Eugene L. Saenger, MD Nuclear Pioneer—1987

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Those who know Gene are well accustomed to his proclivity for million-dollar words. Not wanting to disappoint him, I have employed some such words in this presentation of the 1987 von Hevesy Award of the Society of Nuclear Medicine. I might add that, when needed, Gene may also be inclined to use some two-bit words—a'la Harry Truman—though none need be cited.

One is in a quandary when faced with the task of panegyrizing an honorable man. It is akin to taking another person's life into one's hands, something with which no one, even a physician, ever becomes entirely comfortable. There are innumerable ways to begin the task of presenting, in a verisimiltudinous manner, the different facets of Eugene L. Saenger, MD that have led to the bestowement of this singular honor of the Society of Nuclear Medicine—The 27th von Hevesy Nuclear Medicine Pioneer.

Contrary to the usual compunction to begin such an apologia in a scientific way, it seems more appropriate to first portray the personal side of Gene Saenger as a caring person, colleague in academe, and physician. His priority has always been his concern for others, especially the patients in his care. Many of us can attest to his seemingly endless kindnesses.

Perhaps one of the most telling of Gene Saenger's attributes is his unrelenting objectivity, especially in his scientific endeavors. He does not hesitate to probe and interrogate exhaustively every facet of a question. All have admired, and many occasionally agonized, over his persistent efforts to "get to the very bottom of things." His own ideas are not immune to this process. He is often one of the first to prove himself wrong, patiently accepting the consequences, whatever they may be.

Gene's seriousness and objectivity in the pursuit of the truth above all else is nicely balanced by an ever-present sense of humor. He's always ready to laugh at himself and with others. This melding of traits has been an asset in the many accomplishments for which he is recognized. He has never been intimidated by the tough challenges of the fledgling field of nuclear medicine. He has lead the way to the resolution of many of these problems whether they be scientific, educational, socio-political, or regulatory. This dedication to the cause has earned him our deepest respect and gratitude.

Born and raised in Cincinnati, Ohio, Gene Saenger is a stellar product and active participant in the rich intellectual and cultural life of that fine, old metropolis. Besides his undergraduate training at Harvard, where he was an honors biochemistry major working with the famous Professor van Slyke, all of his medical and professional training was at the University of Cincinnati, with his radiology residency completed at the end of the Second World War in 1946. The very next year, he initiated the use of radioisotopes at the University of Cincinnati College of Medicine. Dr. Saenger's uncle, Sidney Lang, MD had been the first Professor and Chairman of the Department of Radiology at the college and was Gene's mentor, especially in the practice of radiology and the man to whom Gene gives a great deal of credit for the formation of his own professional career. Following in the footsteps of his uncle, Gene has been on the faculty of the University of Cincinnati since 1949, where he established "the Radioisotope Laboratory" and became a full professor in 1962, interrupted by a short stint in the U.S. Army. In recognition of his great contributions, the laboratory was named the "Eugene L. Saenger Radioisotope Laboratory" on the 30th anniversary of its founding in 1979. Gene has now been the director of the laboratory for 38 years, a truly remarkable record of continuous leadership in nuclear medicine.

The Nuclear Medicine Pioneer Award is based on accomplishment, and the list of previous recipients is impressive for the magnificent contributions these pioneers have made to our field. The choice of Gene is particularly appropriate in this regard for his eclectic range of contributions as a result of dealing with tough and challenging issues. A main theme of his scientific

work has been the defense of the safe use of radiation for medical purposes. He recognized the dangers of the irresponsible use of radiation (he was one of the first to recognize the induction of thyroid tumors from thymic external radiation therapy in children). He organized collaborative studies for the Bureau of Radiological Health that demonstrated the safety of radioiodine therapy in thyrotoxicosis, ameliorating the fear that excess leukemia and thyroid carcinoma might be induced by such therapy. Uncertainty in the early days of nuclear medicine about the radiation absorbed dose from internal emitters, including those found in fallout, as well as those used in medicine, was largely dispelled by a number of studies and papers dealing with the rational calculation of such doses. This work was extended to pediatrics, ensuring confidence that it was safe to perform nuclear medicine procedures in children.

He has also had an investigational role in radiotherapy and pioneered total-body radiation in oncology and uses of bone marrow transplants in irradiated individuals, techniques now just beginning to be employed in most large medical centers. Working with George Thoma and Neil Wald, landmark guides were developed that are still in use today, for the triage evaluation of individuals who have undergone accidental total-body irradiation according to the effects at various dosage levels.

He was one of the first to encourage use of computers in nuclear medicine. In the decade of the 70s, he embarked into another area of concern, namely, procedure efficacy and the concept of risk versus benefit in use of medical radiation. Using modern date management techniques, he undertook studies to formulate the evaluation of procedure efficacy culminating in the conduct of a large funded grant to study the efficacy of ventilation-perfusion imaging for the Society of Nuclear Medicine. As a result of these efforts, he founded the Society for Medical Decision Making.

His numerous publications span a range from radiation effects and dosimetry to the clinical uses of radiation for diagnosis and therapy in nuclear medicine. Being an educator *par excellence*, he has conducted a long-standing postgraduate nuclear medicine training program with an outstanding group of alumni now practicing in the field of nuclear medicine throughout the world. He has been a valued advisor and consultant to numerous governmental agencies, dealing with radiation. Having served many years on the National Commission for Radiation Protection and having made many contributions to its literature, he delivered, in 1982, the prestigious Lauriston S. Taylor lecture, presented annually by the Commission.

Gene has been a vital force in the development of the Society of Nuclear Medicine, serving in many ways. Paramount among these activities was his role as the first Associate Editor of the embryonic Journal of Nuclear Medicine from 1960–1970, an almost thankless task, with much of the work usually being done on someone's kitchen table in the evenings.

He has also made valuable contributions to other professional organizations such as the ACR and the National Academy of Sciences. In 1968, he delivered the Annual Oration of the RSNA. He has become a valuable consultant and noted authority on the evaluation of radiation accidents, highlighted by recent events such as Chernobyl which he reviewed at the 1987 Annual meeting of the Society of Nuclear Medicine.

As if this were not enough to keep Gene busy, he has found the time to make important contributions to his home community and his university. He has been responsible for a number of years for the successful conduct of bond issues for public monies to operate the University of Cincinnati Hospitals. His abundant energy continues in his deep interest in oncology with his recent appointment as acting director of the newly established Charles Barrett Cancer Center of the University of Cincinnati. He also has served in many capacities with cultural organizations in Cincinnati including the symphony, ballet, and May Festival. Always offering guidance and support is his wife, Sue. She has assisted him greatly in ensuring his objectivity on all issues; in other words, she doesn't let him get away with much.

Gene Saenger has been responsible for significant developments in the field of nuclear medicine as an investigator, educator, and clinician. He has been fearless in undertaking difficult tasks and in resolving controversial issues. His successful efforts and unselfish character merit the awarding of the 1987 Von Hevesy Award—the highest of honors from the Society—expressing our gratitude for his professional and personal contributions. Furthermore, let this award stand as an example to future generations of what one individual who cares very deeply for others and works with great objectivity can accomplish by striving to advance this marvelous field, Nuclear Medicine!

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