Focal Therapy a Growing Option For Prostate Cancer Treatment

Dr. Stephen R. Shapiro practiced pediatric urology for 38 years, so in 2016, when his PSA began to rise and his urologist found a prostate nodule during a routine rectal exam, Dr. Shapiro was all too familiar with the likely diagnosis.

Having attended UCLA Urology’s annual State-of-the-Art Urology Conference, Dr. Shapiro had seen a presentation by Leonard Marks, MD, UCLA Urology professor and a pioneer in developing the targeted prostate biopsy. The new biopsy method, which uses magnetic resonance imaging (MRI) to identify suspicious areas of the prostate, then fuses the MRI findings with real-time ultrasound, obtains results that are far more accurate than when biopsy is performed by the conventional method. Dr. Shapiro went to Dr. Marks for a biopsy, which revealed a tumor on the right side of his prostate. The pathology report came in with a Gleason score of 7, indicating the cancer was aggressive enough that it warranted treatment rather than “active surveillance,” the path chosen by many patients with lower-risk prostate tumors.

As he pondered his options, Dr. Shapiro reached out to some of the urologists he had known for many years. The consensus was that he should opt for traditional surgical or radiation treatment, both of which come with a significant risk of complications that didn’t appeal to him. So after consulting with Dr. Marks, Dr. Shapiro made a different choice. Because they could be confident from the biopsy that Dr. Shapiro’s cancer was confined to only one part of the prostate, Drs. Shapiro and Marks concluded the patient was a candidate for focal cryotherapy, which freezes and removes only the affected tissue.
Dr. Leonard Marks and his multidisciplinary UCLA team pioneered the targeted biopsy, which allows more men with low-risk prostate cancers to confidently choose active surveillance over treatment. Now Dr. Marks and his colleagues are among the leaders in advancing a new frontier for patients who, like Dr. Shapiro, fall into an intermediate-risk category — with tumors that require treatment, but can be safely removed through so-called focal therapy, which uses various approaches to target the cancer in ways that are far less invasive than traditional treatments.

“The rationale behind focal therapy is to destroy the tumor while leaving the normal tissue alone, which dramatically reduces adverse side effects such as incontinence and sexual dysfunction that may follow traditional prostate cancer surgery and radiation therapy,” Dr. Marks explains. “The analogy is the lumpectomy for breast cancer. It used to be that the only approach to surgical treatment of breast cancer was radical mastectomy, but then studies began to show that when breast-conserving surgery was appropriate, survival was equal. The same has been true for other cancers such as thyroid, colon, kidney and lung, for which partial removal can be effective. Now we are beginning to see this approach ramped up for certain prostate cancers.”

Until recently, urologists performing biopsies on patients with elevated PSA couldn’t actually see the cancer, so if the biopsy was positive they were more apt to remove or radiate the entire prostate. “With the advent of sophisticated MRI in the last decade, for the first time we can see cancer in the prostate gland, put a biopsy needle specifically into that spot, characterize how aggressive it might be, and, for low-risk patients who choose active surveillance over treatment, track it through repeat biopsies,” Dr. Marks says. “And if we can see and characterize the cancer, the next step is to be able to treat it more precisely.”

There are a number of focal therapies for prostate cancer in various stages of development. Cryotherapy, the focal treatment given to Dr. Shapiro, has been used for many years, but with improved delivery systems it has recently become a more viable option and is now being offered at UCLA through a clinical trial. Another focal treatment, high-intensity focused ultrasound (HIFU), uses powerful ultrasonic energy to destroy the tumor. Dr. Marks’ team has performed HIFU at UCLA since 2010, though the treatment is not currently covered by most insurance.

The approach that Dr. Marks and his colleagues have taken the greatest interest in is focal laser ablation. Using the same technology as for the targeted prostate biopsy, laser fiber is inserted and energy is used to gently heat and destroy the tumor while keeping the surrounding tissue intact — analogous to a male lumpectomy. Dr. Marks has a $3.1 million grant from the National Cancer Institute to develop and commercialize the treatment, in collaboration with a company he co-founded. “We like this approach because it’s very precise, and has the potential to be done under local anesthesia in a clinic setting,” Dr. Marks says.

Candidates for focal therapy are men with intermediate-risk prostate cancer — primarily those who, like Dr. Shapiro, have Gleason scores of 7 — in which the tumor is confined to one identifiable part of the prostate and the gland is not too large. Every prostate cancer patient who receives focal therapy treatment at UCLA undergoes a follow-up MRI-guided biopsy six months later.

“Active surveillance is the most rapidly growing management strategy for prostate cancer — many men with low-risk tumors who would have gotten surgery 10-20 years ago are now choosing it, thanks to our ability to view and follow the cancer to make sure it doesn’t become a threat,” Dr. Marks says. “But there’s a large group of men who fall into the intermediate-risk category, where the cancer is not immediately life threatening but is too risky to follow in active surveillance. We believe the future for men in this category is focal therapy.”
Letter from the Chair

As part of a leading academic medical center, UCLA Urology makes its impact not just from the world-class urological care we provide to our patients, but also by advancing the state of the art through our research; training the next generation of physicians and scientists through our teaching; and improving the urological health of the broader community, including traditionally underserved populations, through diverse partnerships. These four missions — research, patient care, teaching and community engagement — are each powerful on their own. But they are also integrated in a way that makes the whole much greater than the sum of the parts.

This is underscored by two of the programs highlighted in this issue of our newsletter. Our cover story features the exciting work of the team headed by Dr. Leonard Marks in image-based diagnostics and therapeutics for prostate cancer. After revolutionizing the prostate cancer biopsy to enable patients and their physicians to make better-informed decisions, Dr. Marks’ group is now using the same technology to develop focal therapy — a far less invasive treatment option for patients who are candidates. And on page 6, we highlight the recently renewed IMPACT program, funded by the State of California and administered by UCLA Urology. The program, which will reach its 20th year during the current funding cycle, provides much-needed care and support for low-income, uninsured men with prostate cancer throughout the state.

What do these seemingly disparate programs have to do with each other? The groundbreaking efforts of Dr. Marks and his colleagues are leading to new prostate cancer treatments that are immediately made available to the patients in communities up and down California who are enrolled in IMPACT. This rapid translation of new and innovative therapies from the university to the community is not typical. Too often, treatment advances take years, or even decades, to be widely implemented outside of the university setting. But our deep commitment to both cutting-edge science and community engagement ensures that the traditionally underserved men who populate IMPACT receive state-of-the-art prostate cancer care.

At UCLA Urology we move scientific discoveries from the lab to the clinic for the benefit of our patients, as well as to the community for the benefit of the larger society. Through their participation, our trainees are prepared to become leaders in this critical process. That is how our four missions work synergistically. That is what makes UCLA Urology such a special place.

Mark S. Litwin, MD, MPH
Professor and Chair, UCLA Urology
Vasectomy Reversal

Approximately one in 10 men in the United States will get a vasectomy, the male sterilization procedure. But for any of a variety of reasons, a small percentage of these men will later change their mind. These men can opt for a vasectomy reversal. There are two types of vasectomy reversal procedures. A vasovasostomy utilizes an operating microscope and ultra-fine sutures to reattach the inner and outer layers of the vas deferens, restoring the flow of sperm to allow couples to pursue pregnancy. When inflammation or scarring prevents a vasovasostomy from being performed, an alternate approach is the vasoepididymostomy, in which the vas deferens is connected to the epididymis in a location away from the blockage. Both procedures are performed in an outpatient setting; pain is usually minimal and can be treated with mild oral prescription or over-the-counter medications. Recovery time is about two weeks, after which patients can return to sexual intercourse and normal physical activities.

Success rates of the reverse vasectomy depend on a number of factors, including the experience of the surgeon, the amount of time since the vasectomy and the quality of sperm fluid at the time of the procedure. If sperm is found in the vas deferens at the time of the reversal, pregnancy success rates are close to 100 percent, assuming the female partner is fertile. In general, though, the longer it has been since the man’s vasectomy, the lower the chances that sperm will be found in the vas deferens. When sperm isn’t found at the time of the reversal, a vasoepididymostomy can be performed. Pregnancy success rates following such a procedure are about 60-70 percent.

UCLA Urology’s Dr. Jesse Mills, director of The Men’s Clinic at UCLA, is a nationally renowned microsurgeon who has helped hundreds of couples achieve pregnancies with his surgical skills, with very low complications. Because Dr. Mills is not only a highly experienced microsurgeon but also a highly skilled male reproductive endocrinologist, he can optimize his patients’ male reproductive hormones to increase pregnancy chances even further.

For more information, visit www.uclaurology.com. To make an appointment, call (310) 794-7700.

Bradley Leibovich, MD

Dr. Bradley Leibovich decided early in his career to dedicate himself to a narrow field within urology. “The goal was to ensure that I could be among the best at something,” Dr. Leibovich explains. “I wanted to be able to take on the most difficult problems, and I learned that if you focus your efforts narrowly you get better results, whether it’s in research, training others, or treating patients.”

It’s a lesson Dr. Leibovich took away from his fellowship training in 2002 at UCLA Urology under the mentorship of Drs. Arie Beldegrun, UCLA Urology professor and director of the Institute of Urologic Oncology, and Robert Figlin, a medical oncologist now at Cedars-Sinai Medical Center. Dr. Leibovich had just been hired by the Mayo Clinic, and he came to Los Angeles to learn how to build a multidisciplinary clinical, research and training program in kidney cancer from the heads of UCLA’s program, which was considered a world leader.

Today Dr. Leibovich is professor and chair of the Mayo Clinic’s urology department, where he has successfully applied what he learned at UCLA, taking what had been a small kidney cancer program to a national leader, with multiple clinical trials for every type of malignancy and stage of disease, as well as for benign conditions. “I emulated what UCLA was doing, adapting it to fit the Mayo model of care, and the result was a huge increase in basic and translational research as well as clinical trial activity,” Dr. Leibovich says.

In his own clinical practice, Dr. Leibovich sees patients with kidney and testicular cancers, including some of the most challenging cases. He was drawn to urologic oncology by the ability to cure the majority of patients. “The thing I enjoy more than anything is working with patients, educating them about their condition, understanding what they’re hoping to get out of treatment, and providing that for them whether in the operating room or out,” he says.

When he’s not seeing patients, Dr. Leibovich derives great satisfaction from developing the skills of his colleagues and helping to advance the research and education agenda of his department. “One of the things I learned from seeing how the kidney cancer program at UCLA worked was how to excite and motivate people to do their very best around a unified plan,” he says. “You can contribute only so much as an individual seeing patients, but if you can also mentor and train junior faculty, fellows and residents — convincing them that this is a field they should pursue, teaching them how to conduct research and treat patients effectively, and setting an example for how they can teach others — you magnify your impact dramatically.”
The UCLA Kidney Transplant Program once again had the highest transplant volume in the nation last year, according to the Scientific Registry of Transplant Recipients. Even more important, the program had the lowest rate of patient death.

William Aronson, MD, UCLA Urology clinical professor, had his manuscript, "Role of host GPR120 in mediating dietary omega-3 fatty acid inhibition of prostate cancer," accepted for publication in the Journal of the National Cancer Institute.

Arie Belldegrun, MD, UCLA Urology professor and director of the Institute of Urologic Oncology, was inducted into the Los Angeles Business Journal Hall of Fame as an individual who has had significant impact in the clinical-stage biopharmaceutical industry over the last year.

Claire Burton, MD, UCLA Urology resident, received a $25,000 H.H. Lee Research Scholars Grant in support of her fourth-year residency research project, “Evaluation of Decisional Quality in Third Line Treatment of Overactive Bladder Syndrome.” Drs. Christopher Saigal and Jennifer Anger will mentor her.

Andrew Goldstein, PhD, UCLA Urology assistant professor, was selected as a 2018 Giants of Science Hope Award recipient by the American Cancer Society (ACS) for his accomplishments in the first few years of ACS funding. He will receive his award at a gala to be held in Beverly Hills in October.

Kathy Huen, MD, UCLA Urology resident, received a travel award to attend the May 2018 American Urological Association Basic Sciences Symposium in San Francisco.

Rajiv Jayadevan, MD, UCLA Urology resident, received the 2018 Excellence in Teaching with Humanism Residents and Fellows Award from the David Geffen School of Medicine at UCLA Medical Student Council. The award honors individuals who model exemplary behavior toward patients, medical students, and other members of the healthcare team and serve as exceptional teachers and mentors for all David Geffen School of Medicine at UCLA students.

David Johnson, MD, UCLA Urology fellow, had his editorial “Where there is smoke, there is not always fire,” on the subject of false-positive cancer screening tests, published in the journal Cancer in April.

Mark S. Litwin, MD, MPH, UCLA Urology professor and chair, received funding for a three-year grant from the U.S. Department of Defense entitled, “Graphical Representations of Symptoms of Prostate Cancer (GRASP): Identifying Preferences for Quality of Life Dashboard Formats in an Underserved Prostate Cancer Population.” The study will focus on developing a web-based platform that presents men with graphical displays of quality of life survey results and offers men self-management content for bothersome symptoms.

Leonard S. Marks, MD, received the Ashbel Smith Distinguished Alumnus Award from the University of Texas Medical Branch at a ceremony June 1 in Galveston, Texas.

Taylor Sadun, MD, UCLA Urology resident, received a $25,000 H.H. Lee Research Scholars Grant in support of her fourth-year residency research project, “Development of an Integrated Radiogenomic Risk Assessment Tool for the Management of Prostate Cancer.” Dr. Robert Reiter will mentor her. Dr. Sadun was also awarded the 2018 Jerry Janger Fellowship in Prostate Cancer Research for the same project. Mrs. Linda Janger funds the Jerry Janger Fellowship in memory of her husband to support research aimed at curing prostate cancer.

Jeremy Shelton, MD, MSHS, UCLA Urology assistant clinical professor, was named co-chair of the Centers for Medicare & Medicaid Services, MACRA Episode-Based Cost Measure Clinical Subcommittee on Urologic Disease Management. The committee will provide input on the development of episode-based cost measures for potential use in the Quality Payment Program, which is being implemented to improve the health of Medicare beneficiaries and lower costs of healthcare.

Demetrios Simopoulos, MD, UCLA Urology fellow, will become an assistant professor of urology at Johns Hopkins University in Baltimore effective August 1.

Nishant Patel, MD, UCLA Urology assistant clinical professor, had his manuscript, “Ureteral access sheaths: A comprehensive comparison of physical and mechanical properties,” published in the International Brazilian Journal of Urology.
Through economic booms and the leanest of times, and under both Democratic and Republican governorships in California, a statewide program established and administered by UCLA Urology has continued to thrive. Long before the Affordable Care Act sought to improve access to essential health services for millions of uninsured people, IMPACT (Improving Access, Counseling & Treatment for Californians with Prostate Cancer) began providing free high-quality prostate cancer treatment to men with little or no health insurance. The recent renewal of IMPACT for three more years will take the groundbreaking program to its 20th anniversary with more than $109 million in total funding from the state. And amidst renewed concern about the ability of low-income populations to receive the quality services they need for chronic conditions, IMPACT is as important as it ever was to its beneficiaries, who now number more than 2,200 since the program started in 2001.

IMPACT contracts with more than 600 healthcare providers who treat patients enrolled in the program in communities up and down the state, as well as with mental health professionals, local health departments, hospitals, outpatient facilities, pharmaceutical companies and others for the additional services patients need. A major part of the program is patient education — dozens of print and audio materials are available in English and Spanish, reaching a population far larger than the number of enrollees.

Beyond providing prostate cancer treatment to indigent patients, IMPACT has demonstrated the value of a system designed to increase the self-efficacy and health literacy of traditionally disenfranchised individuals. “Cost is a major barrier faced by these men, but it’s not the only one,” says Mark S. Litwin, MD, MPH, UCLA Urology professor and chair, and IMPACT’s founding director. “Our goal from the beginning has been to bring treatment to this low-income, mostly minority population in their own communities in a way that is linguistically and culturally appropriate while also empowering them to manage their prostate cancer care as well as any other health issues that come up.”

IMPACT does this by pairing each enrollee with a nurse case manager who assists with the care coordination and management. The nurses work closely with patients to ensure that they know when to seek care, how to navigate the system to secure an appointment, and how to effectively communicate with providers about their needs, among other skills.

“Many of these men have a lot of stress in their lives, and now on top of everything else they have the stress of dealing with prostate cancer,” says William Aronson, MD, UCLA Urology professor and IMPACT medical director, who oversees the prostate cancer care of the program’s patients, working with the nurse case managers to ensure that patients are directed to specialists in their community as needed. “To have a nurse assisting with things like making appointments, filling prescriptions, making sure they have transportation and referring them for psychological counseling when needed is extremely valuable.”

Notably, the treatment provided by IMPACT physicians to this underserved population is of the highest quality, leveraging UCLA Urology’s association with the latest clinical and scientific advances. “We carefully screen all of the physicians we sign up, and we make sure our patients are receiving state-of-the-art care,” Dr. Aronson says.

Michael L. Steinberg, MD, professor and chair of UCLA’s Department of Radiation Oncology, was recruited by Dr. Litwin as IMPACT was being established. Dr. Steinberg, who continues to serve on the program’s advisory board, helped to develop
Dr. Steven E. Lerman, clinical professor of urology, has been appointed chief of the Division of Pediatric Urology, succeeding Dr. Bernard Churchill. He has also been proposed to hold the Judith and Robert Winston Endowed Chair in Urology. Dr. Lerman earned his BA summa cum laude and phi beta kappa from UC Berkeley and his MD from UCSF. He completed his residency training at UCLA and his fellowship in pediatric urology at UC San Diego under Dr. George Kaplan before joining the UCLA faculty. One of the department’s most beloved educators, Dr. Lerman also serves as director of UCLA Urology’s residency training program. He travels annually to Guatemala to participate in Healing the Children’s pediatric urology mission, providing care to needy children. Dr. Lerman will lead the department’s pediatric urologists in providing high-quality care for children and advancing the agenda of children’s health at UCLA and across Los Angeles.

Dr. Robert E. Reiter, professor of urology and Bing Endowed Chair in Urologic Research, has been appointed chief of the Division of Urologic Oncology, succeeding Dr. Arie Belldegrun, the division’s founding leader. After earning his BS magna cum laude from Yale, Dr. Reiter was a Fulbright Scholar in Barcelona and earned his MD from Stanford. He completed his residency training at Baylor under Dr. Peter Scardino and his urologic oncology fellowship in the Surgery Branch of the National Cancer Institute before joining the UCLA faculty. Dr. Reiter also earned his MBA from UCLA. In 2004, he won the Young Investigator Award from the Society of Urologic Oncology. He is a member of the American Association of Genitourinary Surgeons. A prolific researcher and internationally regarded expert in prostate cancer, Dr. Reiter leads the department’s Specialized Program in Research Excellence (SPORE) in Prostate Cancer. He leads or co-leads numerous federally funded research projects in urologic oncology. As head of the department’s urologic oncology faculty, Dr. Reiter will seek to innovate clinical care, train the next generation of physician-scientists, and advance science for patients with urologic cancers.

Gunnar M. Bjorg, UCLA Urology Supporter

Gunnar M. Bjorg, a major past supporter of UCLA Urology, died in January. Mr. Bjorg provided initial funds to enable the department to start a minimally invasive surgery program in 2000 and continued to provide funds to support the program’s research. He was also an important contributor to the Jean B. deKernion, MD Chair in Urology, named after the former UCLA Urology chair and current professor emeritus.
The Men’s Clinic at UCLA

DID YOU KNOW?

The U.S. Preventive Services Task Force (USPSTF) recently changed its recommendations on prostate cancer screening. Previously, The USPSTF concluded the risk of prostate cancer screening outweighed the benefit. As a result, many physicians stopped checking men for prostate cancer and urologists saw a disturbing trend of men with advanced prostate cancer. Now, the USPSTF recommends that men ages 55-69, as well as men of any age with a family history of prostate cancer, make an individual decision about screening in consultation with their physician.

The Men's Clinic at UCLA is a comprehensive, multidisciplinary health and wellness center located in Santa Monica. For more information or to make an appointment, call (310) 794-7700.