

## Icon of the Issue

### Harold E. Kleinert, M.D.

*“As teachers, we believe that, we are successful only if our pupils become far better than their teachers. It's only in this way that each generation can further advance the discipline of hand surgery.”*

*-Harold Kleinert*

Prof Harold Kleinert (1921-2013) was a man of great stature, a pioneer and leader in the field of hand surgery. An extraordinary surgeon and an outstanding teacher witnessed by the world of medicine, he trained and mentored over 1400 hand surgeons around the world and inspired several thousand through the Christine M. Kleinert Institute, founded by him.<sup>[1]</sup>

Dr. Kleinert, fondly called H.E.K., was a Clinical Professor of Surgery at the University of Louisville and Indiana University-Purdue University. He was appointed a National Consultant in Hand Surgery to the Surgeon General, United States Air Force in 1973. He was the recipient of the Scientific Achievement Award from the American Medical Association in 1980. Dr. Kleinert served as President of the American Society for Surgery of the Hand (ASSH), Louisville Surgical Society and Jewish Hospital Medical Staff. He was certified by the American Board of Surgery, a Fellow in the American College of Surgeons, a member of several medical organizations.

Dr. Harold was born on October 7, 1921 on a homestead ranch, near Sunburst, in Montana of USA. His early education was in a one-room school, which was built on a land donated by his father, a respected teacher himself. Dr. Kleinert grew up working on farms; watching his skills, his family doctor first planted a seed in his mind to become a surgeon and

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Harold E. Kleinert (1921–2013)

motivated him further. Being ahead of his peers in studies, he went to school at Sunburst, which was 11 miles away and stayed there during the week. He walked to school that far, often in a severe weather condition carrying a rifle as protection against wolves. His father did not believe that he could become a doctor, instead, he preferred him to be a rancher. Fortunately, it was his mother Christine, who supported him to pursue his medical education.<sup>[2]</sup> He later founded the institute in her name.

Dr. Harold graduated from the Temple University Medical School, Philadelphia, in 1946 and completed residency in Detroit. During residency itself, he developed interest in hand surgery watching delicate techniques involved in it. He accidentally met Prof. James Drye, who invited him to Louisville. He moved to University Louisville in 1953 and became a Surgical instructor. He attended large number of emergencies, and soon realized that, hand injuries received little attention and resulted in poor result with stiff hand. He decided to start a dedicated hand surgery unit with the permission of Prof. Rudolf Noer, the head of surgery. At that time, only two counties in the entire USA offered the specialty of hand surgery. He worked on injured hand with great deal of fascination and dedication and documented them meticulously. Dr. Kleinert continued to supervise there for nearly a decade. Later he entered full-time private practice and moved to a Jewish general hospital, where he operated his most cases.

In the era, when amputation was the norm, and disability following hand injury was a rule, he began salvaging injured fingers and limbs with unparalleled dedication. He believed the importance of magnification and introduced its application in hand surgery. He heralded the era of

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microsurgery for the hand, with first ever successful revascularization of the injured finger on November 12, 1962, along with fellow surgeon Mort Kasdan at the University of Louisville. He had to face criticism for bringing microscope to the operating room initially,<sup>[3]</sup> but undeterred, Dr. Kleinert further performed the first double upper limb replantation successfully.

The master surgeon, Dr. Harold, produced excellent results from those instruments and sutures, considered crude by today's standard. With decades of hard work, and engaging companies to materialize his concepts, Dr. HEK developed double-headed operating microscope and designed better microsurgical instruments and finer suture materials by the end of 1963.<sup>[4]</sup> Meanwhile in 1960, he initiated a fellowship in hand surgery and took Joseph E. Kutz in, as first partner, who shared the work with Dr. HEK for nearly 50 years. Together, they formed the organization now known as Kleinert Kutz. They went on to found the Christine M. Kleinert Institute (CMKI) in 1960 in honor of Dr. Kleinert's mother. The CMKI has developed an accredited fellowship program and world-renowned research program. Through CMKI, with the motto "*If you do something well, you are obligated to share your talent and teach it to others*", the physicians of Kleinert Kutz are training the next generation of hand surgeons.<sup>[1]</sup> Having received training directly under Dr. Kleinert, several Indians, including Dr. Raja Sabapathy, have led the way for hand surgery in India. He regarded the Hand Service Centre of Chennai, started by Prof R. Venkataswami, as one of the "seven wonders of the world", where rich and poor receive the highest standard hand care.<sup>[4]</sup>

Dr. HEK's innovations put Louisville on the world map. Until the late 1960s, the zone II flexor tendons were repaired in two stages, using tendon grafts, with dismal 98% poor results because of frequent flexion contractures and stiffness. Particularly the teachings of Dr. Bunnell, the first president of ASSH was so strong that, none ventured primary repair in "no-man's land".<sup>[3]</sup> In such atmosphere Dr. Kleinert started repairing flexor tendons in single stage and introduced a unique controlled passive rehabilitation, which produced remarkable results. When his colleague Dr. Kutz presented 80% good-to-excellent results of primary repair at hand society meeting in 1967, great controversy was generated. For the first and only time, a commission was formed to investigate the results. Dr. William Littler who was the head of the commission came to Louisville and examined all of Dr. Kleinert's patients. Finally, in the commission report, he

wrote "If I injure a flexor tendon in a finger, I am getting on a plane and flying to Louisville." The rest is history.<sup>[2,3,6]</sup>

Under the extraordinary leadership of Dr. Kleinert, hand surgery witnessed a period of great achievements, with whole world arriving to Louisville. He built a team of extraordinarily dedicated surgeons of immense talent, coming from all over the world, including Dr. Robert Acland, Dr. Thomas Wolff, and Dr. Tsu-min Tsai. They conducted high quality regional, national and international courses. At many national and international meetings they had the highest numbers of presentation than any hand unit in the world. They published a large number of papers, wrote several textbooks, opened the international hand library in Louisville, the Jewish hospital hand care center. They did Pioneered work in primary reconstruction using free tissue transfers, performed the first five successful hand transplantation in USA, and one of the world's first cross-hand replantations.<sup>[7]</sup>

It is interesting that Dr. H.E.K., today is remembered as hand surgeon. In the late 1950s and 1960s, he was called by every hospital in the area for complex surgeries of the abdomen and chest. Calm, and controlled, he was always available to help a surgeon in trouble.<sup>[2,7]</sup>

Dr. HEK continued to be Clinical Professor of Surgery, Emeritus at University of Louisville after his retirement from active clinical practice in 2009. Besides the aforementioned honors, he received the Scudder Award from the American College of Surgeons, the Louisville Surgical Society Yandell Lecture, the Maimonides Award, and the Ad Astra Award for Distinguished Service to the University of Louisville School of Medicine.<sup>[8]</sup>

Dr. HEK loved his farm and did spend a lot of his leisure time at the Southern Indiana farm, connecting himself to Mother Earth. He also cherished a collection of old cars and tractors. There are countless stories on his likings for food and late night dinners, fondly remembered by many with love, joy and admiration.

Dr. Kleinert was a friend, mentor and teacher to thousands of students, residents and fellows, who looked up to him with great respect and reverence. He worked hard and managed with limited funds. He worked tirelessly throughout the day, many a time all night; beginning his day at 6.30 am with teaching sessions, and was the last person to leave the hospital. His endurance and energy was boundless and sickness seldom deterred him. He

saw thousands of patients, many of them were from countries around the world. It was often said, 'If there was any case, that was not seen by Dr. Kleinert, it would be a case report!'

He was compassionate, especially to his patients, and always inspirational. He would listen to others without being judgmental, and helped them in the kindest ways which he did throughout his life. He was witty and cool, leaving a lasting impression with his unmistakable, inimitable voice on whomever he met. He always wanted his students do better than him. He had the youngest mind to learn, and was open to all good ideas. Under his gentle self, there was a tough task master. He wanted things done exactly the way he liked it to be, and maintained high standards of ethics and morals in the practice. He nevertheless was very kind to those who could not match his standards and inspired them to strive to better themselves. Dr. Harold Kleinert passed away on Sept 28, 2013 but his stalwart contributions and thoughts continue to inspire and lead surgeons around the world.

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#### **Dinesh Kadam**

Department of Plastic and Reconstructive Surgery,  
A.J. Institute of Medical Sciences and A.J. Hospital and  
Research Centre, Mangalore, Karnataka, India

#### **Address for correspondence:**

Dr. Dinesh Kadam,  
Prof and Head, Department of Plastic and Reconstructive Surgery,  
A.J. Institute of Medical Sciences and A.J. Hospital and Research  
Centre, Mangalore, Karnataka, India.  
E-mail: drkadam@yahoo.co.in

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