’s values and healthcare treatment preferences, establishing realistic expectations and ‘trial of treatment’ timelines. 3. Palliative Care teams reassure families that should the patient continue to deteriorate, comfort care and symptom control will be provided.
6	Ensure continuity of Palliative Care support both in the ICU and Post-ICU period	<p>To ensure continuity of care, the same palliative care team will follow the patient and family from the ICU through to the post-ICU period.</p> <p>The Palliative Care team can assist in:</p> <ol style="list-style-type: none"> 1. Transition of care to a single room in the wards to allow family members to keep vigil (should the patient’s COVID-19 tests become negative) 2. Manage distressing physical symptoms e.g. dyspnea, delirium and secretions at the end of life
7	Bereavement Follow-up	<p>We recommend for social workers / Palliative Care teams to call bereaved family members 2-4 weeks after the death of the patient</p>

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