Obituary for Professor Harry K. Genant, MD

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On January 14, 2021, the Musculoskeletal Radiology community lost one of their giants, Harry K. Genant, MD, Professor emeritus of the Department of Radiology at the University of California San Francisco (UCSF) (Fig. 1). Professor Genant shaped the field of musculoskeletal radiology with brilliance, enthusiasm, and remarkable energy for nearly half a century. He was a leader who touched the careers of many radiologists and researchers at UCSF and throughout the world. His generosity, mentorship, and support towards trainees and colleagues were unique and will be thoroughly missed.

To highlight Professor Genant's substantial contributions to the field, I would like to focus on two publications. In 1977, he published the paper "Quantitative bone mineral analysis using dual energy computed tomography" in *Investigative Radiology* [1], which was revolutionary at this time. Through his vision, the field of musculoskeletal radiology moved from subjective image interpretation to quantitative analyses. Over the following decades, quantitative imaging of bone and joint disorders gained increasing importance, most recently documented by two central initiatives of the ESR, the European Imaging Biomarkers Alliance (EIBALL), and the RSNA, the Quantitative Imaging Biomarker Alliance (QIBA). Another notable accomplishment of Professor Genant was the development of a grading system for osteoporotic spine fractures published in 1993 [2], which has been used globally as a reference standard to better characterize osteoporosis, one of the major threats to our aging population. Professor Genant's goal has always been to develop scientific tools, which would directly benefit patients, could be shared by the global medical community, and advanced the field of musculoskeletal imaging.

Harry K. Genant, MD, was born in Freeport, IL, in 1942; he received his medical degree from Northwestern University

in Chicago, IL, in 1967, he completed his internship at Johns Hopkins University in 1968, and he trained as a resident in medicine and radiology at the University of Chicago, where he was Chief Resident and Assistant Professor in Radiology during the years 1968–1974. Dr. Genant joined the faculty of the University of California, San Francisco, in 1974 as Chief of Musculoskeletal Radiology, where he remained for more than 30 years. As Professor of Radiology, Medicine, Epidemiology, and Orthopedic Surgery, he shaped the national and international reputation of UCSF's musculoskeletal radiology.

During his tenure at UCSF, Dr. Genant founded the Osteoporosis and Arthritis Research Group (OARG) in the Department of Radiology and served as its Executive Director until his retirement in 2004. This group rapidly grew to over 130 members, including physicians, scientists, and research associates, who produced field-defining research that impacted clinical care for osteoporosis, osteoarthritis, and other orthopedic disorders. Over several decades, OARG was the leading research institution in the world for imaging osteoporosis and arthritis and attracted many talented researchers from around the world, who worked under Dr. Genant's guidance and affectionately called him "Harry." Many of the international researchers moved on to leadership roles in their home countries, in particular in Europe and Asia.

In 1998, long before Silicon Valley became known for its entrepreneurial spirit, Professor Genant co-founded Synarc (now Synarc-BioClinica), a global contract research organization specializing in management of quantitative imaging and biomarkers in large, multicenter, multinational, pharmaceutical drug trials. Professor Genant first served as a Board Member and later Chairman Emeritus for Synarc-BioClinica. At the time of his passing, he was a Senior Consultant.

Professor Genant was also an exceptional clinical radiologist and highly prolific academic researcher. His academic career was characterized by prodigious productivity. He was editor or co-editor of more than 40 books and author or co-author of more than 300 chapters or invited articles, over 600

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Fig. 1 Dr. Harry K. Genant and his wife Dr. Gail Genant

articles in peer-reviewed scientific and medical journals, and over 1500 abstracts presented at national and international scientific meeting. Dr. Genant was a fixture at national and international meetings, he was a highly accomplished speaker and a frequent moderator. At scientific meetings, Dr. Genant was the first to stand up and ask highly qualified and constructive questions, his brilliance radiating through the audience.

Dr. Genant held multiple leadership roles throughout his career including as President of the International Skeletal Society, the Association of University Radiologists, and the International Bone Density Workshop series, the latter of which he founded. Dr. Genant was also actively involved in a number of leading journals in the field, for example, as Associate Editor for the journals *Bone* and *Orthopaedic Translation* and as Editorial Board Member of *Skeletal Radiology*, *Osteoporosis International* and the *Journal of Bone and Mineral Research*.

Dr. Genant's international reputation is mirrored by his many honorary memberships, including the honorary lifetime membership of the American Academy of Orthopedic Surgeons and the International Society for the Study of the Lumbar Spine as well as honorary memberships in the Italian Radiologic Society, the Chinese Osteoporosis Society, the Chilean Society of Osteology, the Hungarian Society of Osteology, and the European Society of Skeletal Radiology.

Dr. Genant's generosity was unsurpassed. He celebrated the accomplishments of his faculty, researchers, team members, and colleagues, regularly inviting them for dinners and summer parties to his beautiful house in Tiburon. He also sponsored social gatherings for his team members and alumni

at national and international society meetings. One of the highlights for his team members and a recurring tradition at the RSNA meeting in Chicago was his invitation to the Chicago Yacht Club, where he would gather leaders in musculoskeletal radiology from around the world and his team members for a highly treasured luncheon.

Harry Genant was also a loving husband and father. For 52 years, he was married to Gail Genant, MD. He was a cherished father to Laura, Jonathan, and Justin, and a proud grandfather of five grandchildren.

The Radiology community will dearly miss Harry K. Genant, the brilliant and charismatic physician scientist, who inspired us and who was also a true friend. He will forever be remembered and his legacy will live on.

Declarations

Informed consent Written consent to publish this obituary was obtained from Dr. Gail Genant.

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2. Genant HK, Wu CY, van Kuijk C, Nevitt MC (1993) Vertebral fracture assessment using a semiquantitative technique. *J Bone Miner Res* 8:1137–1148

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