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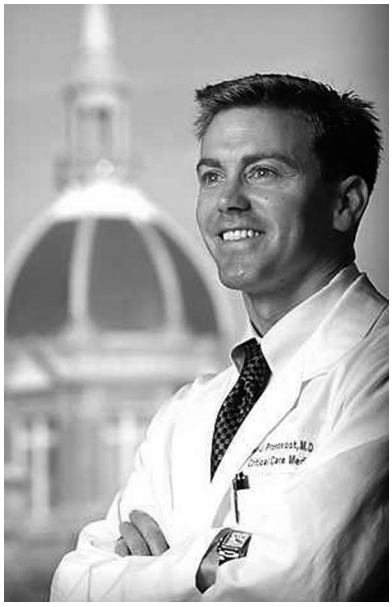
Peter J. Pronovost, M.D., Ph.D.

Recipient of the 2003 Presidential Scholar Award

John A. Ulatowski, M.D., Ph.D., M.B.A.

The end of the twentieth century gave healthcare workers the opportunity to look back on 100 years of tremendous advances in medicine. However, our work is far from complete, as we are reminded by the 1999 report of the Institute of Medicine of the National Academies, Washington, D.C. "To err is human" makes plain a task still ahead: to reduce medical errors and prevent significant morbidity and mortality. The Institute of Medicine lauded anesthesiology as a specialty that has led the way in patient safety. Anesthesiologists have a long and noteworthy commitment to patient safety, primarily in the operating room, through the use of high-tech monitoring and improved anesthetic techniques and medications. At the inauguration of the Presidential Scholar Award, during the American Society of Anesthesiologists annual meeting in October 2003, Dr. James Cottrell, M.D. (Professor and Chairperson, Department of Anesthesiology, State University of New York Health Science Center, Brooklyn, New York), challenges all of us when he cites Maxwell De Pree (author and Chairman Emeritus, Herman Miller, Inc., Zeeland, Michigan): "We cannot become what we need to be by remaining what we are." Dr. Cottrell, president of the American Society of Anesthesiologists at the time, had the distinct honor of presenting Peter Pronovost, M.D., Ph.D. (Associate Professor, Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University, Baltimore, Maryland), as the first recipient of this award for creating a new frontier for anesthesiologists with his work in outcomes research and the study of process change. Dr. Pronovost's research expands the commitment to safety and improvement in medical practice, from the operating room to the intensive care unit (ICU), and hence begins to fully embrace the anesthesiologist's role in perioperative risk management.

Dr. Pronovost began his career in 1983 at Fairfield University, Fairfield, Connecticut, with undergraduate degrees in Biology and Philosophy. His family provided early motivation. He recalls that even in a household with two brothers (now a nephrologist and a financial planner), he always had a voice. He credits his parents with teaching him the importance of communication, a concept that has continued to be a part of his studies today. Ironically, Peter's father, a mathematics professor, died from a medical illness complicated by misdiagnosis. Peter and his wife, Marlene Miller, a pediatrician, share career interests in public health, mountain biking, and raising their 6-year-old son, Ethan, and 3-year-old daughter, Emma.



Peter J. Pronovost, M.D., Ph.D.

Dr. Pronovost entered medical school at The Johns Hopkins University, Baltimore, Maryland, in 1987. He continued his training at The Johns Hopkins University, completing an internship in Emergency Medicine, residency in Anesthesiology, and fellowship in Critical Care (1991–1996). During his critical care fellowship, he completed a Ph.D. program in The Johns Hopkins School of Public Health (Baltimore, Maryland), in the Graduate Training Program in Clinical Investigation, which provides broad skills in study design and analysis for physicians desiring to become clinical investigators. His thesis, published in *JAMA*,[1] evaluated all Maryland hospitals and found that high-risk surgical patients who are cared for by intensive care physicians have a mortality rate three times lower than patients who are not. His research continues to evaluate how the organization of care affects patient outcomes. He performed a systematic review evaluating the impact of ICU physician staffing and patient outcomes, a study that demonstrated a 30% reduction in the risk for hospital mortality in critically ill patients who are cared for by intensive care physicians. Few, if any, therapies have this large of an

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impact on mortality. He and his collaborators have completed numerous studies on the impact of ICU nurse staffing ratios, use of critical pathways, incident reporting, improved communication, and patient outcomes in the ICU.

Dr. Pronovost's research has led to dramatic changes in clinical practice, both in the United States and internationally. His work demonstrating the impact of ICU physician staffing and outcomes forms the basis for the Leapfrog Group's ICU physician staffing purchasing standard. Dr. Pronovost serves as the Medical Director for the Leapfrog Group ICU Staffing Standard, a consortium of over 140 private and public companies representing healthcare benefits to 45 million employees. He has written the majority of the physician-staffing standard. In addition, Dr. Pronovost has led quality improvement efforts in consortiums of more than 100 ICUs across the United States through his work with the Institute for HealthCare Improvements (Boston, Massachusetts) and the VHA, Inc. (Irving, Texas). He has developed and published measures of quality of ICU care that were implemented through these organizations. As a result of his proven success in process change and management, Dr. Pronovost now chairs the Joint Commission on Accreditation for Health Care Organizations' (Oakbrook Terrace, Illinois) efforts to develop measures of ICU quality of care, which will soon become the standard nationwide. Dr. Pronovost's research will not have the usual impact of one treatment for one disease. By changing the process by which care is delivered, his work will affect every patient entering an ICU anywhere, regardless of the diagnosis. He has published over 70 manuscripts, 12 book chapters, 7 editorials, and 2 videos, and he has at least 10 manuscripts under review.

Dr. Pronovost has grants from the Agency for Healthcare Research and Quality (Rockville, Maryland). Thirty ICUs throughout the country are already participating in a project to develop an error-reporting system. This project will be offered throughout the United States, and he seeks to expand the idea and process analysis into the operating room. Dr. Pronovost and the Agency for Healthcare Research and Quality are evaluating the impact of the Balance Budget Act on clinical and economic performance of rural hospitals. Dr. Pronovost and the National Institutes of Health (Bethesda, Maryland)/National Heart Lung Blood Institute (Bethesda, Maryland) are evaluating the long-term outcomes of patients with acute respiratory distress syndrome. He is the principal investigator on a study with the Commonwealth Foundation (New York, New York) to evaluate the impact of the Leapfrog Group's ICU physician staffing standard on patient outcomes.

Dr. Pronovost is leading efforts to train a cohort of clinical researchers who will continue to advance anesthesia practice analysis and change. His research and mentoring skills attract trainees inside and outside of Anesthesiology and Johns Hopkins. He tutors medicine residents, public health students, doctoral candidates in nursing, and several medical students interested in the study of improving anesthesia-based care. He is an Associate Professor in Anesthesiology and Critical Care Medicine, Surgery, and Health Policy and Management at The Johns Hopkins University (Baltimore, Maryland). In addition, he is Medical Director of the Center for Innovations in Quality Patient Care at The Johns Hopkins University (Baltimore, Maryland).

It is rare for a researcher's work to change clinical practice so quickly and comprehensively, yet this is indeed what is happening. Dr. Pronovost has gone beyond his origins in anesthesiology into acute care medicine, and his work will lead to broad changes in clinical practice. His efforts will eventually be retraced in the next generation of quality improvement in anesthesiology and critical care. Dr. Pronovost is a role model of what we should be as new anesthesiologist-researchers. He epitomizes the anesthesiologist as leader in patient safety. Supporting his work with this award will encourage other anesthesiologists and further the efforts of the American Society of Anesthesiologists efforts to advance the place for anesthesiologists in perioperative medicine.

Reference

1. 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; 281:1310–7