

# Ethical Issues and Palliative Care in the Cardiovascular Intensive Care Unit

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## KEYWORDS

- Medical ethics • Bioethics • Palliative care • Advanced heart failure • Medical technology
- End of life

## KEY POINTS

- Palliative care has been shown to improve outcomes for patients in the intensive care unit (ICU), particularly in improving symptom control and satisfaction with care plans.
- Patients who are hospitalized in the ICU should have a care conference to define the goals of care within 5 days of admission, and have such meetings every 7 days during their stay in the ICU, not to discuss “withdrawal of support” but rather to focus on the complexity of multidisciplinary care.
- It is morally and ethically permissible to withhold a treatment or withdraw a treatment once started if it is not consistent with a patient’s goals of care, and granting such requests is not akin to euthanasia. Such treatment includes cardiac devices such as pacemakers, defibrillators, ventricular assist devices, and total artificial hearts.
- Advance care planning can be helpful in avoiding ethical dilemmas, particularly related to issues of surrogate decision making and goals of care, when patients are critically ill and possibly approaching the end of life. Ongoing discussion and reassessment of goals is critical to patient-centered outcomes.
- There is a distinct difference between hospice and palliative care in that palliative care can be provided at any point in the continuum of illness and is not synonymous with dying or “giving up.”

## INTRODUCTION

Millions of Americans suffer from life-limiting, life-threatening illnesses caused by a vast array of cardiovascular maladies.<sup>1</sup> Although a large portion of this population suffers from advanced heart failure often related to ischemic heart disease, other congenital, electrophysiologic, and structural cardiac issues contribute to significant morbidity

and mortality. Over the past few decades, there has been a relative explosion of pharmacologic and therapeutic interventions that have dramatically altered the course of many of these complicated cardiac ailments. Beyond medications, technology has advanced, providing an unfathomable array of devices that can improve symptom burden and survival for patients who previously had fatal cardiac diseases.

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The growth of treatment options and the associated *technological imperative* to use these treatments has essentially defined the average daily census in the modern cardiovascular intensive care unit (CICU).<sup>2,3</sup> The care of patients in the CICU has evolved since the days of almost certain death from cardiac illness owing to lack of effective therapies, or several weeks of close “observation” following a major acute coronary syndrome that was the norm decades earlier.

Today’s CICU is a fast-paced, increasingly complex milieu where clinicians, patients, and their loved ones attempt to make the best decisions possible from a vast array of pharmacologic, surgical, and interventional therapies, each with a unique set of risks and benefits. Patients are faced with numerous decision points in situations where health is unstable and emotions and stakes are high, which can lead to a host of ethical conundrums. All of this occurs against a background of uncertainty, particularly regarding our ability to accurately prognosticate in these complex situations with therapies that are ever evolving.

Despite major successes regarding survival and length of stay of patients in the CICU, this remains an area where ethical challenges are frequently encountered and where palliative care opportunities remain plentiful. This article presents an overview of some of the ethical and palliative care issues encountered in the CICU, with recommendations for initial approaches to these issues and consideration of when specialist involvement by an ethics or palliative medicine consultation may be warranted.

## ETHICAL ISSUES IN THE CICU

As discussed in the introduction, there are countless treatments available in the setting of advanced cardiac illnesses. Indeed, the topics covered throughout in this issue of *Cardiology Clinics* discuss many of these technological triumphs. In its most basic sense, medical ethics strives to go beyond the question of what we *can* do in a clinical situation, and rather seeks solutions to the questions of what we *should* do. As there may be varying competing ideals about what the goals of medicine are and how those can be best achieved, there may be inherent tension created out of a desire to satisfy those competing ideals.

Beauchamp and Childress<sup>4</sup> are credited with a widely used approach to ethical issues known as principlism or the 4-principle approach, whereby each of the benefits in a situation is evaluated. Their approach focuses on consideration of

beneficence (our desire to do good for the patients), nonmaleficence (our desire to avoid harming patients), respect for the patient’s autonomy, and an evaluation of issues of justice in how care is provided. As one can imagine, care in the CICU often pits many of these ideals against one another.

Consider the following case vignette. An 81-year-old man is admitted to the CICU with high-grade heart block and is being considered for implantation of a permanent implantable pacemaker. Telemetry confirms the finding and the patient’s heart rate can only be sufficiently augmented by use of transvenous pacing, suggesting the need for an implantable device. The patient’s history is notable for advanced dementia whereby he lives in a care facility and can speak only a few words, only intermittently recognizes his 2 daughters, and does not participate in activities of daily living. Both daughters are the patient’s duly appointed surrogate decision makers by an advance directive if the patient lacks capacity. What should the next step be?

This situation, or a similar one, may be very familiar to the reader. Several aspects of the case could be in conflict and need to be considered before a course of action can be decided upon. Determining what is “best” for the patient, what may help or harm the patient, and what quality of life exists for this patient are questions that consider beneficence and nonmaleficence. In considering autonomy, one may ask questions regarding whether the patient has the capacity to make a decision, who the surrogate decision maker should be if the patient lacks decision-making capacity, and how to approach situations whereby surrogates are in conflict with each other.

Justice, however, involve a more global and society-wide approach to ethical issues. Questioning whether placement of the pacemaker is fair and equitable in this situation does not affect whether it is fair and equitable for *this* patient to receive a device. Rather, such questions should be posed at a societal level to determine if certain criteria should be in place that guide whether the pacemaker is fair and equitable across the medical landscape. This point is important to consider because justice issues are often invoked at the bedside, although clinicians should not consider these resource utilization issues in the context of an isolated patient encounter.

This case vignette represents one example of the clinical challenges encountered in the CICU. While the issues presented do illustrate complexity in medical decision making and the role of technology in patient care, this case may fall on the side of

jeune relative to cases encountered in the modern CICU. Pacemakers and implantable cardioverter-defibrillators represent technology that has, in essence, become the standard of care for many patients with cardiac disease who meet set criteria. Some may question whether there is a moral obligation to treat this patient with a life-sustaining treatment if it is available. It has been largely decided that patients maintain the right to refuse medical treatment for which the benefits of the treatment outweigh the burdens (**Table 1**). This right to refuse treatment applies not only to withholding medical therapies but also to withdrawing such therapies if they no longer meet the patient's goals of care. This issue is discussed later in this article.

Lastly, many challenging encounters involve the use of technology with increasing cost and burden to the patient and caregiver (eg, mechanical circulatory support or renal replacement therapy), and often occur in the setting of multiple medical morbidities, uncertainty or lack of clarity regarding prognosis, and other psychosocial, financial, cultural, and religious challenges. Indeed, prognosis may vary widely and can be challenging to predict, particularly in diseases such as advanced heart failure that are punctuated by recurrent exacerbations, as opposed to other organ-failure syndromes or cancer that may have a more predictable decline (**Fig. 1**). In these situations, involvement of an ethics or palliative medicine consultant may be helpful in nuancing these challenges, particularly when they involve end-of-life decision making.

## ADVANCE CARE PLANNING AND SHARED DECISION MAKING

The Patient Self-Determination Act of 1991 sought to solidify a patient's ability to name a surrogate decision maker and to complete advance directive documents, although the benefit of such documents has been questioned.<sup>5</sup> These documents seek to allow patients to consider potential future health care situations but, unfortunately, patients may still struggle with making decisions "in the moment."<sup>5</sup> The American Heart Association (AHA) released a scientific statement in 2012 focusing on the challenges and opportunities for promotion of decision making in advanced heart failure.<sup>6</sup> This document expertly outlines key approaches to promoting patient-centered outcomes.<sup>6</sup>

The AHA guidelines emphasize to clinicians the need to consider all outcomes relevant to an individual patient to promote patient autonomy and maximum good, while minimizing harm to patients. It is noteworthy that the benefits to a given patient go beyond the survival benefit a treatment may promote. Quality of life and the costs and benefits to patients may be equally or more important than survival benefit, and these aspects must be explored when clinicians seek informed consent from patients and their surrogates.<sup>6</sup> A clinician's understanding of how survival, quality of life, and benefits/burdens of treatment affect why patients and surrogates make the decisions that they do is important for considering another often cited ethical issue in the CICU—futility—which is discussed in the next section.

**Table 1**  
Spectrum of ethical care at the end of life

	Withhold LST	Withdraw LST	Palliative Sedation	Physician Aid in Dying	Euthanasia
Cause of death	Underlying disease	Underlying disease	Underlying disease <sup>a</sup>	Intervention prescribed by physician and used by patient	Intervention used by physician
Intent/goal of intervention	Avoid burdensome intervention	Remove burdensome intervention	Relieve symptoms	Termination of patient's life	Termination of patient's life
Legal?	Yes <sup>b</sup>	Yes <sup>b</sup>	Yes	Limited by jurisdiction <sup>c</sup>	No

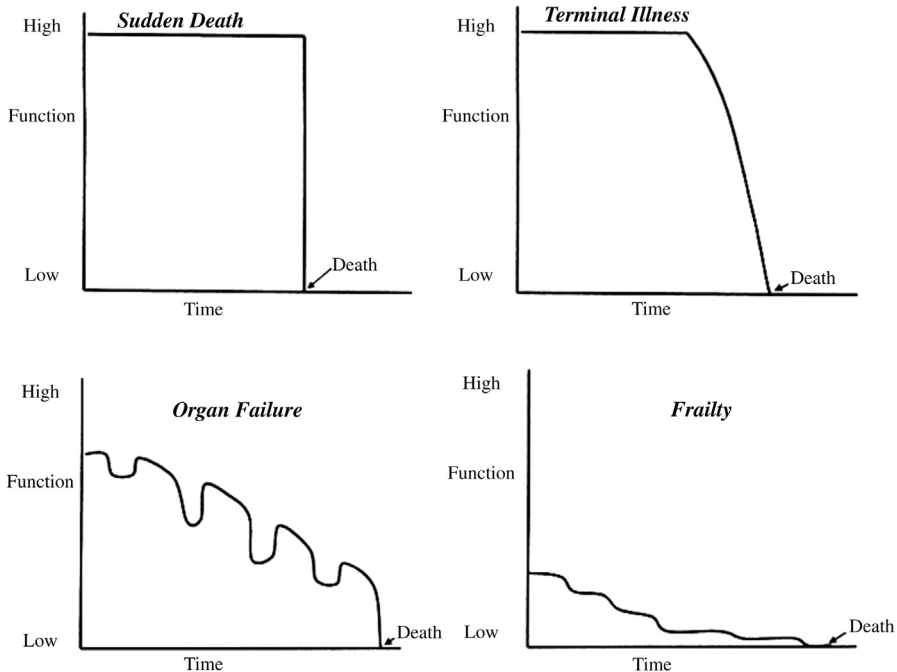
Abbreviation: LST, life-sustaining treatment.

<sup>a</sup> Note "double effect."

<sup>b</sup> Several states limit the power of surrogate decision makers regarding LSTs.

<sup>c</sup> Legal only in states of Oregon, Washington, Montana, and Vermont in the United States (other states exploring).

Adapted from Olsen ML, Swetz KM, Mueller PS. Ethical decision making with end-of-life care: palliative sedation and withholding or withdrawing life-sustaining treatments. *Mayo Clin Proc* 2010;85(10):952; with permission.



**Fig. 1.** Proposed trajectories of patients approaching the end of life. (From Lunney JR, Lynn J, Hogan C. Profiles of older Medicare decedents. *J Am Geriatr Soc* 2002;50(6):1109; with permission.)

## FUTILITY

The term “futility” is often clinically invoked when a seriously ill patient has a low likelihood of a meaningful recovery. What defines recovery and what the goals of care are vary from patient to patient. The dictionary definition of the term “futile” is “incapable of producing any result; ineffective; useless; not successful,”<sup>7</sup> and in exploring this definition one may note that it is rarely, if ever, a maxim.

Situations that invoke questions about futility are ubiquitous in the CICU. Chronic critical illness has resulted from a dramatic improvement in health care delivery, particularly technology and therapeutic options, most notably over the past half century. Before the development of mechanical circulatory support, ventilators, hemodialysis, and so forth, patients would die of advanced organ-system or multiorgan system failure not compatible with survival. However, patients can survive for extended and indefinite (but not infinite) time frames through heroic measures, which can be of great cost (25% of Medicare dollars are spent in the last year of life).<sup>8</sup>

Furthermore, beyond costs, clinicians, nurses, and others may experience moral distress,<sup>9</sup> and question whether they are showing beneficence toward patients or violating nonmaleficence. Clinicians may question whether a plan of care is contributing to a successful outcome, what an

accurate prognosis might be and whether everyone appreciates it, or whether it is moral or ethical to continue to offer aggressive measures with limited gains.

Jurisdictions, such as the state of Texas, have passed legislation that operationalizes the definition of “futility” and allows for health care providers, through a due-process approach, to withdraw life-sustaining measures if they are not meeting set medical objectives.<sup>10</sup> Hospitals are essential, given the right to establish “futility” policies to determine if appropriate care is being given and if that care should be stopped, which is not the norm across the current American medical landscape.

It is well recognized that physicians are not obligated to provide nonbeneficial treatments, with a simple example being the right to refuse a request of antibiotics for a viral syndrome.<sup>11,12</sup> Similarly, the Texas statute places limits on requests for treatments that are unlikely to be beneficial. Schneiderman and colleagues<sup>13</sup> contend that physicians “can judge a treatment to be futile and are entitled to withhold a procedure on this basis” alone, and add that if experientially a treatment has worked (or not) in the past 100 times it has been tried, a given physician should have an idea whether a treatment is likely to be beneficial. Although more widespread statutes support clinicians in withholding provisions such as cardiopulmonary

resuscitation if judged to be nonbeneficial,<sup>14</sup> the courts outside of Texas have ruled in other cases that measures of disputed efficacy should not be stopped unilaterally.<sup>15,16</sup>

It is often helpful to consider the concept of futility in 3 major domains: physiologic, quantitative, and qualitative.<sup>17</sup> Physiologic futility examines whether a treatment or technology is efficacious in meeting its intended purpose on a given patient. Common examples of whether a treatment is physiologically meeting its goal include if a vasopressor is keeping blood pressure stable, if dialysis is adequately replacing renal function, or if a ventricular assist is supporting cardiac output and reversing cardiogenic shock. However, the quantitative and qualitative aspects of “futility” are much more difficult for a clinician to parse out, as they harbor considerable components of value judgments.<sup>17</sup> Qualitative futility is only met if a treatment is not allowing a patient to live his or her life according to his or her standards and goals of care.

Using the case example discussed earlier, defining what “the value of a life” is (or is not) is not something to be determined clinically, or by how the last 100 patients responded in a given situation. These authors contend that it is a sacred, individual responsibility of clinicians to carry out their fiduciary responsibility to the patient, to determine if a treatment is meeting a patient’s goals of care. Life in the intensive care unit (ICU) may not be desirable for the majority of society, but this is a value judgment, whether or not the quality of life is acceptable. If life is sacred and valued at any cost for a given patient, then 6 months in the ICU may be perfectly in concordance with a patient’s goals of care.

Similarly, quantitative futility is also value laden. How much time one “gets” out of a treatment is variable, and to gain 1 day, 1 week, 1 month, or 1 year of life under any circumstance may allow a patient to meet the goals of care: one more discussion to be had, a family event to attend, or likewise. These 3 aspects of futility are well summarized by Edmund Pellegrino’s<sup>18,19</sup> moral analysis of withdrawal of life-sustaining treatments: the efficacy of a treatment is for clinicians to assess and comment on, but the burdens and benefits of a treatment (in terms of its quantitative or qualitative goals) is in the purview of the patient.

To proceed with a due-process futility policy such as Texas’s law prioritizes a primary focus on the physiologic efficacy of a treatment, which may lead to an incomplete understanding of the patient, his or her family, and their world view. Pellegrino asserts that a definition of futility “must be a joint determination of the physician and patient or

surrogate, and that futility is a prudential judgment based on our best, but fallible, assessment of the beneficial clinical outcome versus the burden of a treatment.”<sup>20</sup>

Given the complexity of these situations, one may wonder whether it is helpful to consider if a treatment is “futile.” Nevertheless, if providers are considering a treatment as potentially being futile, this may be a signal to avoid using such value-laden terms and instead explore a patient’s goals of care in a meaningful fashion.<sup>19</sup>

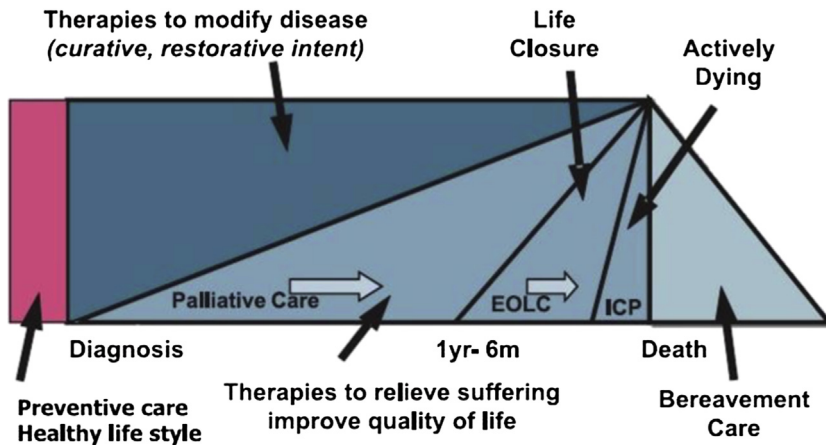
## INTERFACE OF ETHICS AND CARE AT THE END OF LIFE

As discussed thus far, there is often substantial overlap between ethical issues at the end of life in the CICU and if and when palliative care may be appropriate. Ethics and palliative care consultants can be helpful in cases where there is lack of clarity regarding goals of care or the best way to achieve symptom control. The following sections discuss what palliative care is, how it is delivered, and how it may be beneficial to patients in the CICU.

## WHAT IS PALLIATIVE CARE?

Palliative care (from the Latin word *palliare*, “to cloak”) is a domain of health care that in its simplest definition focuses on the prevention and relief of suffering. Palliative medicine uses an interdisciplinary team approach (including physicians, mid-level providers, nurses, social workers, pharmacists, chaplains, and other allied health professionals) to focus on patients with life-limiting medical conditions with symptom burden. The palliative care approach is a holistic one that focuses on the physical, spiritual, emotional, and social distress experienced by patients and their loved ones. The concepts of palliative care are often presented along with disease-specific therapy, and such therapies are ramped up when less effective disease-targeted treatments are available (Fig. 2).

The most recent advances in palliative care date to the mid-twentieth century and John Bonica’s first textbook of pain medicine published in 1953.<sup>21</sup> This interest in alleviation in suffering coincided with the emergence of Dame Cicely Saunders, a former nurse and social worker who later returned to medical school and opened the world’s first modern hospice at Saint Christopher’s in South London in 1967, and who is considered the founder of the modern hospice movement. Dr Balfour Mount coined the term “Palliative Care” in 1974. The most recent definition of



**Fig. 2.** Care across a patient's life span. EOLC, end-of-life care; ICP, integrated care pathway. (From Macaden SC. Moving toward a national policy on palliative and end of life care. *Indian J Palliat Care* 2011;17(Suppl):S42-4; with permission.)

palliative care is provided from the World Health Organization:

*Palliative Care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual.*<sup>22</sup>

Grounded in the definition, one can consider the role that palliative medicine may play in the ICU. As there is a growing body of literature regarding palliative care in the ICU in general, these data are presented for consideration of how the approach might work in the CICU.

### WHY PALLIATIVE CARE IN THE ICU AND HOW CAN IT RELATE TO CARE IN THE CICU?

The topic of providing palliative care to patients requiring ICU-level care is a timely topic that has engaged the interest of both the medical profession and the lay public. Recent data suggest that more than 20% of Americans who die each year (approximately 500,000 people annually) die in, or shortly after, ICU care.<sup>23</sup> In addition, there are approximately 100,000 ICU survivors each year who suffer heavy symptom burdens on a chronic basis.<sup>23</sup>

The role of palliative care in the ICU is not only to provide symptom management at life's end, but also to help align the patient's goals and values with the clinical realities and to provide guidance and support for both patients and families. Most would agree that patients and families often desire both active treatment and concurrent relief of

symptoms, but fewer realize that palliative care and critical care are often mutually enhancing rather than exclusive.

Other reasons to provide palliative care in the ICU include difficulties with prognostication and alignment of desired goals with realistic possibilities regarding clinical outcomes. Indeed, studies<sup>24-27</sup> have defined gaps in palliative care and the care of critically ill patients in the ICU, including the following:

- Untreated pain and other symptoms
- Unmet needs for care of families and loved ones
- Inadequate communication
- Conflict resolution among clinicians, patients, and families
- Divergence of treatment goals from patients and family preferences
- Inefficient resource utilization
- Clinician "moral distress" and burnout

In addition to potential benefits conferred to clinicians, patients, and families, resource utilization and cost savings may be associated with palliative care consultation in the ICU. Studies have documented reduced length of stay and up to \$7700 reduced cost for patients receiving palliative care consultation while in the ICU.<sup>28</sup> Most importantly, in times when concerns over rationing and "death panels" are often invoked, it is crucial that these palliative care benefits have occurred without any documented increase in mortality.<sup>28</sup>

Successful communication between clinicians and families is often challenging in the care of critically ill patients. It is often noted that both patients and families have an inadequate understanding of the plan of care, and physicians often have limited time to reflectively listen and provide feedback.

Unfortunately, care conferences or family meetings are not timely, if they occur at all. To help strengthen the clinical care of patients in the ICU and further improve communication, a “Care and Communication Bundle,” which includes 9 core Palliative Care Quality Measures, has been developed (Table 2).<sup>29</sup> These items provide a time frame within which clinicians should approach key palliative care-related elements in the ICU. How these measures should be tracked and how services could be provided in the CICU is discussed next.

## STRUCTURING PALLIATIVE CARE IN THE CICU

Palliative care teams traditionally have participated as integrated or consultative roles in the ICU.<sup>30</sup> Both the integrated and consultative functions have advantages and disadvantages, and should not be considered mutually exclusive. The consultative role provided by a palliative care consulting service can provide expert skills using an interdisciplinary team, and provide continuity and transitions during and after ICU discharge. This type of model, however, does require increases in staffing and other resources needed for an interdisciplinary team. In addition, some

cardiovascular and critical care specialists in the CICU may feel comfortable in their ability to provide palliative care. In this situation the role of the palliative care clinician may be less well defined, which can lead to fragmentation of care and sub-optimal communication.

Alternatively, an integrated model allows the CICU team to provide palliative care services as part of the daily care of patients. Consultation is not required, as palliative care services are embedded as a core principle of the CICU care. However, this can require a significant time commitment from the cardiology and critical care physicians, as well as a need for increased and ongoing education regarding skills and knowledge of palliative care. With increasing responsibilities being placed on clinicians, the resources needed for a true interdisciplinary team may be lacking in this model.

Recently a more sustainable combined model of palliative care has been described that may be applied to the CICU.<sup>31</sup> Under this model, primary palliative care such as basic management of symptoms along with discussions regarding values, goals, preferences, and prognosis are expectations of the primary CICU team. Specialty palliative care consultation could be requested from the palliative care interdisciplinary team in matters of refractory symptoms, conflict resolution, and differences regarding goals of care and care plans. This model may be more feasible across hospital settings with variable resources.

A recent study evaluated the occurrence of a short meeting each morning between a critical care fellow and a palliative care fellow. Potentially this seems to be a way of moving forward and providing a consultative and/or integrated palliative care approach that can be individualized to each patient’s needs.<sup>32</sup>

## BARRIERS TO PALLIATIVE CARE IN THE CICU

One of the most significant barriers to providing palliative care in the CICU is the lack of understanding among patients, families, and clinicians as to the role of palliative care in the ICU. Too often, the perception of palliative care is a narrow one that views the role of palliative care as synonymous with hospice care or “giving up.” When palliative care is seen as only providing end-of-life care and comfort care for patients, opportunities are missed to improve communication and clarify goals and values of patients, while aligning these with a realistic plan of care. There continues to be a perception in segments of the lay public and in the medical community that palliative care and intensive care are exclusive. Much has been

**Table 2**  
Palliative care quality measures and goals for ICU care (Care and Communication Bundle measures)

Goal of Meeting Target on or Before Listed Day of ICU Admission	Care and Communication Bundle Measures
Day 1	Identify medical decision maker Address advance directive status Address cardiopulmonary resuscitation status Distribute information leaflet to family Assess pain and other symptoms regularly Manage pain optimally
Day 3	Offer social work support Offer spiritual support
Day 5	Interdisciplinary family meeting

Data from Nelson JE, Mulkerin CM, Adams LL, et al. Improving comfort and communication in the ICU: a practical new tool for palliative care performance measurement and feedback. *Qual Saf Health Care* 2006;15(4):264–71.

done in the last 2 decades to break down some of these barriers, but much is yet to be accomplished in the realms of education and research.

Care in the ICU can be fragmented as the pace and turnaround of care continues to increase. Care transitions occur frequently, and there is often inadequate time for interdisciplinary care conferences, family meetings, and prolonged discussions on goals of care. Very often there are many specialty teams involved in the care of these patients, and coordinating not only care but also communication across the disciplines can be challenging.

Efforts to break down barriers to palliative care in the ICU are under way; specifically, the Center to Advance Palliative Care initiative called the IPALL-ICU. The IPALL-ICU program provides formalized support to clinicians and administrators in the form of educational resources and strategies, with detailed initiatives aimed at promoting high-quality palliative care in the ICU. A recent educational forum for palliative care and critical care physicians defined concrete ways to ensure support and comfort for patients and families in the ICU.<sup>33</sup> Education for the lay public outlining the role of palliative care will be essential, and has been endorsed as a way of enhancing care for all critically ill patients.<sup>33</sup>

### COMMUNICATION ISSUES IN THE CICU

Effective communication with patients, their families, and care providers is an essential component of palliative care in the ICU, and is the foundation on which optimal care is provided in this setting. The CICU can be a bewildering and frightening place for both patients and their loved ones. Many families have never experienced a critically ill family member, and the initial interaction with their loved one who appears entangled in tubes and catheters can be unsettling.

Communication is a critical part of the Care and Communication Bundle when providing palliative care in the ICU, and part of this bundle emphasizes the importance of an interdisciplinary family care conference to be held by day 5 of the ICU stay.<sup>29</sup> Not infrequently, the palliative care team is asked to participate in or facilitate an interdisciplinary family conference, which may be used to establish goals of care and also to discuss the patient's clinical status and prognosis. It is important that all clinicians involved come prepared when meeting with families and patients. A pre-meeting, or session before the main meeting, is recommended with involved care providers to allow clinicians to air any concerns or disagreement before being in the presence of the patient or family members.

Several models have been proposed as guides for conducting goals-of-care discussions.<sup>34,35</sup> In general, it is helpful for the palliative care team to introduce themselves and explain the reason they have been consulted. Often discussions are held with family members or surrogates, as critically ill patients may not be able to communicate. It may be helpful to set the scene by way of introduction to learn something about the patient's personal background as well as current clinical status. Open-ended questions such as "tell me about your loved one" or "how long have you been married?" can serve as an introduction and allow time to put the family at ease.

It is usually helpful to ask permission to conduct an interview to glean some idea from the patient and/or the family regarding how they would like to receive their information. Some patients prefer to have exquisite details explained, whereas others like to have a larger overview of their overall clinical status. Once this invitation has been issued, it is often helpful to learn from the patient and/or family how they understand their medical situation. Not uncommonly, patients and loved ones may respond with emotion. It is important for the clinician to respond in a respectful, understanding, and empathic way. Several different formats have been developed that can help guide the treating physician to respond appropriately to emotion.

Before a family meeting is held, it is helpful for all the caregivers involved to meet before the discussion with the family. Pertinent review of the medical history, clinical status, prognosis, and clinical options available are all issues that should be given high priority for the clinicians to discuss. Knowledge of the patient's decision-making capacity, review of an advance directive (if one exists), and any potential surrogate decision makers should be outlined ahead of time. If there have been prior meetings or if there are psychosocial issues outstanding (eg, potential family conflict), all should be made aware of such before entering the family meeting. The setting should be nonthreatening, and the meeting conducted in a private environment with interruptions minimized. It is important after the meeting that the teams debrief, reiterate the steps of the family encounter, and discuss processes that need to be undertaken to move forward.

It should be pointed out that the ultimate goal of a patient and family conference is not only to establish a do-not-resuscitate status or to obtain a withdrawal of aggressive care, although this may well be an important part of the conversation. It is often most important to define the patient's values and goals and align this in a shared



decision-making process. Depending on the precise clinical situation, it is often appropriate for the treating clinicians to make a recommendation to the family on the appropriate next steps in care. Sometimes this does refer specifically to recommendations of a change in resuscitation status, but it also might be in reference to whether an invasive treatment strategy is recommended in respect of the patient's stated goals of care.

Finally, most interventions in the CICU should be presented to patients and families as time-limited trials rather than indefinite and irreversible options. Although an open-ended discussion can be a useful communication tool, an open-ended plan of care can leave families confused and can lead to conflict when the clinical outcomes do not match the desired outcome of the patient and family.

### **SPIRITUAL AND EMOTIONAL SUPPORT OF PATIENTS AND FAMILIES**

A critical illness not only affects patients' clinical and physiologic status, it may also affect the emotional, social, and spiritual needs of patients and their families. Social and spiritual support should be offered to patients and families and is part of the Care and Communication bundle previously mentioned. Bereavement is a normal process, and it is imperative for clinicians to appreciate this.<sup>36</sup> Empathic responses and open listening are meaningful to families and loved ones during a time of great uncertainty. Clinicians should not hesitate to ask for help from chaplains, social workers, counselors, and others that can offer assistance. Grief in the CICU can be especially challenging because a death is sometimes quick and unexpected, and a broad support system may be needed to meet the needs of the bereaving family members.

### **PALLIATIVE SEDATION**

Palliative sedation is defined as the "use of a sedative medication to reduce patient awareness of distressing and intractable symptoms that are insufficiently controlled by symptom-specific therapies."<sup>37</sup> Though controversial within some circles when confused with physician aid in dying or euthanasia, the American Academy of Hospice and Palliative Medicine has a position paper on palliative sedation supporting its use, as do many critical care organizations.

Three major factors are commonly considered when evaluating the ethical permissibility of palliative sedation.<sup>38</sup> First, the intent of use of pain medication or sedation should be clearly articulated. Whether it is to render a patient less pain but be

able to still interact, or to be pain free, at any point across the spectrum the intent should be explicit. It is important that the level of sedation should be proportionate to the patient's level of distress, and alertness be preserved as much as possible.

Next, the medications selected should be proportional to the patient's tolerance and previous requirements. For example, 10 mg per hour of morphine may be completely appropriate for some patients (proportionate), but may essentially be lethal if considered as a starting point for an opioid-naïve patient.

Third, the goal of palliative sedation should be to provide comfort and relief of symptoms that has been refractory to other therapies. The marker of a successful intervention is that one provides the patient with appropriate comfort. The possibility that palliative sedation might hasten death as an unintended consequence does exist; however, some studies have shown that palliative sedation is actually not associated with hastening death when the above mentioned criteria are followed.<sup>39,40</sup>

The intent of palliative sedation should always be the alleviation of suffering, using appropriate medications with explicitly stated goals. Palliative sedation may occasionally be useful in CICU patients, including those with unremitting dyspnea, delirium, or pain. Opioid infusions alone are often not sufficient, and are often combined with sedative drugs. For opioid-naïve patients, low-dose fentanyl may be reasonable, but for patients with more tolerance to opioids the use of hydromorphone, morphine, or methadone may be required. Benzodiazepines, such as midazolam or lorazepam, are usually the first-line drugs for sedation. In the CICU, clinicians may be more comfortable with dexmedetomidine or propofol, which often are reasonable alternatives.

### **WITHDRAWAL OF LIFE-SUSTAINING TREATMENTS**

Despite the arsenal of advanced, life-prolonging therapies commonly available in the CICU, patients or their surrogate decision makers may decide that such therapies are no longer concordant with their goals of care. As mentioned earlier, patients have the right to request to refuse therapy or request that it be discontinued, and that neither of these is akin to physician aid in dying or euthanasia. However, how patients live and die with or without such interventions can vary, and this point warrants consideration.

#### ***Mechanical Ventilation***

The discontinuation of a mechanical ventilator is commonly carried out in the CICU. Often, patients

can survive this event as they are not dependent on the ventilator; however, the ventilator is often withdrawn as the penultimate step in initiating comfort-directed care only. Weaning of a ventilator may be so commonplace in the CICU that the impact of withdrawing such a therapy or managing symptoms in an anticipatory fashion may be second nature. Nevertheless, the authors believe it is important to have a protocol to systematize the process but also to allow for individual needs of patients and their loved ones (eg, whether family is or is not present, exact location of ventilator withdrawal).<sup>41,42</sup> Symptoms of dyspnea and pain should be managed in an anticipatory fashion with opioids and benzodiazepines (in a proportionate fashion, as discussed in the Palliative Sedation section).<sup>43</sup> Suctioning of the patient before withdrawal of the endotracheal tube is reasonable, but ongoing deep suctioning is often not helpful for secretion management and is not routinely recommended. Anticholinergic agents such as glycopyrrolate or scopolamine are commonly used to assist with secretion management. Although these may be helpful for some patients on a case-by-case basis, there has been varied efficacy noted when studied systematically.<sup>44</sup>

### ***Mechanical Circulatory Support and Permanent Pacemakers***

Patients may survive for a significant time after a mechanical ventilator is withdrawn, but patients who are on mechanical circulatory support or who are pacemaker dependent and have such therapies discontinued often die quickly. Although this may “feel different” to the provider, the most common and mainstream ethical-legal arguments are such that withdrawal of either mechanical circulatory support<sup>6,45</sup> or pacemakers<sup>46</sup> is analogous to withdrawal of any life-sustaining treatment, in that the person dies of the underlying disease process (not the withdrawal of the treatment). Ethical analysis of how quickly the person dies after treatment is withdrawn (hours or days), how long the person has been treated with the therapy (days or years), whether the therapy is continuous (as with some pacemakers) or intermittent (like hemodialysis), and whether the therapy is internal or external to the patient, are all factors that are not morally decisive in swaying the ethical-legal permissibility of discontinuing such therapies.<sup>47,48</sup>

From a practical perspective, discontinuation of such therapies should be carried out by persons who are comfortable with the logistics, and in assuring patient comfort and supporting the loved ones present. Questions of whether the patient will develop symptoms of acute heart failure have

not been definitively answered, and truly vary on a case-by-case basis. It is recommended that opioids, benzodiazepines, and anticholinergic agents be available in case the patient experiences symptoms when therapies are discontinued,<sup>6,49</sup> and that standard procedure is followed to minimize potential alarms or noises that can potentially be distressing to patients or families.<sup>49</sup>

Lastly, it is important to recognize that individual providers may not have beliefs that are consistent with the mainstream consensus of the ethical and legal permissibility of withdrawing pacemaker or mechanical circulatory support in a patient who is dependent on such therapy. It is important to respect a provider’s right to conscientiously object to providing such care if it is not consistent with his or her moral, cultural, spiritual, or religious preferences.<sup>6,46</sup> In such situations, consultation with ethics services and colleagues within one’s division is recommended to arrange for how the patient’s care will be provided without significant interruption.

### **SUMMARY**

The CICU is an impressive location for care in the health care system, where patients can receive high-intensity care that can rescue them from the clutches of death. Unfortunately, situations can be encountered whereby ethical or end-of-life decisions remain pervasive despite the best medical efforts. The role of the palliative care team in the care of patients in the CICU is an evolving concept, and the authors are hopeful that this review provides a practical overview of the potential for excellence in the care of patients in the CICU.

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