

Anesthesia-Guided Palliative Care in the Perioperative Surgical Home Model

Julien Cobert, MD,* Jennifer Hauck, MD,* Ellen Flanagan, MD,* Nancy Knudsen, MD,* and Anthony Galanos, MD†

The emerging concept of the perioperative surgical home (PSH) represents a patient-centered model for health care delivery with an emphasis on shared decision making, decreased resource utilization, and improved patient-centered and value-based outcomes, such as length of stay, health care utilization and costs, patient satisfaction, and morbidity and mortality.¹ In the current PSH model, an episode of care begins at the time of discussion of a surgical solution for a particular problem through 30–90 days postoperatively. The PSH is often led by anesthesiologists and incorporates improved risk assessment, mitigation, and intervention (prehabilitation and optimization) in an effort to improve surgical outcomes. However, if anesthesiologists hope to redefine their role as perioperative physicians spanning from preoperative assessment through subacute to chronic follow-up postoperatively, then they must take responsibility in guiding discussion and care of the frail, the chronically ill, and even the palliative and/or dying patient in the perioperative setting. The role of the anesthesiologist beyond preoperative risk assessment and medical optimization of these challenging patient populations remains poorly defined and represents an opportunity to consolidate and coordinate, particularly in the era of enhanced recovery programs and PSH models. In this article, we describe the history of palliative care with an emphasis in the surgical population and potential opportunities for anesthesiologists to improve care among these patients in the perioperative and nonsurgical settings based on their unique clinical skill sets. We argue that, within the PSH model, anesthesiologists must broaden their role in perioperative palliative care and even have an opportunity to lead this field.

Palliative care represents a relatively new concept of specialized team-based medical care for patients of any age and at any disease stage who are suffering from serious illness. The philosophy of palliative care shifted the delivery of care from providing medical interventions

used to control disease to those used to relieve suffering. Simply, it represents a holistic emphasis on alleviating pain and managing physical, psychological, social, and spiritual distress. According to the American Academy for Hospice and Palliative Medicine (AAHPM), the field “focuses on improving a patient’s quality of life by managing pain and other distressing symptoms of serious illness.” While these concepts have existed for millennia,² it was only in the 1970s when the first hospice in the United States was established and in 1983 when hospice was made a benefit of the Medicare program. In 2006, the American Board of Medical Specialties and the Accreditation Council for Graduate Medical Education recognized hospice and palliative medicine (HPM) as an official subspecialty. At present, anesthesiology-trained physicians certified by the American Board of Anesthesiology (ABA) can participate in 12-month Accreditation Council for Graduate Medical Education (ACGME)-accredited HPM fellowships and subsequently be eligible to take the HPM examination administered by the American Board of Internal Medicine. Before 2012, some physicians were eligible to take the HPM examination without an ACGME-accredited fellowship if, along with other provisions, they demonstrated 800 hours of clinical involvement in subspecialty-level practice of hospice and palliative care medicine over the previous 5 years.

Despite the increase of palliative care medicine specialists over the past decades, the demand for palliative care has outstripped the supply of providers.³ While the reasons for the increased demand remain unclear, possible explanations may be the growing population of elderly (and thus comorbid) patients,⁴ improved costs and possibly mortality within a certain subset of patients receiving palliative care,⁵ and/or changing reimbursement structures for hospice.⁶ The development of an integrated, multidisciplinary, and team-based approach to palliative care has been proposed as a potential solution for the undersupply problem.⁷ There has also been an expansion of providers eligible to train in HPM, as evidenced by the growing number of joint ventures between various specialties (anesthesiology, general surgery, and internal medicine included) in offering Certificates of Added Qualifications in HPM. These joint programs suggest that palliative care has become a broad and multidisciplinary field requiring unique perspectives from multiple specialties. This multidisciplinary approach has also extended into the surgical specialties as evidenced by enhanced surgical guidance from the American College of Surgeons, which created the Surgical Palliative Care Task Force in 1998 to aid in surgical palliation decision making.⁸

From the *Department of Anesthesiology, and †Division of Palliative Care, Department of Medicine, Duke University Medical Center, Durham, North Carolina.

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Address correspondence to Julien Cobert, MD, Department of Anesthesiology, Duke University Hospital, 2301 Erwin Rd, DUMC 3094, Durham, NC 27705. Address e-mail to julien.cobert@duke.edu.

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Specialty societies and medical education programs have adopted primary palliative care milestones when assessing resident professional development. Interestingly, in a recent study analyzing primary palliative care–relevant milestones within ACGME-accredited medical and surgical specialties, anesthesiology had the most direct and indirect salient palliative care skill training and milestones.⁹ Not surprisingly, many of these milestones involved chronic and acute pain and complex symptom management that represent important aspects within anesthesiology training.

While the past few decades have demonstrated an increasing recognition and appreciation of the role for palliative care in the surgical patient, there remains a dearth of data on the subject, as evidenced by a recent meta-analysis.¹⁰ Furthermore, barriers remain in the adoption of palliative care and hospice among surgical patients. While the overall adoption of palliative care (ie, consultations, hospice referrals, inpatient hospice) in the surgical patient has been slow, the use of palliative surgery has been common, estimated to occur in 12.5%–21% of all surgical procedures in cancer patients.¹¹ This may be due to the increasingly described notion of “patient buy-in”¹² whereby there may be an implicit acceptance or buy-in of aggressive life-supporting interventions after large and/or complex operations. Such patient buy-in may limit the utilization of palliative care and particularly hospice referral, especially if these services recommend less aggressive and life-sustaining interventions. Nonetheless, some recent studies raise questions on the utility and benefit of certain palliative surgeries on selected patients. One retrospective study using the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database showed that procedures performed in patients with disseminated malignancy as compared with matched nondisseminated malignancy patients resulted in increased postoperative overall morbidity, mortality, prolonged length of stay, readmissions, and discharges to facilities.¹³ Furthermore, when no postoperative complications occurred, there remained higher rates of prolonged length of stay, readmissions, discharges to a facility, and 30-day mortality. There remains a clear need for further investigations on the utility, benefit, and criteria for “success” in the palliative surgical patient.

In contrast to the growing role and awareness of the surgeon in palliative care, the role of the anesthesiologist in the palliative care setting remains unclear. Aside from a few examples of unique anesthesiologist-based health care delivery systems for palliative care,¹⁴ the role of the anesthesiologist in the global palliative care of the patient has not truly been defined. Perry Fine, an anesthesiologist, noted several attributes of the specialty that uniquely qualify anesthesia providers to assist with management of especially distressing or refractory symptoms among dying patients. These attributes include anesthesiologists’ interpersonal experience in serving critically ill, anxious, frequently agitated, patients and family members under stressful circumstances and, perhaps most importantly, the knowledge of and comfort level with potent analgesic, sedative, and consciousness-altering drugs and experience in titrating multiple drugs to achieve optimal effect.¹⁵ When placed in this context, the anesthesiologist’s skill set is ideally suited to fulfill palliative care needs.

In the context of the PSH, a more concrete blueprint for the role of the anesthesiologist in the care for the palliative patient becomes apparent. In the preoperative setting, risk assessment, through any of several risk calculators such as ACS-NSQIP, Revised Cardiac Risk Index (RCRI), American Geriatrics Society (AGS) frailty index, or postoperative respiratory distress calculator, may provide essential information to the patient, family, and certainly the oncologist and surgeon that may inform the decision-making process, in particular, when life time may be limited. Triggers to initiate use of such risk calculators, such as high probability of postoperative complications or mortality, increased length of stay, or high likelihood of discharge to a skilled nursing facility, may help initiate the discussion of whether the surgical procedure and likely outcomes are consistent with the patient’s end-of-life and treatment goals. In addition to risk stratification, the preoperative assessment in the PSH is a unique time to assess whether patients are medically and symptomatically optimized before surgery. For instance, review of analgesic regimens may demonstrate suboptimal pain control, prompting patient referral to pain management services. This may then permit migration of medication management from the oncologist or primary provider to a more specialized pain service. At our own institution, our version of PSH, the Perioperative Enhancement Team, routinely applies ACS-NSQIP risk calculations on all patients in addition to identification of comorbidities amenable to medical optimization (eg, anemia, malnutrition, diabetes mellitus, laboratory abnormalities). The anesthesia team reviews these potential areas of optimization with the patient and family members present as well as the surgeon, primary care providers, and/or pertinent specialist (eg, oncologist) via our electronic medical record. These conversations may trigger direct consultations to oncology or palliative care and may delay surgical interventions if patient expectations and/or goals of care are not in line with the surgical plan.

The preoperative clinic visit should also serve as a unique opportunity to discuss goals of care and long-term perioperative expectations. The role of the do-not-resuscitate/do-not-attempt-resuscitation (DNR/DNAR) order in the preoperative setting remains challenging, particularly in the setting of elective procedures. Interestingly, the likelihood of anesthesiologists to automatically suspend a patient’s DNR order significantly differed from those of surgeons and internists in survey-based studies.¹⁶ These discrepancies suggest a role for improved communication not only among surgical and anesthesia teams, but also among patients and their providers. Regardless of DNR status, there exists a gap in communication and advance care planning preoperatively that may lead to nonbeneficial surgeries¹⁷ and may contribute to the high amount of surgeries in the final weeks of life of elderly patients.¹⁸ The preoperative screening visit and the anesthesiologist’s evaluation may be unique settings for these issues and questions. One simple approach may be the utility of the surprise question of “would I be surprised if this patient died in the next 12 months?” as a trigger for palliative care consult that has been previously proposed for other specialties.¹⁹ Alternatively, in lieu of a palliative care consult, the surprise question should also be a trigger for more interdisciplinary discussion about

goals and expectations of care. In the current models of care, anesthesiologists and/or midlevel providers may not be adequately trained, comfortable, or knowledgeable of the patient's full medical history to have these discussions directly with the patient but may serve as consultants, directly communicating concerns or goals with the primary or surgical teams. At our institution's preoperative clinic, when perioperative expectations of the patient do not coincide with those of the primary and surgical teams or if goals of care are readdressed, clinic providers (usually midlevel providers and/or house staff) are expected to directly message and coordinate care with the surgical and primary teams. In the future, protocols (eg, surprise questions, frailty measures) could automatically trigger warnings to primary and surgical providers or lead to palliative care consultations. Linking to the electronic medical record with clear documentation to help guide perioperative care for the inpatient and outpatient teams, particularly in frail, geriatric, and high-risk patients may also improve quality of care and improve communication among multiple different teams and specialties. Examples of ways to guide postoperative care specifically by anesthesiologists include detailed multimodal pain management plans (sometimes in conjunction with pain specialists), delirium prevention, potential challenges in patients with complex disease states (eg, cardiovascular or pulmonary disease), nausea management, implementation of enhanced recovery after surgery protocols, and others. These complex discussions fulfill the primary visions of PSH, namely shared decision making, multidisciplinary communication, and patient-centered care. It is possible that the above discussions and actions could improve patient satisfaction, minimize potential perioperative complications, and also expand the role for anesthesiologists in perioperative patient care.

Heretofore, this discussion has emphasized the potential opportunities to address palliative concerns in the perioperative setting, while there are a number of natural overlaps between anesthesiology and palliative care in the nonsurgical patient as well. The unique skill set of the anesthesiologist allows for additional practical involvement in the care of the dying or suffering patient even outside the purview of the PSH. The most obvious pertinent skills of the anesthesiologist are the use of multimodal analgesia and therapies to relieve acute and chronic pain and intractable nausea and vomiting. Furthermore, medications commonly used intraoperatively for analgesia and sedation, such as dexmedetomidine, lidocaine, and ketamine, are now being used as pain adjuncts in opioid-refractory patients receiving palliative care.^{20,21} Despite a lack of randomized controlled data, regional anesthesia techniques have been used for the treatment of cancer-related pain with anecdotal success.²² Additionally, outpatient pain management clinics are commonly staffed by anesthesiologists and have long extended beyond the perioperative setting, providing longitudinal management for many patients and partnering closely with primary care, surgical, and many other disciplines in the outpatient, nonsurgical settings. Many of these clinics require successful interdisciplinary relationships with social workers, therapists, psychiatrists, chaplains, and others when treating psychiatric comorbidities and emotional suffering in the context of pain management. More controversial uses

of anesthesia have also been described for palliative purposes, such as total palliative sedation for existential suffering and intractable pain.²³ Anesthesiologists have notable experience with wide-ranging pharmacologic classes that can directly improve suffering and pain. The setting of this method of care delivery remains unclear, particularly nonsurgical patients receiving home hospice. The consultative setting for these outpatients seems to be a sensible option in this circumstance. Anesthesia-staffed chronic pain clinics in the outpatient setting serve as successful models and examples for how to interact with other specialties in the non-operating room, non-PSH settings.

Yet, there begs a question for why there has been a limited active role for anesthesia in the field of palliative care as a whole thus far. This is highlighted by national palliative care workforce data according to the AAHPM, whereby since 2008, there have been only 125 anesthesiologists and 72 surgeons who achieved subspecialty certification in HPM with ABA or ABS, respectively, as the cosponsoring board.^{24,25} The majority of these HPM-certified physicians (~88% of surgeons and 95% of anesthesiologists) obtained AAHPM certification before rule changes requiring a fellowship to be certificate eligible in 2012.²⁵ To put this in context, there have been 14,207 new certifications for anesthesiology over the same 2008 to present time period.²⁶ Hence, there exist very few palliative care-trained anesthesiologists and/or surgeons within the PSH setting. Perhaps 1 reason for the limited active role of anesthesiologists is the lack of widespread acceptance of the above AAHPM definition of the field. While the American Board of Medical Specialties has authorized the ABA to award certification in the subspecialty of HPM, the ABA still defines HPM as a field "based on expanding scientific knowledge about symptom control when cure is not possible and appropriate care during the last months of life."²⁷ This may misinterpret the role of the specialty as one limited to terminal illness and the end of life. Another potential barrier within anesthesiology may relate to the setting for drug delivery. Palliative care clinicians maintain a flexible approach to treatment, in which they accommodate change in setting and therapeutic path, often based on patient and family preferences. Anesthesiologists may need to learn to adopt this flexible stance, recognizing that the best setting for drug delivery may change at the end of life, and that the shifting balance of benefit to burden may warrant changes in symptom management. This flexibility not only includes the use of palliative goals at the possible expense of worsening hemodynamics but also being able to change the setting of care delivery from the hospital, OR, or intensive care unit to the home or hospice center. Currently, effective end-of-life communication is listed as a milestone for anesthesiology training by the ACGME and ABA,²⁸ but training on the discussion of death and goals of care may not be sufficient at all programs and for all trainees. An additional year of training in a HPM fellowship may be a barrier for some anesthesiologists from a time and financial perspective. Yet even without a HPM fellowship, many anesthesiologists specializing in chronic pain and critical care may serve as palliative care physicians in different contexts but may not have recognized themselves as such. There is likely room for improvement within existing residency programs to improve teaching in effective palliative and end-of-life communication.

These issues are further underscored by the lack of published data on anesthesiologists' perceptions of and involvement in the palliative care field, which could be a potential area of study in the future. Additionally, future studies on this topic can include surveys of anesthesiology providers on their likelihood to consult palliative care, their perspectives on the importance of palliative care within their field, and how providers may serve as important team members in the management of the chronically ill and/or dying patient. Addressing code status and having a discussion of motivations, expectations of outcomes, and morbidity could be further incorporated into perioperative management, and the anesthesiologist may serve as a particularly useful expert in this domain.

To conclude, we first argue for a fundamental shift in mindset in how palliative care interacts with anesthesiology and vice versa. Perhaps, we as anesthesiologists should challenge ourselves to consider our specialty also as one interconnected with that of palliation. Certainly, a large part of our profession is dedicated to providing safe monitoring, amnesia, and analgesia and maintaining homeostasis for patients undergoing major and/or minor surgeries. However, the field of anesthesiology, much like palliative care, provides a patient-centered approach to adequate comfort during times of prolonged physical and emotional stress. We serve as an advocate to the patient during one of the most stressful events of his or her life and are uniquely positioned to be integral parts of the multidisciplinary palliative care team. Furthermore, the interactions between palliative care and anesthesia have been well established in a number of subspecialties such as chronic pain management and critical care medicine with much success outside of the perioperative context. Second, while this palliative mindset of anesthesiology represents an idealistic interpretation of our field, in the context of the PSH model of delivery, the role of the anesthesiologist becomes more practical. We must develop a broader leadership role in the palliative needs of perioperative patients. This begins with the initial preoperative consultation that serves as an opportunity for expectation management, discussion of goals of care and symptoms, and medical comorbidity optimization. Morbidity, mortality, and a realistic concept of resuscitation must be discussed at the outset. Frailty and risk assessment should immediately trigger a broader interdisciplinary discussion about the utility of the procedure and the risks associated with surgery. The low prevalence of dual-trained anesthesiologists and surgeons suggests an enormous opportunity for more palliative care involvement by our field. It is only by taking responsibility for discussion and care of perioperative palliative needs that we can fulfill the vision of PSH as a truly patient-centered delivery model, particularly in our growing population of sick and frail elderly patients. ■

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Name: Jennifer Hauck, MD.

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Name: Ellen Flanagan, MD.

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Name: Nancy Knudsen, MD.

Contribution: This author helped in the writing and editing of the article.

Name: Anthony Galanos, MD.

Contribution: This author helped in the topic formulation, outlining, and editing of the article.

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