

Nuclear Medicine Pioneer: Joseph F. Ross

# Focus and Determination Merged Nuclear Medicine into Recognized Specialty



Joseph F. Ross, MD

The field of nuclear medicine is noted for the groundbreaking research of its physicians and scientists. However, nuclear medicine has not had a stronger advocate in the promotion of the field as a viable medical specialty than Joseph F. Ross, MD, one of the founders and currently senior president of the American Board of Nuclear Medicine (ABNM). With suavity, superior communication skills and a keen astuteness of the political vagaries present in organized medicine, Ross has been unwavering

in his mission of championing nuclear medicine as a recognized medical discipline.

Born in Azusa, CA, in 1910, Ross was a high school honors graduate who completed his undergraduate training at Stanford University. He received his medical degree from Harvard Medical School and completed intern and residency training in internal medicine and pathology at Boston City Hospital.

Ross's work in nuclear medicine began in 1939 while he was a pathology intern at the University of Rochester School of Medicine, where he worked with George H. Whipple, MD, and Paul F. Hahn, MD, studying iron metabolism and blood formation in canines using the recently discovered isotope  $^{59}\text{Fe}$ . He continued his study of radio-iron kinetics when he accepted an appointment as an instructor in medicine at Boston University in 1940. Over the next 14 years, Ross and numerous colleagues, including Myron Pollycove, MD, now a visiting fellow with the Nuclear Regulatory Commission, continued studying ferrokinetics in normal subjects and in patients with hematological disorders, resulting in significant data on the formation and destruction of red blood cells in neoplastic and inflammatory diseases.

"Joe Ross was a pioneer in research using the radioisotopes  $^{59}\text{Fe}$  and chromium in red blood cell studies," said Pollycove. Ross's hematological studies were particularly beneficial in developing in vitro preservation of red blood cells. During World War II, there was a need for vast quantities of whole blood for blood transfusions. In collaboration with

Clement Finch, MD, Ross studied post-transfusion survival of erythrocytes labeled with  $^{59}\text{Fe}$  and developed a storage method (still in use today) using acid citrate dextrose solution that preserved erythrocyte viability for 21 days. Ross and Finch received the Presidential Certificate of Merit for "recognition of outstanding services from July 1943 to December 1945 in the field of blood preservatives, which proved to be an invaluable contribution to the war effort of the United States."

Ross's postwar research included using chromium-labeled erythrocytes to determine in vivo survival of red blood cells in various pathological conditions. "In addition to his hematological research, Ross also conducted instrumental research in thyroid disease," observed current Society of Nuclear Medicine (SNM) president H. William Strauss, MD. In fact, Ross and his collaborator, Belton A. Burrows, MD, received the Van Meter Prize in 1953 from the American Goiter Society for their use of radioiodine to evaluate its turnover rates and physiological significance in normal and diseased thyroid states.

In the late 1940s, Ross established among the first U.S. Department of Veterans Affairs (VA) radioisotope units at the Framingham and Boston VA hospitals. In 1954, Ross returned to California to assume the position of associate dean of the University of California Los Angeles (UCLA) School of Medicine, from which he received emeritus status about 10 years ago. Ross continued his academic and clinical duties at UCLA as he began the work of developing and managing the ABNM.

## Formation of a Medical Specialty

With the proliferating growth of nuclear medicine in clinical diagnosis and therapy, particularly during the 1950s and 1960s, Ross recognized the need for formal training programs and standards for nuclear medicine education and practice. Prior to the formation of the ABNM in 1971, there were no formal training programs in nuclear medicine. Physicians practicing nuclear medicine received their training in the form of preceptorships—working with clinical investigators who had developed a new methodology.

In 1967, representatives from the American Board of Radiology (ABR) approached the SNM leadership and suggested that SNM work to establish a certifying board in nuclear medicine. "Ross's work, and that of the ABNM founders, is quite significant," stated James J. Conway, MD, Children's

Memorial Medical Center, Chicago, IL, who served with Ross as SNM's representatives in the Council of Medical Societies from 1979 to 1995. It had been many years since a new specialty board had been created, and the climate was very political, noted Conway. However, according to ABNM cofounder David Kuhl, MD, University of Michigan Hospital, Ann Arbor, MI, "Joe had the diplomatic skills and legal knowledge to handle the political obstacles."

Because most nuclear medicine practitioners were certified in the specialties of internal medicine, pathology and radiology, the certifying boards of these specialties (the American Board of Internal Medicine, the American Board of Pathology and the ABR) participated with SNM in the development of the ABNM. A conjoint board, the first of its kind, for nuclear medicine was approved by the American Board of Medical Specialties (ABMS) in 1971. The ABNM's goals were to establish education standards and to evaluate the competence of physicians in nuclear medicine by implementing certification requirements and conducting examinations leading to certification in nuclear medicine.

Despite this signal accomplishment, Ross's ultimate goal was to have the ABNM designated primary board status by the ABMS. "Joe did not like the idea of a conjoint board. He was a firm believer in the concept of nuclear medicine as a complete, separate discipline in organized medicine," Conway noted. And, said Barry Siegel, MD, Mallinckrodt Institute of Radiology, St. Louis, MO, who served as ABNM education chairman from 1985 to 1990, "No one would question Dr. Ross's lifelong devotion to the specialty. He is single-handedly responsible for the development and growth of the ABNM." Ross's cherished goal was realized in March 1985 when the ABMS approved the conversion of the ABNM from conjoint to primary board status. The ABNM now functions independently as one of the 23 primary medical specialty boards authorized by the ABMS, and it has certified over 4300 individuals in nuclear medicine.

According to current ABNM president William H. Blahd, MD, Ross was an excellent manager, providing the ABNM with the strong leadership it needed. "Over the years, he has maintained the stature and prestige of the [ABNM] despite the quixotic demands of 15 different chairmen and 58 board members of independent mind. He has arranged 52 meetings, and with his aggressive Scottish financial management has increased the financial assets of the [ABNM] by nearly 300%," said Blahd.

### Honors and Distinctions

In addition to the Presidential Certificate of Merit and the Van Meter Prize, Ross has been the recipient of numerous professional honors: Gordon Wilson Medalist for his work on the effects of ionizing radiation in humans (1964); Boston City Hospital Centennial Citation for distinguished achievement in medicine (1964); Distinguished Scientist Award from the SNM Western Regional Chapter (1977); SNM Distinguished Service Award for "outstanding and tireless contribution to the SNM and the profession as a whole" (1984); Special Presidential Recognition Award from SNM for dedicated service and contributions to nuclear medicine and as pioneer of the ABNM (1991); Dorothy Kirsten French Award from the French Foundation for Alzheimer's disease research (1994); and the SNM Nuclear Medicine Pioneer Award for contributions to the science, education and training of physicians and the practice of nuclear medicine (1995).

In addition to the ABNM and SNM, Ross has been active in many other organizations, serving, for example, as president of the American Society of Hematology. Ross has represented the U.S. State Department, the U.S. Atomic Energy Commission, the International Atomic Energy Agency and the World Health Organization on international activities concerned with research and education in nuclear medicine. He has also served on the editorial boards of many medical journals, including *The Journal of Nuclear Medicine*, *Blood* and *Annals of Internal Medicine*.

With humor, flair and a singular, unique style (he is renowned as a gourmand and oenophile among his associates), Ross used every opportunity to promote nuclear medicine. Said Conway, "No matter what your background was, Joe made you feel welcome. It is one thing to do the research, write the articles and lecture, but the behind-the-scenes work (the scut work) is crucial to any specialty, and Joe did this without complaint."

During a recent ABNM dinner in honor of Ross, Blahd offered the following tribute: "In the halls of organized medicine, he has been a pillar of strength for our small discipline. No man has worked with more fervor and dedication for nuclear medicine, and no man is more responsible than Joe Ross for the prestige and professional status that nuclear medicine has attained today."

—Eleanore Tapscott

**"Joe had the diplomatic skills and legal knowledge to handle the political obstacles."**