Recognized in the Cleveland area and throughout the country for expert treatment and innovative research, surgeon-scientists at University Hospitals Urology Institute at UH Case Medical Center offer state-of-the-art care for the full range of urologic conditions for adults and children. This is accomplished through seven clinical Centers of Excellence:

- Female Pelvic Medicine & Surgery Center
- Men’s Health & Stones Center
- Pediatric Urology Center in collaboration with UH Rainbow Babies & Children’s Hospital
- Urologic Oncology & Minimally Invasive Therapies Center in collaboration with UH Seidman Cancer Center
- Robotic & Minimally Invasive Surgery Center offering expertise in the full scope of robotic procedures for urological conditions
- Quality & Outcomes Center
- Research & Innovation Center

UH Urology Institute offers innovative, multidisciplinary and individualized clinical care to patients. Through a dedicated team of skilled specialists with access to leading-edge technologies, regional facilities and clinical research, the institute delivers superlative care for the full range of urological disorders, from management of common disorders to the most advanced treatments and surgeries.

To learn more, visit UHhospitals.org

HARRINGTON DISCOVERY INSTITUTE

ACCELERATING BREAKTHROUGH DISCOVERIES INTO MEDICINES

The Harrington Discovery Institute at University Hospitals is the nonprofit arm of The Harrington Project for Discovery & Development, a national initiative supporting breakthrough research by physician-scientists. The Harrington Project is a new and powerful approach to address the challenges of advancing discoveries into medicines.

To learn more, visit HarringtonDiscovery.org

The UH Urology Institute is a regional and national destination for referring physicians and patients seeking the most comprehensive advanced care and groundbreaking treatments for female pelvic surgery, pelvic pain, urologic oncology and chemoprevention, pediatric urology, and a growing range of minimally invasive and robotic surgeries.

Visit UHhospitals.org/CME for the latest in live, webinar and on-demand Continuing Medical Education events.
This change in prostate cancer treatment protocol arose as urologists learned that not all lesions represent high-risk cancer needing immediate intervention. The mainstay of treatment for most low-risk prostate cancer is active surveillance, which involves regular monitoring and treatment if the cancer becomes more aggressive.

“About five years ago, we would have considered magnetic resonance imaging a poor tool for detection because it missed a lot of low-risk lesions, and we were still interested in aggressively treating all prostate cancer,” says Lee Ponsky, MD, Chief of Urologic Oncology, and Leo and Charlotte Goldberg Chair in Advanced Surgical Therapies, UH Case Medical Center; and Associate Professor of Urology, Case Western Reserve University School of Medicine. “Now we see that MRI is excellent for detecting and discerning high-risk cancer lesions.”

By optimizing MRI for sensitivity to high-grade lesions, UH urologists are able to select which patients need to be treated aggressively. “There is a lot of talk about patients being overscreened,” explains Dr. Ponsky. “In the past, patients may have also been overtreated because we couldn’t reliably determine who needed to be treated and who didn’t. But if we are now able to refine who needs to be treated, overscreening AND overtreatment is not an issue.”

IMPORTANT DIFFERENCES FOR PATIENTS

“By incorporating MRI into our practice, we have found high-risk cancers in about 30 percent of the cases that would have gone undetected,” says Dr. Ponsky. These are patients who had been on active surveillance for some time and who started with the MRI program only to find that they have high-risk lesions that had gone undetected.

“Very early in our program, we had a case of a man on active surveillance who transferred to our care. We found a suspicious lesion using MRI that was confirmed to be high-grade disease on biopsy, which changed his care to more aggressive treatment,” says Robert Abouassaly, MD, MSc, urologic oncologist at UH Case Medical Center, and Assistant Professor of Urology, Epidemiology and Biostatistics, School of Medicine. “This made a big difference in the ultimate outcome from a cancer point of view. We have seen many other cases like this, which reaffirms what we are doing,” he says.

According to Drs. Ponsky and Abouassaly, the MRI program also has other benefits. It is well-received by patients who are excited about getting more definitive answers about their cancer. Having MRI results to support treatment decisions is also reassuring to patients who are beginning or currently on active surveillance. They are more assured that aggressive cancer will be caught in time. Also importantly, they don’t suffer the effects of potential overtreatment.

In January 2014, urologists at UH began performing MRIs routinely whenever a prostate biopsy is planned. Multidisciplinary teams of urologists, radiologists and oncologists honed the technology and its ability to guide treatment.
MULTIDISCIPLINARY TEAMS ADVANCE DIAGNOSES

As an integral part of the MRI program, urologists, oncologists and radiologists meet weekly to interpret and fine-tune the reading of the images. “At our meetings, we might have 20 people all there to discuss cases and to review pathology reports against the scans in order to improve future detection,” says Vikas Gulani, MD, PhD, Associate Professor, Director of MRI, Departments of Radiology, Urology and Biomedical Engineering, Case Comprehensive Cancer Center, School of Medicine. “The urologists benefit from learning what we see on the scans, and we are able to apply clinical insights to our interpretations. It’s truly a full circle.”

Anant Madabhushi, PhD, Professor and Director, Center for Computational Imaging & Personalized Diagnostics; Member, Case Comprehensive Cancer Center, Case Western Reserve University School of Medicine and Case School of Engineering, is using MRI computerized feature analysis and pattern recognition to identify aggressive prostate cancer. His work leverages the computer’s ability to detect lesions that are not readily apparent to the eye.

“Working with urologists and radiologists is critical for developing the computerized feature analysis and pattern recognition technologies,” says Dr. Madabhushi. “Without the close collaboration between urologists and radiologists, the algorithms that we build will not incorporate the necessary quantitative measurements and clinical expertise.”

By collaborating in this way, all of the members of the group are able to understand subtleties and see how their work is improving patient care. “We are leading the way in perfecting the technology and are proud of our unique degree of collaboration,” says Dr. Ponsky.

MRIS ALSO ALLOW MORE ACCURATE BIOPSIES

When a patient has a high PSA reading or irregularity on digital rectal exam (DRE), the next step is often a biopsy of the prostate. Typically, this has been done with ultrasound guidance but without any true knowledge of where a cancer lesion might be within the prostate. “Before this, the prostate was the only part of the body that was blindly biopsied for cancer without a specific target,” says Dr. Ponsky.

UH urologists now perform an MRI before prostate biopsy to better identify which part of the prostate holds a potential cancer lesion.

By performing the MRI prior to the biopsy, the urologist knows the exact region of the prostate to target. Fusing MRI images with live ultrasound images improves biopsy accuracy even further.

“We are excited about the new fusion technology that drastically improves what we do,” says Dr. Ponsky. “We are able to pinpoint and precisely target the lesion that we are interested in, even when it is only millimeters in size. We are finding that this approach is making a difference in patients’ outcomes.”

To request a patient referral, contact UH Urology Institute at 216-844-3009 or email UroInnovations@UHhospitals.org.

The UH Urology Institute at UH Case Medical Center constantly seeks to create better structures for the management of patients in clinical trials. Well-designed clinical research includes the needs of patients, making the realization of goals even more of a team-oriented approach.

• While urologists today recognize that active surveillance is safe and effective for patients with low-risk prostate cancer, some patients may still be receiving treatment that is too aggressive. Simon Kim, MD, PhD, urologist, UH Case Medical Center and Assistant Professor, School of Medicine, is conducting important research into why this happens. Dr. Kim has developed an iPad® app based on National Comprehensive Cancer Network guidelines to educate and help build confidence during discussions. The app is being tested in a national multicenter randomized controlled trial funded through an NIH R01 grant. The app allows the patient to review risk-stratified, individualized treatment options.

• Dr. Simon Kim is one of 10 recipients of the Conquer Cancer Foundation/American Society of Clinical Oncologists (ASCO) Career Development Award in 2014. This three-year grant will support his research into better understanding the national trends in active surveillance and the barriers to its use. He will use large population databases, such as SEER-Medicare and Optum Labs/UnitedHealth Group, to identify patterns of care and potential barriers to active surveillance.

• The field of female pelvic medicine and reconstructive surgery is an emerging one. The Department of Urology’s fellowship program has Accreditation Council for Graduate Medical Education (ACGME) approval, which allows fellows to become board-certified in female pelvic medicine and surgeries upon completion of their training and taking the exam. The fellowship program at UH Urology Institute is one of approximately 30 programs in the country to have this ACGME approval.

All National Institutes of Health (NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.
• Advanced surgical care in treatment of surgical mesh complications is a focus at UH Urology Institute. Transvaginal placement of surgical mesh, typically to repair pelvic organ prolapse and stress urinary incontinence, has been associated with an increased risk for complications. Although transvaginal applications of surgical mesh have not been performed at UH Urology Institute, patients who are experiencing complications related to these procedures receive exceptional care by experienced surgeons. Familiarity with the range of problems that can arise is important because each case varies and can be quite complex, according to Adonis Hijaz, MD, Director, Female Pelvic Medicine & Surgery Center, UH Urology Institute, and Associate Professor of Urology, School of Medicine.

• The Urologic Oncology & Minimally Invasive Therapies Center offers the full range of prostate cancer treatment options available. Surgeons are opting to treat early-stage prostate cancers with focal therapy, precisely targeting and ablating only the small area of the prostate that is cancerous and preserving the unaffected area, rather than removing or ablating the entire gland. UH urologists have the latest technology – including the daVinci Xi®, to combat prostate cancer. Other prostate cancer treatment strategies may involve active surveillance, CyberKnife® or reoperative robotic prostatectomy. UH Urology Institute surgeons are leaders in exploring the use of natural orifice translumenal endoscopic surgery (NOTES) – a “scarless” abdominal operation.

• As a result of treatment for prostate cancer, many men may have quality-of-life concerns. At UH Urology Institute’s Men’s Health & Stones Center, Co-Director Sue Flick, RN, APRN, MSN, CNP, OCN, CCRP, nurse practitioner, has been a primary force in the development of a program to offer men effective, compassionate care focused on quality-of-life issues related to prostate cancer survivorship and other men’s health issues. Men receive individualized, multidisciplinary support for treatment of conditions such as erectile dysfunction and urinary incontinence.

• Listed among the 2014 U.S. News & World Report top-ranked pediatric hospitals, the UH Urology Institute’s Pediatric Urology Center at UH Rainbow Babies & Children’s Hospital, headed by Director Jonathan Ross, MD, Professor of Urology, School of Medicine, offers comprehensive care and a full range of medical and surgical services for infants through teens. Dr. Ross has been recognized for his expertise in dealing with rare conditions, such as pediatric testicular tumors. He is joined in the center by Lynn Woo, MD, pediatric urologist, and Assistant Professor of Urology, School of Medicine, who offers minimally invasive and robotics-assisted surgical expertise.

• Dr. Robert Abouassaly has developed a Health Services Research (HSR) program to study practice patterns in the UH hospital system to explore the needs of the broader treatment community. The program will be made up of a multidisciplinary team of surgeon-scientists and research fellows from UH Urology Institute, as well as HSR experts from other areas of UH and the School of Medicine. The goal of the program is to establish a methodology for HSR while applying it to key concerns in urologic oncology, with the future goal of creating a resource for studying the latest trends in any area of urological clinical practice.

All National Institutes of Health (NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.
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