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The concept that critical illness and terminal illness are necessarily distinct entities has given way to the understanding that they often exist on the same spectrum. Consequently, there is growing consensus that palliative treatment must coexist with attempts at restorative treatment in the intensive care unit (ICU). Palliative care in the ICU has evolved from a relatively one-dimensional construct of terminal sedation in dying patients to a multidisciplinary field addressing symptom control, physician–patient–family communication, spiritual needs, and the needs of health care providers. As ongoing research efforts yield new insights, our ability to practice evidence-based palliative care in the ICU will grow, and new avenues for improvement will become evident.

Value and Role of Intensive Care Unit Outcome Prediction Models in End-of-Life Decision Making **345**
Amber E. Barnato and Derek C. Angus

In the United States, intensive care unit (ICU) admission at the end of life is commonplace. What is the value and role of ICU mortality prediction models for informing the utility of ICU care? In this article, we review the history, statistical underpinnings, and current deployment of these models in clinical care. We conclude that the use of outcome prediction models to ration care that is unlikely to provide an expected benefit is hampered by imperfect performance, the lack of real-time availability, failure to consider functional outcomes beyond survival, and physician resistance to the use of probabilistic information when death is guaranteed by the decision it informs. Among these barriers, the most important technical deficiency is the lack of automated

information systems to provide outcome predictions to decision makers, and the most important research and policy agenda is to understand and address our national ambivalence toward rationing care based on any criterion.

Communicating About End-of-Life Care with Patients and Families in the Intensive Care Unit **363**
J. Randall Curtis

Discussing end-of-life care and death with patients and their families is an extremely important part of providing a good quality care in the intentive care unit (ICU). Although there is little empiric research to guide ICU clinicians in the most effective way to have these conversations, there is a developing literature and experience and an increasing emphasis on making this an important part of the care we provide. Much like other ICU procedures or skills, providing sensitive and effective communication about end-of-life care requires training, practice, and supervision, as well as planning and preparation. Although different clinicians may have different approaches and should change their approach to match the needs of individual patients and their families, this article reviews some of the fundamental components to discussing end-of-life care in the ICU that should be part of the care of patients with life-threatening illnesses in the ICU.

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Richard A. Mularski

Pain management is an essential component of quality care delivery for the critically ill patient. Because outcomes are difficult to predict in the intensive care unit (ICU), high-quality pain management and palliative therapy should be a goal for every patient. For those patients actively dying, palliation may be among the main benefits offered by the health care team. Appropriate palliation of pain begins with the use of effective strategies for recognizing, evaluating, and monitoring pain. Skill in pain management requires knowledge of both pharmacologic and nonpharmacologic therapies. This article focuses on expertise in the use of opiates to facilitate confident and appropriate pain therapy. To optimize palliative therapy, symptoms are best addressed by interdisciplinary care teams guided by models that acknowledge a continuum of curative therapies and palliative care.

Terminal Dyspnea and Respiratory Distress **403**
Margaret L. Campbell

Dyspnea is a subjective experience that can be reported by the patient. Respiratory distress is an observable corollary, and represents the physical or emotional suffering that results from the experience of dyspnea. Recognizing and understanding this subjective

phenomenon poses a challenge to intensive care unit (ICU) clinicians when caring for the patient who is dying in the ICU. Dyspnea and cognitive impairment are highly prevalent in the terminally ill ICU patient. A Respiratory Distress Observation Model may provide a theoretical foundation for the assessment of this phenomenon that is grounded in emotional and autonomic domains of neurologic function. Treatment of dyspnea and respiratory distress relies on nonpharmacologic interventions and opioids and sedatives. As with pain, the treatment of dyspnea and respiratory distress relies on close evaluation of the patient and treatment to satisfactory effect. Empirical evidence suggests that quality care with control of distressing symptoms does not hasten death. Withholding opioids or sedatives in the face of unrelieved dyspnea or respiratory distress has no moral foundation.

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John P. Kress and Jesse B. Hall

Critically ill patients nearing the end of life frequently present with needs for aggressive sedation and analgesia. Optimizing patient comfort while permitting effective communication are challenging goals in this patient population. This article discusses delirium and sedation as it applies to dying patients, and provides recommendations for effective management strategies to optimize the experience of such patients at the end of life.

Principles and Practice of Withdrawing Life-Sustaining Treatments **435**
Gordon D. Rubenfeld

The clinician's responsibility to the patient does not end with a decision to limit medical treatment, but continues through the dying process. Every effort should be made to ensure that withdrawing life support occurs with the same quality and attention to detail as is routinely provided when life support is initiated. Approaching the withdrawal of life support as a medical procedure provides clinicians with a recognizable framework for their actions. Key steps in this process are identifying and communicating explicit shared goals for the process, approaching withdrawal of life-sustaining treatments as a medical procedure, and preparing protocols and materials to assure consistent care. Our hope is that adopting a more formal approach to this common procedure will improve the care of patients dying in intensive care units.

Caring for the Family of the Critically Ill Patient **453**
Karin T. Kirchhoff, Mi-Kyung Song, and Karen Kehl

Family's needs and considerations are an essential component of intensive care unit (ICU) care. Family satisfaction is related to clinician communication and decision making. Indeed, timely, honest

communication is vital to the psychosocial health and satisfaction of the family. Conflict often arises within the family and between the family and the clinicians, over decision making. Again, good communication skills are critical to family satisfaction with decision making and comfort with the care received. Family members have numerous psychosocial changes, and may experience depression, anxiety, or anticipatory grief while their family member is dying in the ICU. Awareness of these conditions, providing support to the families, and allowing family access to the dying individual can assist with meeting the family's desire to see their family member have a peaceful death.

End-of-Life Care in the Pediatric Intensive Care Unit: Research Review and Recommendations **467**
Jeffrey P. Burns and Cynda Hylton Rushton

Improving the quality of end-of-life care has become a national health care priority. A necessary step in this process in the pediatric intensive care unit (ICU) is examining the knowledge, attitudes, and behaviors of pediatric critical care practitioners in this area. In addition, the perspectives of bereaved parents must be uncovered as well. In this article, the empirical data in the literature on end-of-life care in the pediatric ICU are reviewed, common ethical controversies in this environment are discussed, and promising interventions for the future are presented.

Spirituality in Health: The Role of Spirituality in Critical Care **487**
Christina Puchalski

Caring for critically ill patients requires that physicians and other health care professionals recognize the potential importance of spirituality in the lives of patients, families, and loved ones and in their own lives. Patients and loved ones undergo tremendous stress and suffering in facing critical illness. Professional caregivers also face similar stress and sadness. Spirituality offers people a way to understand suffering and illness. Spiritual beliefs can also impact how people cope with illness. By addressing spiritual issues of patients, loved ones, and ourselves, we can create more holistic and compassionate systems of care.

Ethics and Palliative Care Consultation in the Intensive Care Unit **505**
Mark P. Aulisio, Elizabeth Chaitin, and Robert M. Arnold

It is clear that ethics and palliative care consultation have, in our view, much to offer intensivists as they attempt to work through the very complex and often tragic cases they face in their daily practice. Potential strengths include clarification of tangled normative issues, facilitation of shared decision making, conflict resolution, and expertise in the provision of comfort care. Despite this, it is an

unfortunate fact that many intensivists remain reluctant to use ethics and palliative care services. There are, of course, many possible reasons for this, including the absence of quality services in certain institutions, issues, or power and control, and role misperceptions. It is our hope that we have helped to clarify appropriate roles for ethics and palliative care in the intensive care unit. We urge the continued development of quality ethics and palliative care services, and the use of those services by intensivists.

The Dying Patient in the ICU: Role of the Interdisciplinary Team **525**
Judith Gedney Baggs, Sally A. Norton, Madeline H. Schmitt, and Craig R. Sellers

Expert opinion supports the application of broad interdisciplinary team approaches to the care of the dying patient in the intensive care unit (ICU). Current literature contains many suggestions about how core team members—physicians, nurses, and patients/family members—could systematically enhance interdisciplinary collaboration in the care of the dying patient. In the few studies of ICU interdisciplinary collaborative care of the dying patient, investigators have demonstrated improvement in care. In addition, ethics consultants and interdisciplinary palliative care teams, working with the core team members, have improved care for the dying. Further studies are needed to document alternative interdisciplinary models for achieving improved and durable patient, family, and provider outcomes in the care of the dying ICU patient.

Caring for the Caregiver **541**
Mitchell M. Levy

There are certainly many coping behaviors that may assist ICU caregivers in the process of caring for themselves. Staff support groups, regular interdisciplinary meetings to discuss difficult cases, and bringing trained personnel into the intensive care unit (ICU) environment to offer staff training in communication and conflict-resolution skills have been suggested as methods for alleviating caregiver stress. Combining these as well as other tools with a deeper look at the caregiver–patient relationship are important building blocks for creating a sane, healthy environment in the ICU. Over the next years, as the population ages, and as technologic advances continue, the critical care units will play an even more prominent role in health care. Given the threat posed by the severe nursing shortage, it becomes apparent that, to prepare for this increased need for critical care services, efforts must be directed to identify the sources of distress for ICU caregivers and develop focused training programs that alleviate the inevitably strains and pressures that arise in the process of compassionate caring for the critically ill.

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