
LEGENDS IN UROLOGY

Raja B. Khauli, MD, FACS
Professor of Urology and Surgery
Director, Renal Transplantation Unit
Head, Division of Urology and Renal Transplantation (1996-2016)
American University of Beirut Medical Center
Adjunct Professor of Urology & Founding Director,
Transplantation Services
University of Massachusetts Medical Center
Director, Middle East Prostate Cancer Consortium



I am not certain that many medical doctors can claim to practice medicine in the same hospital where they were born and return to the same home in which they were raised. I can! Granted, the original structure of the American University of Beirut Medical Center (AUBMC) has since been razed and rebuilt, and my parent's quaint two-story home has been supplanted by a modern multi-story high-rise, but I do feel that my circumstance as a doctor is somewhat unique.

Beirut, Lebanon, the place where I was born, and where I now live, is snugly located at the crossroads of three continents: Asia, Europe, and Africa. It is a country where the divide between nightlife and workdays is as frivolous as the margin between oceans and seas. Among its many alluring attributes, Beirut has always been the medical Mecca of the Middle East. This is largely due to the AUBMC, which is part of the American University of Beirut (AUB), a learning institution, established by American missionaries in 1866. AUB is where my grandfather taught. It is where my mother and father studied. In addition, it is where two of my uncles graduated as medical doctors, and subsequently taught. One was an OBGYN, and the other, Bahij Azoury, was a pioneer in urology in the Middle East and played a significant role in molding my thoughts.

I completed medical school at AUB, in 1978, and as I had planned all along, the next move was to complete my post-graduate work in the United States, whereupon I would return to my home country to practice my profession. Little did I know that the political turmoil in Lebanon, which started in 1975 and persisted for the next 15 years, would indefinitely prolong my sojourn in the US. As it turned out, this was nothing short of a fortuitous stroke of serendipity for me, because being domiciled in the US for a period of 20 years afforded me a level of personal development and professional expansion that no other place could provide.

I joined the residency program in surgery and urology at the University of Maryland Hospital in Baltimore. I was fortunate enough to have been mentored by John Young Jr., then president of the American Association of Genito Urinary Surgeons, in addition to other virtuosos in urology such as Edward Campbell, Earl Gallagher, Fuad Dagher, Said Karmi, Bruce Berger, Stephen Cohen, Nasser Javadpour, and Suhayl Kalash, to mention a few.

During my stay in Maryland, I completed a rotation at Johns Hopkins Hospital with Robert Jeffs, who introduced me to pediatric urology, and Patrick Walsh, who was in the process of developing the nerve-sparing anatomic radical prostatectomy at the time. Walsh's technique had a lasting effect on the manner I perform surgical procedures, and I remain indebted to his acumen to this day. In Baltimore, I met lifetime friends, such as Peter Albertson, David Diamond, and Nelson Stone, among others.

I was accepted for a fellowship in renal transplantation and kidney surgery at the Cleveland Clinic Foundation. I was privileged to train under a true legend in urology, the late Andrew Novick, whose premature death at the age of 60 left a deep scar in my heart. For 3 years, he closely monitored my progress and profoundly influenced my formative years in the field of urology. I was also fortunate to have associated with world-class surgeons and physicians like Ralph Straffon, William Kiser, Bruce Stewart, James Montie, Carl Montague,

Edson Pontes, Anthony Thomas, Nick Stowe, William Braun and Donald Steinmuller. In addition, I worked with talented co-fellows and residents, including Mark Jordan, Eric Klein, Thomas Maatman, David Wood, Michael Ziegelbaum and Stuart Flechner, and I had the pleasure of meeting Martin Resnick, Gabriel Haas and other leading urologists at the nearby institutions such as Case Western Reserve University, and Wayne State University in Detroit, Michigan.

My research with Novick centered on developing original techniques in renal revascularization for renal artery stenosis and ischemic kidney disease. We described the splenorenal and mesenterorenal bypasses as alternatives for patients with severe atherosclerotic aortic disease and refined techniques of nephron sparing surgery for RCC and surgery for caval thrombi.

In transplantation, our research pioneered the use of Minnesota-Anti Lymphoblast Globulin (ALG) as induction immunosuppression, which translated into improved graft and patient survival especially in diabetics. We further described the use of triple maintenance immunosuppression during the launch of cyclosporine (CsA).

My professional career began in 1985, at the University of Massachusetts (UMASS) Medical School. The recently appointed chief of urology, Mani Menon, and the late H. Brownell Wheeler, chair of surgery, recruited me to set up the transplantation program and help build the urology division. During my final interview, I was surprised to learn that the entire division consisted of two faculty members: Menon and myself! It was not too long before Dave Diamond joined us as director of the residency program, and the division steadily grew with additional staff that were instrumental in its success. These include Robert Blute Jr., Rifaat Dagher, Howard Price, Jeffery Dann, PJ Howard, Timothy Hopkins, Michael Wollin and Stephen Tosi, to mention a few.

My tenure at UMASS is both memorable and gratifying. I was quickly promoted to Professor of Urology/Surgery and Physiology. I still hold the position of Adjunct Professor of Urology at UMASS Medical Center to this day.

In conjunction with my colleagues at UMASS, I helped establish a reputable urology program, comprising urologic oncology, pediatrics, infertility, and endourology. I founded and directed the UMMC Kidney and Pancreas Transplantation program, the first program in the commonwealth of Massachusetts outside the city of Boston. The program is currently one of the largest and most prestigious multi-organ transplant centers in New England. My achievements could not have been possible without the active involvement of my UMASS colleagues like Menon, Stoff, Fan, Swanson and Meyers, as well as other prominent surgeons affiliated with the New England Organ Bank (NEOB) and the United Network for Organ Sharing (UNOS), including John Libertino, Anthony Monaco, Benedict Cosimi, Francis Delmonico, Dicken Ko, George Lipkowitz, and Robert Schweitzer.

I am particularly proud of the residency program at UMASS, which graduated exceptional urologists who went on to become pillars in the field. They include names like Paul Lee, Reza Ghavamian, Sanjaya Kumar, Stephen Zappala, KC Balagi, Forest Quimby, BG Parulkar Thomas Kinkaid, Paula Bellin, and Philip Ayvazian, among others.

In association with Menon and Strzelecki, my laboratory research centered on evaluating the responses of renal cortical mitochondria to CsA following warm ischemia and cold preservation. We demonstrated the salutary effect of calcium channel blockers in attenuating the severity of ischemic acute renal failure and CsA-ischemia induced injury.

At the clinical level, we evaluated the correlation between CsA whole blood levels and acute rejection, nephrotoxicity, and graft survival. The resulting data heralded the defining of target ranges adopted in clinical transplantation. Furthermore, we studied induction strategies using ALG within a quadruple regimen for highly sensitized patients and described novel surgical techniques and approaches to renal transplantation.

During my tenure at UMASS, I developed intimate friendships with several colleagues in elite academic institutions in New England, such as Carl Olsson, Richard Babayan, Grannum Sant, Robert Krane, John Heaney, John Libertino, Leonard Zinman, Jerome Richie, Michael O'Leary, Kevin Loughlin, Craig Peters, David Green, Anthony Caldamone, and Stephen Schiff, among others.

In 1997, circumstances dictated that I move back to the Middle East. I was appointed as Head of the Division of Urology at the American University of Beirut Medical Center. My primary task, laid out by the chair of surgery, Kamal Hemady, was to jumpstart a modern division of urology, to encompass all subspecialties. I soon realized that Dr. Hemady, besides being my boss, was the only full time member of my division (Déjà vu)! In the years that followed, I established and directed the Renal Transplantation unit, heralding the development of a multi-organ transplantation program. I also founded the first laparoscopic urologic program in the region and performed the first laparoscopic donor nephrectomy with Maher Hussein, in 2000. The initial laparoscopic GU procedures, performed in Beirut, were broadcast live to Syria, Kuwait, and Saudi Arabia. This was followed by specialized workshops, with the help of Stephen Jacobs, which heralded laparoscopic urology in these countries.

In the early years, several renowned names joined our team. Fuad Freiha of Stanford and Fuad Dagher of Maryland were appointed as chair of surgery and CMO of AUBMC, respectively. They were both instrumental in the rapid growth of the division of urology and renal transplantation. A younger generation of recruits, namely, Yaser El-Hout, Rami Nasr, Albert El Hajj, and Bassel Bachir complemented the team and set the framework for expanding subspecialty training in pediatrics, urologic oncology, infertility, and minimally invasive urology/robotics—the da Vinci robot was introduced to the region in 2013, launching a premiere robotic urologic oncology program.

In 2015, we laid down the framework for a premier prostate cancer center, based on a multidisciplinary treatment (MDT) approach engaging multiple medical disciplines (within the Naef K. Basile Cancer Institute-AUBMC). In 2017, I founded the Middle East Prostate Cancer Consortium (MEPCC). This is a group of leaders from various disciplines in the field, whose aim is to enhance academic collaboration among prostate cancer specialists in the region. During the same year, I was asked to join the expert panel of the Advanced Prostate cancer Consensus Conference (APCCC) in Saint Gallen.

Many of the residents who graduated during my tenure at AUBMC now hold key positions in the Middle East, United States, and Canada. These include Jihad Kaouk, Walid Farhat, Walid Alame, Rabih Madi, Adonis Hijaz, Ali Houjaj, Ahmad Shaar, Ahmad Kharrouby, Oussama Darwish, Hosam Al Qudah, Hassan Taan, Nazih Khater, Samer Traboulsi, Hajar Ayoub, Mohammed Shahait, Ramy Abu Ghayda, and Ragheed Saoud.

My initial research at AUBMC centered on prospective evaluation of Laparoscopic donor nephrectomy versus open donor nephrectomy. My team pioneered the modified surgical technique in laparoscopic donor nephrectomy to mimic the open surgical procedure and minimize warm ischemia during retrieval. We are currently conducting outcome analysis of nephron-sparing approaches to renal cell carcinoma, evaluating the role of robotic partial nephrectomy based on tumor complexity. In prostate cancer, we are conducting clinical and epidemiological research, and evaluating the role of radical prostatectomy in locally advanced disease and elderly. We are also collaborating with Middle Eastern and European colleagues via the MEPCC and APCCC.

Perhaps one of the great fortunes of practicing in the Middle East is the opportunity I had to build a bridge between the Middle East, the US, and Europe. In 2003, I cofounded the *Arab Journal of Urology* (AJU) with my colleagues, Kamal Hanash, Fouad Sukkarieh and Sleiman Merhej and became its executive editor. The AJU became the official journal of the Arab Association of Urology (AAU). Soon after, in 2005, I was elected president of the Urological Society for Transplantation and Renal Surgery (USTRS). In 2006, I became President of AAU and founded the AAU-International Scientific office. Its primary task was to organize joint conferences between AAU and international associations like AUA, EAU, and SIU. This has fostered a multitude of reciprocal/exchange educational conferences spanning three continents. It has also bonded us with world leaders in urology like Carl Olsson, Robert Flanigan, Emil Tanagho, Michael Blute, Ashutosh Tewari, Wassim Kassouf, Laurence Klotz, Joel Nelson, Arthur Sagalowsky, Christopher Wood, Jose Karam, Nizar Tannir, Inderbir Gill, Jean DeKernion, John Barry, David Bloom and Ganesh Palapattu (in the USA and Canada); and Michael Marberger, Helmut Madersbacher, Frans Debruyne, Manfred Wirth, Per Anders Abrahamson, Francisco Montorsi, Bob Djavan, Peter Hammerer, Schahnaz Alloussi, and Christopher Chapple (in Europe). The success of the AAU could not have been possible without the efforts of my colleagues on the executive board, Saad Kayal, Ibrahim Banihani, Abdul Wahab Elkassaby, Abdou Shamsuddine, Wassim Wazzan and Hassan abol-Enein.

Meanwhile, I feel that my life has come full circle. On a personal level, my three children, Paul, Mark, and Nicole, have blossomed into good citizens who are able to securely stand on their own two feet. And my wife, Monika, without whom my existence would be incomplete, continues to be a pillar of support and a partner in the blessings of life forevermore.

I like to think that my calling as a physician has always been subordinate to a steadfast work ethic. I share Gerhard Kocher's belief that life and death are more important than dollars and cents, and that the goal of medicine ought to be health, and not the further extension of the health system. I also agree with Wheeler's musings on the subject, especially as regards the enduring conflict between "the humanistic needs of the patient and the financial and regulatory constraints of the health care system."¹ I would be remiss to pass over Sir William Osler, the great hero of American medicine, whose steadfast belief in the inextricable tie between body and spirit, I passionately share. I have encountered countless cases where an ailing body invariably led to an ailing soul. As such, it is imperative for a physician to administer to both simultaneously; empathy is just as important as surgery. I firmly believe that it is only when a physician is able to bridle his pride and elevate above the perfunctory task that he becomes a healer in truth.

The work we do is work worth doing, and I trust that I have always done it with honesty, diligence, and pride. A great source of my personal pride resides in the enterprising innovations of a number of urologists and surgeons that I mentored. Their artistry ultimately makes my own career meaningful and worthwhile. I never cease to remind myself that if the key to success is to love one's work, the key to excellence is to be seduced by it.

My life as a doctor has been neither arduous nor long. It has been quite fulfilling! And although my days have been fraught with some disappointment, these disappointments were summarily overshadowed by success. This, I believe, is the most for which any career professional can hope. Molding tribulation with triumph in order to maximize one's existence is what the art of life is all about.

One final thing: I would like to express my deep gratitude to *The Canadian Journal of Urology* for giving me the opportunity to reflect on my life and summon my deepest thoughts. Alas, as a result of that reflection, I came to the conclusion that, in reality, I am no legend at all!

Raja B. Khauli, MD, FACS

References

1. Wheeler HB. Shattuck lecture—healing and heroism. *N Engl J Med* 1990;322(21):1540-1548.