

LEWIS H. WRIGHT MEMORIAL LECTURE

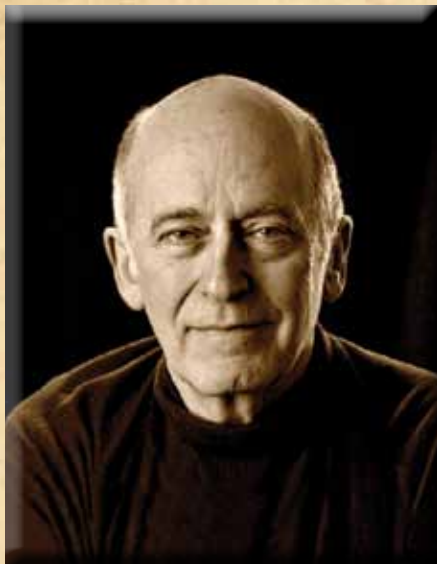
Jeffrey B. Cooper, Ph.D. to present

APSF AND ANESTHESIA PATIENT SAFETY: LEADERSHIP LESSONS FROM THE LEGACY OF JEEP PIERCE

Susan A. Vassallo, M.D., Chair
Lewis H. Wright Memorial Lecture Committee
Wood Library-Museum of Anesthesiology

The Lewis H. Wright Memorial Lecture is sponsored annually by the Wood Library-Museum of Anesthesiology (WLM) and honors its namesake who was a pioneer in American anesthesiology. Dr. Wright was committed to enhancing the stature of anesthesiology as a clinical science and as an advanced medical specialty. He was a founding member of the WLM Board of Trustees and later served as its president emeritus. In 1973, the New York State Society of Anesthesiologists endowed this lectureship to honor Dr. Wright, who died the following year.

This year's distinguished guest is Jeffrey B. Cooper, Ph.D., Professor of Anaesthesia, Harvard Medical School and Executive Director, Center for Medical Simulation, Cambridge, Massachusetts. Dr. Cooper received a B.S. in Chemical Engineering and an M.S. in Biomedical Engineering in 1968 and 1970, respectively, and a Ph.D. in Chemical Engineering at the University of Missouri in



Jeffrey B. Cooper, Ph.D.

1972. After graduation, Dr. Cooper joined the Bioengineering Unit in the Department of Anesthesia at the Massachusetts General Hospital (MGH). In this capacity, Dr. Cooper met MGH anesthesiologists in the operating room and they shared their observations on safety issues and equipment concerns. In 1974, he presented a talk titled "The Anesthesia Machine: An Accident Waiting to Happen," at the NATO Conference on Human Factors in Healthcare in Lisbon. A member of the audience approached Dr. Cooper and suggested that he study accidents using the Critical Incident Technique. The MGH Bioengineering Unit adopted this technique to study equipment related errors with goal of designing improved technologies to prevent errors. It was

soon apparent that safety is more than technology; it is also the interface of humans with technology. An operating room with sophisticated equipment, instruments and machines needs a skilled, observant and thoughtful person coordinating these devices. The findings and the teams' recommendations emanating from these landmark studies are considered to be the founding research in the anesthesia patient safety movement; this effort was the pioneering work that has expanded to all of health care.

In the 1970s, Dr. Cooper was a member of the team that developed one of the earliest microprocessor-based medical technologies, the Boston Anesthesia System (BAS). The BAS was a prototype that incorporated two significant innovations in the design of anesthesia machines: It was the first machine engineered with consideration of human factors studies and the first to utilize computer-based functions (operations).¹ <http://woodlibrarymuseum.org/museum/item/94/boston-anesthesia-system>.



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During this decade, Dr. Cooper was also one of the six faculty appointed to the newly created Harvard Risk Management Committee. This group worked with the Controlled Risk Insurance Company, LTD. (CRICO), the insurance firm for all Harvard hospitals, physicians and anesthesia providers. CRICO had noticed an increase in anesthesia-related incidents, claims and deaths – disproportionate to the percentage of anesthesia care providers. The committee’s review of all critical events between 1976-1984 revealed that accidents and deaths were usually related to failure to ventilate or oxygenate a patient during anesthesia. They concluded that a protocol for genuinely continuous monitoring during anesthesia was needed. The chairs of the nine Harvard Departments of Anaesthesia mandated these recommendations in 1985: constant (continuous) presence of an anesthesia care provider; monitoring of oxygenation, ventilation, inspired oxygen concentration, breathing system disconnection, blood pressure, heart rate, electrocardiogram and temperature. These standards came to be known as “The Harvard Monitoring Standards.”² In October 1986, the ASA adopted a similar set of monitoring standards, and eventually pulse oximetry and capnography were required.



Boston Anesthesia System

In 1984, Ellison “Jeep” Pierce, Jr., M.D., Richard Kitz, M.D. and Dr. Cooper organized the International Symposium of Preventable Anesthesia Mortality and Morbidity. It was at this meeting that Dr. Pierce, who was then President of ASA, conceived the idea of a patient safety foundation for anesthesia. Dr. Cooper wrote the mission statement, “That no patient shall be harmed by the effects of anesthesia,” created the foundation’s research arm and suggested that the organization be called “the Anesthesia Patient Safety Foundation” (APSF). The foundation was formally incorporated in 1986. Dr. Cooper is the only original member still serving on the APSF Board and is one of its two executive vice presidents.



Ellison “Jeep” Pierce, Jr., M.D.

At the Center for Medical Simulation (CMS), which he founded in 1993, Dr. Cooper has worked to develop programs for training clinicians in crisis resource management and innovative programs for simulation educators (e.g., the Institute for Medical Simulation) and even a curriculum that trains health care administrators and leaders to understand patient safety and anesthesia specifically (Healthcare Adventures[®]). He also pioneered the concept of live, interactive simulation video teleconferencing sessions and has mentored CMS faculty and advised individuals in several medical disciplines on research and educational projects. Dr. Cooper has received several honors for his work in patient safety, including the John M. Eisenberg Award for Lifetime Achievement and the Lifetime Achievement Award from the American Academy of Chemical Engineering. To acknowledge his dedication to these efforts, the MGH Department of Anesthesia, Critical Care and Pain Management established the Jeffrey B. Cooper Patient Safety Award in 2009.

This year’s Wright Memorial Lecture is titled “APSF and Anesthesia Patient Safety: Leadership Lessons From the Legacy of Jeep Pierce.” The talk will describe the beginnings of the patient safety movement and show how anesthesiology

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was at the forefront of this sea of change – 20 years ahead of the rest of medicine. As a biomedical engineer in a world of anesthesiologists, Dr. Cooper brought a different perspective to the concept of patient safety. Dr. Cooper will tell the story of how social movements evolve under the influence of people, events and perhaps even fate. He will describe how these forces were at work in the creation of “The Harvard Monitoring Standards” and the APSE. The introduction of simulation and team training in anesthesia are just two of the many innovations to emerge from the APSF grant program. Dr. Cooper worked alongside Dr. Pierce for decades and directly observed his passion, character and integrity. Dr. Cooper will highlight how the leadership and vision of Jeep Pierce made him such an influential force in raising patient safety to the prominence it has still today within the ASA. For the future, Dr. Cooper believes that the APSF should expand its presence to environments outside the

operating room and consider perioperative medicine as the next challenge. As we celebrate the 25th anniversary of the APSE, let us reflect upon anesthesiology’s contributions to medicine. We thank Dr. Cooper for his commitment to patient safety and for his candor and insights about how it rose to prominence in anesthesia and health care in general.

References:

1. Boston Anesthesia System [image]. Wood Library-Museum of Anesthesiology, Park, Ridge, IL. <http://woodlibrarymuseum.org/museum/item/94/boston-anesthesia-system>. Accessed August 8, 2011.
2. Eichhorn JH, Cooper JB, Cullen DJ, Maier WR, Philip JH, Seeman RG. Standards for patient monitoring during anesthesia at Harvard Medical School. *JAMA*. 1986;256(8):1017-1020.

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The Anesthesia Foundation announces the Book/Multimedia Education Award to be presented at ANESTHESIOLOGY 2013.

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