

Innovative, minimally invasive treatment can help maintain prostate cancer patients' quality of life

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Andre Abreu, MD, leading a team through a focal HIFU procedure at Keck Medical Center. Credit: Ricardo Carrasco III, Keck Medicine USC

For some prostate cancer patients, radical treatment (surgery or radiation) are treatment standards. However, these procedures may cause side effects including urinary incontinence or impotency.

A new study from USC Urology with Keck Medicine of USC demonstrates that focal (or targeted) high-intensity focused ultrasound (HIFU) ablation of the [prostate](#) is an effective alternative to surgery or radiation, with encouraging outcomes and shortened recovery time.

Focal HIFU ablation is an [outpatient procedure](#) that uses a focused ultrasound beam to raise the temperature inside the prostate to approximately 90 degrees Celsius (194 degrees Fahrenheit) to destroy targeted areas of prostate tissue. The procedure takes around two hours and the patients are often discharged home the same day.

The study, published in *The Journal of Urology*, followed 100 men in the United States who underwent a HIFU procedure for prostate [cancer](#) between 2015-2019. This is the first and largest study examining the outcomes of focal HIFU ablation as a primary treatment for prostate cancer in the United States.

During follow-up, 91% of HIFU patients successfully avoided radical treatment. Also, 73% of patients did not experience treatment failure, which the researchers defined as clinically significant cancer recurrence, metastases or mortality, or the need for additional hormone therapy, chemotherapy, surgery or radiation.

The results demonstrated that focal HIFU carries a low risk of complication and can help preserve quality of life. In fact, all patients remained continent and there was no significant decrease in sexual function. There also were no serious adverse events or major complications. Minor complications, including difficulties with urination and urinary tract infection, occurred in a small proportion of the patients, and were addressed without major interventions. Patients were typically discharged the same day as their procedure and resumed regular activities shortly thereafter.

"This positive data empowers urologists to use focal HIFU ablation to effectively address prostate cancer without the intrinsic side effects of radical treatments," says Andre Abreu, MD, urologic surgeon with Keck Medicine and first author of the study. Abreu is also an assistant professor of clinical [urology](#) and radiology at the Keck School of Medicine of USC. "We hope this study encourages prostate cancer patients to talk to their doctor about all potential treatment options to ensure that they receive a personalized care plan that addresses their individual needs."

Urologists worldwide have used HIFU ablation to treat [prostate cancer patients](#) for many years; however, the technology was only approved by the Food and Drug Administration (FDA) for prostate tissue ablation in 2015. Keck Medicine was among the first U.S. institutions to use this technology following the FDA approval.

"USC Urology is dedicated to refining cancer care through collaboration and innovation," says Inderbir S. Gill, MD, founding and executive director of USC Urology and senior author of the study.

"Throughout screening, diagnosis and treatment, it is important to balance accuracy and efficacy. Our physicians will continue working toward better methods to personalize that balance for every prostate cancer patient," continues Gill, who is also Distinguished Professor and chair of the Catherine and Joseph Aresty Department of Urology, Shirley and Donald Skinner Chair in Urologic Cancer Surgery and associate dean for clinical innovation at the Keck School.

In 2010, USC Urology launched a focal therapy and image-guided surgery program to develop more accurate methods to diagnose and treat prostate cancer. Since the program's inception, USC Urology has increased its annual image-guided prostate biopsies six-fold, with the vast majority of these procedures using a combination of MRI and ultrasound imaging. Additionally, USC Urology physicians are skilled in the most innovative therapies, including focal HIFU, cryoablation and robotic prostatectomy.

USC Urology physicians also collaborate with Keck Medicine radiologists and pathologists to create tailored, multidisciplinary treatment plans for each [prostate cancer](#) patient.

Provided by University of Southern California

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