

In Memoriam Dr. Kurt A. Amplatz

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Born and raised in Weistrach, Lower Austria, in 1924, Dr. Kurt A. Amplatz obtained his medical degree from the University of Innsbruck in 1951. After completing his internship at in St. Pölten, Dr. Amplatz immigrated to the USA. Following another internship in Brooklyn and residency at the Wayne State University Medical School in Detroit, MI, Dr. Amplatz joined the faculty at the University of Minnesota, where he continued to work until his retirement in 1999.

A review of his 630 peer-reviewed scientific publications in PubMed gives a testimony to his impact on the diagnosis and treatment of cardiovascular disease. Many of the devices used in the management of cardiovascular disease today reflect an evolution of devices he conceived. He was a pioneer for the development of techniques for accurate visualisation of blood vessels.

He developed one of the first vascular injectors in 1960. He described the modified Seldinger technique used routinely today, and developed the Amplatz coronary artery catheters. He developed a host of guidewires, and a temporary IVC filter as well as a method for the percutaneous placement of inferior vena cava filters. His concern with radiation exposure and image quality led to the development of slot radiography, and he made major contributions to the angiographic diagnosis of complex congenital heart

diseases utilising his rapid film changer, which allowed rapid image acquisition and visualisation of the image during film recording.

He explored and showed the feasibility of angioplasty for non-coronary applications in the aorta and peripheral vessels, including the ‘kissing balloon’ technique for the management of bifurcation lesions, and described the mechanism of angioplasty, debunking the myth of “redistribution of the atherosclerotic material along the wall” as described by Dotter and Grüntzig.

In the field of paediatric cardiology, he was among the first to describe angioplasty in branch pulmonary arteries in patients with pulmonary artery stenosis and a technique to percutaneously occlude the patent ductus arteriosus. He also did seminal work in shunt quantification and measurement of myocardial blood flow.

More recently, he developed the Amplatz Goose Neck Snare, which is routinely used for foreign body retrieval in the cardiovascular system. Currently, he is best known for the invention of the Amplatzer Septal Occluder and the Amplatzer Vascular Plug. He also developed numerous other devices for use outside the vascular system. Little known is his work in the field of neuroradiology, in which he developed techniques.

Throughout his career span, he garnered over 30 prestigious awards, among which are the Gold Medal from the American College of Radiology (1988), the 29th C. Valentine award of the New York Academy of Medicine (1989), The Outstanding Research Award of the Radiological Society of North American (1999), and the American Roentgen Ray Society Gold Medal for Distinguished Service to Radiology (2000). In 2012, he received the AHA Award of Meritorious Achievement and The Life

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Achievement Award of the Latin American Society of Interventional Radiology in 2013.

After retiring from the University of Minnesota, Dr. Amplatz founded the AGA Medical Corporation where he developed and brought to the market a device for the percutaneous closure of atrial septal defects and a device to occlude blood vessels. After the sale of the AGA, Dr. Amplatz continued his scientific work with new devices development with a new company called KA Medical, concentrating on the development of a device for the percutaneous closure of ventricular septal defects and vascular occlusive devices.

He trained generations of cardiologists and interventional radiologists who hold him in the highest esteem and learned the importance of seeking novel solutions to diagnostic and therapeutic problems from him.

As representatives of the hundreds of physicians trained by Kurt, we would like to add a few personal memories of our time with him. Kurt was a teacher, mentor, coach and friend. He not only taught us the minutia of the different disease processes that we treated, but he made sure that we understood the basic scientific facts and, most importantly, that being a good physician meant treating our patients as a whole being, kindly and to the best of our abilities.

As a mentor and coach, he was brutally honest, disassembling and restructuring our manuscript drafts while explaining his reasons for doing so; all of this, thankfully, done over a glass of wine at his kitchen table. He had the ability to help us convey our concepts in a manner that would make sense to the reader, while allowing us to maintain our unique voice. We who knew him and trained or worked alongside him will always treasure his words for how to not only be the best physician, but to live a life of purpose and fulfilment.

Kurt is survived by his four children, Curtis, Maria, Grace and Caroline, his grandchildren Alexandra, Nicolas and Anton Gougeon, and his long-term partner Mariana Schulze.

Dr. Amplatz helped lay the foundation of interventional cardiology and radiology and facilitated the translation of this knowledge into practical products and techniques. The scope of his contributions is overwhelming when one examines the breadth of his work. His creativity and thirst to contribute to the medical community at large and the patient specifically never waned.

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