Hospitalists and anesthesiologists as perioperative physicians: Are their roles complementary?

Adebola O. Adesanya, MD, and Girish P. Joshi, MD

In recent years, there has been an increased emphasis on the role of anesthesiologists as perioperative physicians. However, a new group of physicians called hospitalists has emerged and established a role as perioperative physicians. Most hospitalists have specialized in internal medicine and its subspecialties. We reviewed American medical literature over the last 13 years on the roles of anesthesiologists and hospitalists as perioperative physicians. Results showed that the concept of the anesthesiologist as the perioperative physician is strongly supported by the American Board of Anesthesiology and the leaders of the specialty. However, most anesthesiologists limit their practice to intraoperative care and immediate acute postoperative care in the postanesthesia care unit. The hospitalists may fill a different role by caring for patients in the preoperative and sometimes in the postoperative period, allowing the surgeon to focus on surgery. These roles of the anesthesiologists and the hospitalists as perioperative physicians may be complementary. We conclude that if anesthesiologists and hospitalists work together as perioperative physicians, with each specialty bringing its expertise to the care of the perioperative patient, care is likely to improve. It is necessary to be proactive and identify areas of future cooperation and collaboration.

In the Rovenstine lecture (1) delivered at the American Society of Anesthesiologists annual meeting in 2005, Mark Warner, MD, called on anesthesiologists to embrace the changing profession of anesthesiology and predicted that surgery would become even less invasive over time. He also predicted that anesthesia for these less invasive procedures would probably be provided by nonphysician anesthetists, leaving anesthesiologists to care for more critically ill patients in either the operating room or the intensive care unit (ICU). Similarly, the American Society of Anesthesiologists' "task force to identify possible anesthesia paradigms in 2025" (2) headed by Ronald D. Miller, MD, emphasized that anesthesiologists need to diversify their practice paradigms in order to ensure a future leadership position in medicine. Diversification will involve expanding their practice to incorporate perioperative management, including critical care. The task force also projected that tertiary care–oriented hospitals will probably increase the number of critical care and monitored beds, up to as much as half of the total hospital beds.

Despite these calls to widen the scope of practice of anesthesiology, most anesthesiologists limit their practice to anesthetic care in the preanesthetic assessment clinic, operating room, and immediate postoperative care area. In the meantime, physicians called hospitalists have begun to act as perioperative physicians (3, 4). Surgeons rely on these hospitalists to ensure that their patients are optimally prepared for surgery and to be available if postoperative complications develop.

We reviewed American medical literature over the last 13 years on the roles of anesthesiologists and hospitalists as perioperative physicians. In this article, we review the mission of the hospitalists and compare their position as perioperative physicians with that of the anesthesiologists.

ANESTHESIOLOGISTS AS PERIOPERATIVE PHYSICIANS

As marketplace policies are applied to the health care industry, physicians—including anesthesiologists—will be asked to increase the value of their services to patients, hospitals, managed care companies, and other physicians. By virtue of training and experience, anesthesiologists are perioperative physicians; the scope of their practice includes preoperative evaluation and preparation, intraoperative anesthetic and medical management, and acute postoperative care. Many anesthesiologists are also trained in the management of critically ill patients in the ICU. In addition, some anesthesiologists also work as key members of the multidisciplinary acute and chronic pain management teams.

The concept of the anesthesiologist as perioperative physician is strongly supported by the American Board of Anesthesiology (ABA), which recently proposed changes in residency training to significantly increase experience in perioperative medicine. However, these changes are not due to take effect until 2008, and it is likely that new graduates with this training will not manifest themselves for at least 5 to 6 years.

In spite of calls by leaders of the specialty (5–8) and the position of the ABA, many if not most anesthesia residency

From the Department of Anesthesiology and Pain Management, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, Texas 75390-9068.

Corresponding author: Adebola O. Adesanya, MD, Department of Anesthesiology and Pain Management, The University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, Texas 75390-9068 (e-mail: Adebola.Adesanya@UTSouthwestern.edu).

training programs are neither equipped nor positioned to train perioperative physicians. A survey of 56 anesthesiology training programs conducted by the American Society of Critical Care Anesthesiologists (9) found that 63% of reporting programs perceived at least moderate difficulties in fulfilling the proposed ABA requirements. Interestingly, 35% of programs thought that the proposed requirement would hinder their resident recruitment, and 28% thought that expansion of critical care was wrong for their department.

To date, there is no agreement among anesthesiologists on whether the specialty should limit itself to intraoperative and immediate postoperative care or expand its scope of practice to include the entire perioperative period. Expanding the scope of the specialty would require broader training and may lengthen the period of training. Opponents of the expansion argue that the perioperative period is ill defined and that anesthesiologists are uniquely unprepared and typically have little enthusiasm for becoming perioperative physicians (5). They agree, however, that the necessary expertise can be developed. They also highlight the economic implications of such a move, which may be negative (5). Proponents argue that perioperative medicine increases the breadth of anesthesiologists' medical knowledge and leads to better understanding of chronic diseases and consequent improvement in patient management throughout the continuum of care. Other benefits include improvement in interspecialty communication, differentiation of anesthesiologists from nonphysician anesthetists, and overall improvement in the quality of perioperative care. They envision a practice in which groups of anesthesiologists practice perioperative medicine, although each member of the group may not practice all aspects (5).

Available evidence (10–12) suggests that a well-designed, anesthesiologist-directed preoperative evaluation clinic can reduce both the number of requests for consultations and the number of surgical cancellations attributable to inadequate preoperative preparation. Significant cost savings can also be achieved by reducing unnecessary testing and unnecessary resource utilization. With regard to postoperative care, Pronovost et al (13), in a study of patients recovering from abdominal aortic surgery, found that daily rounds by an ICU physician were associated with a two-thirds reduction in the mortality rate and reduced resource utilization. Several other studies (14, 15) have come to a similar conclusion. Therefore, organization of surgical intensive care to include daily rounds by intensivists, many of whom could be anesthesiologists, is likely to be both clinically and economically beneficial (14, 16).

WHO ARE HOSPITALISTS?

Hospitalists are hospital-based physicians dedicated to the care of patients admitted to the hospital. The overwhelming majority of hospitalists have trained in internal medicine and medicine subspecialties. The genesis of the hospitalist specialty can be traced back to the early 1980s, although Wachter and Goldman (17) did not coin the name until 1996. The specialty began when large multispecialty medical groups, such as Kaiser Permanente in California and Park Nicollete Clinics in Minnesota, began to assign some inpatient medical care to primary care physicians to increase efficiency. In 1997, a small group of physicians who exclusively practice inpatient medicine met at a continuing medical education event in San Francisco and formed the National Association of Inpatient Physicians, which has now evolved into the Society of Hospital Medicine. The mission statement of the Society of Hospital Medicine includes support, proposal, and promotion of changes that lead to higher quality and care that is more efficient for all hospitalized patients (18). This group includes patients who are hospitalized for surgery.

Presently, there is no formal training, accreditation, or certification process to become a hospitalist; however, training institutions such as the University of California at San Francisco and a few other US residency programs have modified their internal medicine training for residents interested in hospital-based careers. The extent to which other internal medicine training programs focus on the care of perioperative patients is unclear. In practice, however, hospitalists claim expertise in perioperative care and refer to themselves as perioperative physicians (4, 18, 19). In fact, several hospital medicine groups now call their department "the department of hospital and perioperative medicine."

Hospitalists also believe that one of the "foundations of hospital medicine" is their involvement in the care of the perioperative patient (4). They contend that hospitalists have a central and growing role as practitioners of perioperative medicine. Hospitalists refer to the success of multidisciplinary teams of hospitalists and orthopaedic surgeons and of hospitalists and cardiothoracic surgeons in some large medical centers in the USA (18–20) as evidence of their accomplishment as perioperative physicians. Thus, hospitalists are becoming authorities and leaders in perioperative medicine. Furthermore, the Society of Hospital Medicine has started publishing practice guidelines for perioperative care (4).

The hospitalists are filling a void left by office-based internists, surgeons, and anesthesiologists. As a result, hospitalists have emerged as leaders of perioperative medicine and significant members of the perioperative care team.

ANESTHESIOLOGISTS AND HOSPITALISTS AS PERIOPERATIVE PHYSICIANS

Some anesthesiologists are concerned that hospitalists may challenge the role of anesthesiologists as perioperative physicians (21). However, the roles of anesthesiologists and hospitalists can be seen as complementary. Hospitalists, with their background in internal medicine, and anesthesiologists, with their knowledge of perioperative physiology and pharmacology, should ideally combine these resources to provide optimal patient care in the perioperative period. Joint conferences and seminars between anesthesiologists and hospitalists with interest in perioperative medicine are already being held annually in some institutions (22). A partnership between the American Society of Anesthesiologists and the Society of Hospital Medicine is desirable, with the goal of providing optimal and efficient care for patients undergoing surgery. This kind of partnership may present an

opportunity to better utilize the knowledge and expertise of anesthesiologists in the preoperative and postoperative care of surgical patients. Residency training and education in perioperative medicine can also be standardized in both specialties. Collaboration in research and formulation of practice guidelines for the management of perioperative patients by both specialties should ultimately improve patient outcomes.

In due course, the marketplace and third-party payers will be more likely to support perioperative medicine that is practiced by both anesthesiologists and hospitalists since the expertise required is synergistic. Support will particularly increase if a demonstrable improvement in clinical outcomes is seen in the practice of perioperative medicine.

SUMMARY

The field of perioperative medicine is broad and will continue to grow as more extensive surgical procedures are performed on older and sicker patients. At a time when most specialties are eager to expand their scope of practice and influence, it is imperative that anesthesiologists embrace their role as perioperative physicians. What is unknown is whether anesthesiologists will seek or accept broader perioperative responsibilities. The temptation to avoid change is substantial, due to the comfortable lifestyle and financial reward of practice limited to the operating room. However, the status quo is not an acceptable option if anesthesiology is to emerge as a specialty that cares for patients from the time a decision is made for surgical intervention until hospital discharge and the return to normal daily living.

Clearly, there is a role for both anesthesiologists and hospitalists in perioperative medicine. If each specialty brings its expertise to the care of the perioperative patient, care is likely to improve. An example of cooperative medical care is the referral by the anesthesiologist to the hospitalist for a cardiac evaluation of a patient who presents to the preanesthetic screening clinic with a significantly abnormal electrocardiogram. The specialty of anesthesiology will become much more diverse and challenging with the inclusion of perioperative medicine. While the primary mission of anesthesiology remains intraoperative management, maintaining involvement in preoperative preparation and postoperative care is essential to the specialty's growth and continued well-being.

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1. Warner MA. Who better than anesthesiologists? The 44th Rovenstine lecture. *Anesthesiology* 2006;104(5):1094–1096.
2. Miller RD. Report from the Task Force on Future Paradigms of Anesthesia Practice. *ASA Newsletter* 2005;69(10). Available at http://www.asahq.org/Newsletters/2005/10-05/miller10_05.html; accessed February 12, 2007.
3. Society of Hospital Medicine. Mission statement and goals. Available at http://www.hospitalmedicine.org; accessed October 28, 2006.
4. Society of Hospital Medicine. *Perioperative Care* (a special supplement to *The Hospitalist).* Philadelphia: Society of Hospital Medicine, 2005. Available at https://www.hospitalmedicine.org/AM/Template.cfm?Section=Search_Advanced_Search&section=Supplements&template=/CM/ContentDisplay.cfm&ContentFileID=1448; accessed October 25, 2006.
5. Prough DS, Silverstein JH. Perioperative medicine—to be or not to be? *ASA Newsletter* 1999;63(5). Available at http://www.asahq.org/Newsletters/1999/05_99/Perioperative_0599.html; accessed February 12, 2007.
6. Hepner DL. The anesthesiologist as perioperative physician: the PCP of the preoperative period? *ASA Newsletter* 2002;66(11). Available at http://www.asahq.org/Newsletters/2002/11_02/hepner.html; accessed February 12, 2007.
7. Alpert CC, Conroy JM, Roy RC. Anesthesia and perioperative medicine: a department of anesthesiology changes its name. *Anesthesiology* 1996;84(3):712–715.
8. Lisco SJ. The anesthesiologist as hospitalist: covering all the bases in perioperative care? *ASA Newsletter* 2002;66(11). Available at http://www.asahq.org/Newsletters/2002/11_02/lisco.html; accessed February 12, 2007.
9. Hurford WE. ASCCA training survey. Presentation at the 2004 meeting of the Society of Academic Anesthesiology Chairs and Association of Anesthesiology Program Directors. Available at http://www.aapd-saac.org/meetingpapers/2004/Dr.HurfordHandout.ppt; accessed November 3, 2006.
10. Fischer SP. Development and effectiveness of an anesthesia preoperative evaluation clinic in a teaching hospital. *Anesthesiology* 1996;85(1):196–206.
11. Correll DJ, Bader AM, Hull MW, Hsu C, Tsen LC, Hepner DL. Value of preoperative clinic visits in identifying issues with potential impact on operating room efficiency. *Anesthesiology* 2006;105(6):1254–1259.
12. Ferschl MB, Tung A, Sweitzer B, Huo D, Glick DB. Preoperative clinic visits reduce operating room cancellations and delays. *Anesthesiology* 2005;103(4):855–859.
13. Pronovost PJ, Jenckes MW, Dorman T, Garrett E, Breslow MJ, Rosenfeld BA, Lipsett PA, Bass E. Organizational characteristics of intensive care units related to outcomes of abdominal aortic surgery. *JAMA* 1999;281(14):1310–1317.
14. Hanson CW III, Deutschman CS, Anderson HL III, Reilly PM, Behringer EC, Schwab CW, Price J. Effects of an organized critical care service on outcomes and resource utilization: a cohort study. *Crit Care Med* 1999;27(2):270–274.
15. Manthous CA, Amoateng-Adjepong Y, al-Kharrat T, Jacob B, Alnuaimat HM, Chatila W, Hall JB. Effects of a medical intensivist on patient care in a community teaching hospital. *Mayo Clin Proc* 1997;72(5):391–399.
16. Macario A, Vitez TS, Dunn B, McDonald T. Where are the costs in perioperative care? Analysis of hospital costs and charges for inpatient surgical care. *Anesthesiology* 1995;83(6):1138–1144.
17. Wachter RM, Goldman L. The emerging role of "hospitalists" in the American health care system. *N Engl J Med* 1996;335(7):514–517.
18. Macpherson DS, Parenti C, Nee J, Petzel RA, Ward H. An internist joins the surgery service: does comanagement make a difference? *J Gen Intern Med* 1994;9(8):440–444.
19. Merli GJ. The hospitalist joins the surgical team. *Ann Intern Med* 2004;141(1):67–69.
20. Huddleston JM, Long KH, Naessens JM, Vanness D, Larson D, Trousdale R, Plevak M, Cabanela M, Ilstrup D, Wachter RM; Hospitalist-Orthopedic Team Trial Investigators. Medical and surgical comanagement after elective hip and knee arthroplasty: a randomized, controlled trial. *Ann Intern Med* 2004;141(1):28–38.
21. Gropper MA, Lisco SJ. The hospitalist movement: is there a place for anesthesiologists? *Anes Clin N America* 1999;17(2):445–452.
22. Jaffer KA, Michota FA Jr, eds. Proceedings of the Perioperative Medicine Summit: Using Evidence to Improve Quality, Safety, and Patient Outcomes. *Cleve Clin J Med* 2006;73(Suppl 1):S1–S7.