

# Ronald D. Miller M.D., M.S.

## The Pursuit of Excellence

*By James E. Caldwell, M.B., Ch.B.*



*Ronald D. Miller, M.D.*

### Introduction

In October 2008 Dr. Ronald D. Miller received the prestigious Distinguished Service Award from the American Society of Anesthesiologists. Shortly before, he had announced his intention to step down as Chairman of the Department of Anesthesia and Perioperative Care at the University of California San Francisco in June 2009. It is thus appropriate to have a retrospective examination of one of the most remarkable careers in the field of anesthesiology. As a simple illustration of his contribution to the specialty, his C.V. runs to 37 full pages, single-spaced, in 8 point font size.

The Department of Anesthesia and Perioperative Care at the University of California San Francisco (UCSF) recently celebrated its 50th anniversary as an independent department. For almost half of its existence Ronald D. Miller has been the chairman of the department. Taking over as Chair in 1984, he faced a daunting task; he was following in the footsteps of two giants in the field. Stuart C. Cullen, the first Chairman, founded the department in 1948 and

built a solid foundation of clinical and research excellence. Such was his stature in the medical school that he moved from Chair of the Anesthesia Department to become Dean of the Medical School. William K. Hamilton, Cullen's successor, continued the progress begun under Cullen and further developed the clinical and operational side of the department, including creating a significant anesthesiology presence in the ICU. Ronald Miller rose to the challenge, and under his guidance the department has achieved greater prominence and could put forth a strong argument for being the nation's preeminent department of anesthesiology. This article gives a brief summary of the influence of Ronald Miller on the Specialty of Anesthesia.

### Background

Dr. Miller was raised in Indiana and had his medical education at Indiana University in Bloomington. He still maintains an Indiana medical license. He is also a gifted musician, and he played both piano and horn in smoky bars to finance his education. When not studying or making music, he was an avid golfer and on the varsity golf team. From Bloomington, he moved to Southern California to an internship at Riverside County Hospital. Following internship he moved north to San Francisco, was a resident in anesthesia from 1965 to 1967, and a fellow in pharmacology from 1967 to 1968. He has remained at the University of California since 1965, with the only break being from 1968 to 1970 while he served in Vietnam.

Dr. Miller was a staff anesthesiologist in the U.S. Navy. His first posting was in San Diego, which preceded a tour of duty in Da Nang, Vietnam, where he was awarded a Bronze Star with a combat V for meritorious Service. It was during this time that he performed seminal research in blood transfusion, resulting in such papers as "Effects of massive transfusion of blood on acid-base balance" and "Coagulation defects associated with massive transfusion," both published in 1971. This work was not only of academic interest, but, more significant, helped to improve survival of those wounded in that conflict.

During his tour of duty in Vietnam, he perfected his skills in regional anesthesia. The reason was simple—he needed to provide safe anesthesia for several trauma patients simultaneously, *when they were being supervised directly only by corpsmen*. Regional anesthesia was the solution to the problem. This experience made him an early proponent of regional anesthesia and of the role of anesthesia in pain control, and he is a charter member of the American Pain Society. One of the many positions he held at UCSF was as director, from 1984-1987, of the nerve block service, the progenitor of the pain service.

## **The Department at UCSF**

Under Ronald Miller's leadership the department has characteristically been at the leading edge of developments in the field. As examples of innovation, the UCSF Department of Anesthesia and Perioperative Care introduced a free-standing Ambulatory Care Center in 1987, a Pain Management Center in 1987, an independent preoperative assessment clinic (Prepare) in 1989, a simulation center in 1999, a productivity-based compensation scheme in 2000, an acute pain management service in 2002, and an electronic anesthesia information management system in 2005. All these were innovative developments at the time of their adoption.

The department has nationally prominent separate divisions in the San Francisco Veterans Administration and at San Francisco General hospitals. Members of the anesthesiology faculty have significant leadership roles in the School of Medicine and the Medical Center. A distinguished professorship and two endowed chairs have been established. In the realm of basic science the Department has for the past several years attracted more NIH funding than any other department in the country. By any criteria, under Dr. Miller's leadership the department has continued on the path of clinical and academic excellence established by its first two chairmen.

## **Neuromuscular Pharmacology Research**

After his anesthesia residency, Dr. Miller completed a fellowship and Masters of Science degree in pharmacology, with an interest in the field of neuromuscular pharmacology. He has long held joint appointments in the Departments of Anesthesia and of Pharmacology (now called Cellular and Molecular Pharmacology). His first published paper was in 1967 and was entitled "The potentiation of neuromuscular blocking agents by quinidine." He continued research in this field, and over the next 30 years he has risen to become one of the most prominent investigators in the field. He has been Principal Investigator on four separate NIH grants and Co-Principal Investigator on two others. He has almost 200 peer-reviewed articles published. His research interest continues, and he currently has active protocols investigating the novel reversal drug Sugammadex. Over his career, he has supervised 40 research fellows from 16 different countries. He has been both a member and Chair of the NIH study section on Surgery Anesthesia and Trauma.

## **Transfusion Medicine**

Dr. Miller wrote seminal articles on massive blood transfusion in the 1970s. Since then he has been influential in setting national policy in regard to blood transfusion. He served as Chair of the ASA Committee on Blood and Blood

## Ronald D. Miller, M.D. (cont'd)

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Products, as a member of the ASA Committee on Transfusion Medicine, and the ASA Task Force on Practice Guidelines for Perioperative Blood Transfusions and Adjuvant Therapies. He currently has a review article on massive transfusion in press in the journal *Anesthesiology*.

### Education

Dr. Miller was a charter member of FAER, the Foundation for Anesthesia Education and Research, is on the Board of Directors, and is a member of several subcommittees of the organization. He also serves on the Educational Programs Division of the California Society of Anesthesiologists. He received the McLeskay Award in 2007 from the Society for Education in Anesthesia. He has had a commitment to the examination process, and from 1973 to 2004 was a senior examiner of the American Board of Anesthesiology.

### The Textbook

Dr. Miller's worldwide reputation is based on, perhaps more than any other factor, the textbook *Anesthesia*. I was an anesthesia trainee in Britain in the early 1980s and a modern major textbook of the specialty was lacking. In 1981 this problem was resolved with the publication of *Anesthesia*, commonly, though erroneously, referred to as "Miller's Anesthesia." Even though we in Britain found the spelling quaint, the content was what made the book special. The authors were all recognized experts in their field, and at the leading edge of the specialty. The book, under Dr. Miller's continued editorial guidance, is now in its 6th edition, and a seventh is in preparation. A quote from the *New England Journal of Medicine* sums up the place of "Miller's Anesthesia": *Previous editions have firmly established this book's reputation as the world's most comprehensive and informative work.* The most recent edition, the 6th, has not only continued the tradition of quality, but has moved the publication firmly into the electronic media domain by providing continuing electronic updates during the life of the edition.

Dr. Miller was Editor-in-Chief of the journal *Anesthesia and Analgesia* from 1990 to 2006. In his interview for the position, he took the novel approach of telling the panel exactly what he thought about the deficiencies of the journal and the radical changes that would, in his opinion, be required to correct these. Much to his surprise he was offered the job.

### Awards and Honors

In 1998, Dr. Miller was elected to membership of the Institute of Medicine of the National Academy of Sciences. He has received honorary fellowships and

memberships of anesthesia associations and societies in Europe, Asia, South America, and Australia.

## **The Future**

The specialty of anesthesiology is going to go through significant transformation. Dr. Miller has been a leader in defining these future directions. From 2004 to 2006 he chaired the ASA Task Force on “Future Paradigms of Anesthetic Practice.” His commitment to the future is apparent also in his consideration for resident-related issues. The future of anesthesiology will be in the hands of those currently in residency. To that end, he has been a proponent of anesthesiology internships, novel residencies, and the promotion of additional fellowship training in clinical subspecialties or basic science.

We return now to the ASA Annual meeting where Dr. Miller received—not one, but—two honors! The article opened with a reference to the first honor, namely the Distinguished Service Award. The other was that Dr. Miller delivered the prestigious Emory A. Rovenstine Memorial Lecture. There is no better way to summarize Dr. Miller’s career than with the title of the lecture—“The Pursuit of Excellence.”

**California Society of Anesthesiologists  
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Clinical Anesthesia Update**

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