**Evolution of Anesthesiology**

In its 1996 Booklet of Information, the American Board of Anesthesiology defines anesthesiology as "the practice of medicine dealing with but not limited to:

1. The assessment of, consultation for and preparation of patients for anesthesia.
2. The provision of insensibility to pain during surgical, obstetrical, therapeutic and diagnostic procedures and the management of patients so affected.
3. The monitoring and restoration of homeostasis during the perioperative period, as well as homeostasis in the critically ill, injured or otherwise seriously ill patient.
4. The diagnosis and treatment of painful syndromes.
5. The clinical management and teaching of cardiac and pulmonary resuscitation.
6. The evaluation of respiratory function and application of respiratory therapy in all its forms.
7. The supervision, teaching and evaluation of performance of both medical and paramedical personnel in anesthesia, respiratory or critical care.
8. The conduct of research at the clinical and basic science level to explain and improve the care of patients.
9. The administrative involvement in hospitals, medical schools and outpatient facilities necessary for implementation of these responsibilities."

It is clear that the Board has a broad view of the specialty, and has provided a framework for growth. Recently, this growth has been the subject of discussion. In the 1994 Ravenstine Lecture, the Editor of this journal presented his view that "anesthesiology should evolve into "perioperative medicine and pain management"." Panels at the 1995 meetings of the Association of University Anesthesiologists and the American Society of Anesthesiologists (ASA) focused on the changing nature of anesthesiology and the importance of looking beyond the operating room. This dialogue is welcome, because alterations in medicine mandate accelerated development and further expansion of the focus of our practice. Succinctly put, anesthesiologists need to redefine our mission and, in the process, redefine our specialty.

In the majority of departments, training and practice involve the preparation for and provision of intraoperative anesthesia. This emphasis did not occur by accident. Rather, it arose out of a need to make the operating rooms safe—a place where patient care was excellent and where our surgical colleagues could concentrate on the practice of their craft. This has been accomplished. Anesthesia-related operative mortality occurs in a vanishingly small number of cases, and significant anesthesia-related morbidity is rare. These accomplishments did not prompt the anesthesiology community to stand still; anesthesiologists assumed an increasing role in other aspects of practice. We are now directly involved in preoperative assessment, postoperative care in postanesthesia care units and intensive care units, acute/postoperative and chronic pain management, cardiopulmonary resuscitation, the management of labor and delivery, and the development of practice parameters and guidelines. Such changes are good but insufficient; for a number of reasons, more is needed.

The changes in medicine that are alluded to arose in large measure from reform of the American healthcare system. Initially driven by cost reduction, these alterations emphasized primary care, preventive medicine, relocation of resources to the outpatient sector, and bundled reimbursement. Current trends, however, in-
dicate that quality of care is becoming an issue. Large corporations are demanding that healthcare providers demonstrate independently verifiable evidence that cost reduction is associated with maintained or improved quality. Demands from third-party payors for reduction in length of stay (in days) coincide with demands by employers (who pay the bills) for high-quality care.

These trends have two ramifications of key importance to the anesthesiologists. First, this is an environment that favors professionals who take an activist role in reducing cost, improving medical and financial outcomes, and defining quality of care. Second, an increasing number of physicians will soon be relegated to a role outside the hospital. These changes present anesthesiologists with an opportunity to assume responsibility for a task to which we are uniquely suited.

Anesthesiologists are involved in preoperative assessment because of our ability to determine what is cost-effective and valuable. We routinely provide immediate postoperative care and are often involved intimately in patient management in surgical intensive care units because of our understanding of perioperative pharmacology and physiology. Postoperative pain increasingly is managed by anesthesiologists experienced in the effective use of analgesics. Expertise in resuscitation makes the anesthesiologist ideally suited to respond to in-hospital emergencies; resuscitation often requires a flexibility inherent in the practice of anesthesiology, which emphasizes that life-threatening events of diverse origin require individualized responses. Finally, anesthesiologists have taken the lead in administration of operating rooms, streamlining the management of patient flow in the perioperative period, and developing practice guidelines and critical pathways to improve efficiency, quality, and safety. In short, the requirements of the “new” medical marketplace are tailored to the skills of anesthesiologists and make it feasible for us to assume responsibilities that are logical extensions of current practice. Meeting these demands, however, will require increased involvement, as we progress from assessors into managers of patients in the perioperative period. This concept lies at the crux of the evolution of our specialty.

In this issue of Anesthesiology, Fischer details the results of establishing an Anesthesia Pre-Operative Evaluation Clinic at Stanford University Medical Center. The Anesthesia Pre-Operative Evaluation Clinic is a misnomer, because this facility does far more than simply evaluate. Rather, Fischer and his colleagues manage surgical patients in the preoperative period, a significant development in the evolution of anesthesiology to perioperative medicine. In the article, several issues important to such a venture are highlighted. Fischer addressed the concerns of his surgical colleagues, fostered the development of a sense of allegiance, and markedly increased clinic referrals. Then, administrative and financial support from the medical center was secured by showing administrators how the clinic served the interests of the Stanford medical community. Development of a key role for advanced nurse practitioners led to an alliance with the Department of Nursing, aligning their goals with those of the clinic and the medical center. Physicians and patients were educated in the concepts of perioperative care via the activities of the center and the Anesthesia Medical Consultation Service. Most importantly, Fischer gathered data that documented the role of the clinic in reducing unnecessary testing, virtually eliminating cancellations on the day of surgery and improving cost-effectiveness without compromising care. These data demonstrate the impact of the evolution of anesthesiology on patients and medical practice. Therefore, in developing the clinic, Fischer redefined quality of care, educated other professionals, saved money and time, enhanced patient satisfaction, fostered a sense of community among physicians, nurses, and administrators, and provided a sterling example of the role anesthesiologists can play in facilitating integrated, multidisciplinary, cost-effective care.

Little in this report is new or unique. Others have established similar centers, as an example; at our institution, Dr. Traber directs The Admission Center, where patients are evaluated and managed before surgery, and also has administrative responsibility for all admissions to the University of Pennsylvania Health System. Reuven Pasternak and co-workers at Johns Hopkins developed guidelines for preoperative testing and consultation, and Dr. Pasternak, as head of an ASA Task Force, is overseeing preparation of a report on perioperative resource utilization that is destined to have profound consequences. The Anesthesiology Consult Service serves an important role in many medical centers; the popularity of an ASA lecture entitled “The
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Anesthesiologist as Internist; Knowledge with an Attitude,” given by Dr. Stanley Rosenbaum of Yale, testifies to this. Fischer’s article, however, provides hospitals, physicians, nurses, and patients with a paradigm for improved, cost-effective, collaborative preoperative care that need not, and indeed, should not, be confined to large academic or tertiary care centers. The methods set forth can be adapted to smaller centers and to the private sector. In these settings, development might best occur in stages. At first, the approach should involve guidelines for preoperative testing, the education of the surgical and primary care community, and implementation of a program of ambulatory record review to improve and streamline the preoperative process. Parallel development of a consultative service can enhance patient readiness and increase the visibility of anesthesiologists to the medical community. Most importantly, the contribution of these services to cost reduction, time management, and patient satisfaction can be evaluated prospectively. Data made available to physicians, patients, administrators, and third-party payors can then justify the establishment of a formal clinic. This activist approach will highlight the value of anesthesiologists to the healthcare system.

What of the importance of this evolution to our specialty? As concern for the viability of our healthcare system increases, anesthesiologists are faced with challenges to our existence. Despite our expanding role, we are often unrecognized or misunderstood by our patients, our colleagues, and the public. Patients find it difficult to develop a perception of the anesthesiologist as a physician or human being. Many of our medical and surgical colleagues fail to recognize the contribution anesthesiologists make as physicians, perceiving the practice of anesthesiology as procedure, and not patient, oriented. Medical administrators and third party payors uneducated in the depth and breadth of an anesthesiologist’s capabilities may believe we can be replaced by other professionals. While it is essential that these individuals be educated, to undo these misperceptions will require more.

We must re-orient our outlook and priorities, with particular emphasis on how we practice, how we communicate, how we effect the global delivery of healthcare and, most importantly, how we recruit and educate future practitioners. Anesthesiologists need to abandon the “shift” mentality and assume responsibility for patients on the basis of our individual experience and expertise, not on the basis of expediency. We need to communicate more effectively with administrators, third party payors, colleagues, and patients. Most importantly, we must attract to the specialty trainees who can build on what has been started and further emphasize the medical, as opposed to procedural, nature of the craft.

It is clear that anesthesiologists have begun this evolutionary process. Perhaps this is what led Saidman to call for the re-orientation of the specialty as “perioperative medicine and pain management.” Perhaps, as well, it was involvement with patient care and practice parameters outside the operating rooms that led two eminent anesthesiologist/intensivists to state publicly that the future of the specialty may be inexorably linked to critical care medicine.

Shapiro raised an economic argument of “value added,” implying that the more an individual is capable of and willing to do (and do well), the more valuable that individual becomes. The expanding role of anesthesiologists in the preoperative arena, as epitomized by the work of Fischer and others, is one way in which anesthesiologists bring “added value” to patient care, cost-containment, and medical practice. We applaud this effort. Further evolution will result in a redefined, renewed, vibrant, and exciting specialty—anesthesiology and perioperative medicine.

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