INNOVATIONS in Urology

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University Hospitals Case Medical Center and Case Western Reserve University School of Medicine are consistently recognized as two of the premier institutions in the nation, according to U.S. News & World Report’s annual rankings.
Chairman’s Corner

Leading the Change Through Improving Quality Care and Quality of Life

It is a pleasure to bring you the Winter 2013 issue of Innovations in Urology. This edition shares a variety of stories showcasing how we at University Hospitals Urology Institute at University Hospitals Case Medical Center and Case Western Reserve University School of Medicine are leading the changes required to make a difference in health care. Whether it is by developing the Survivorship Program for prostate cancer patients or building a multidisciplinary Health Services Research (HSR) team, we strive to provide quality patient care backed by the latest health care innovations.

Throughout history it has not only been the strongest and smartest who survive, but also those who adapt quickly and are therefore the most equipped to evolve. Given that the U.S. has the most expensive health care in the world, we are in need of evolution of care toward improving quality and access and reducing cost. At the UH Urology Institute, we are leading the change through innovation and an understanding of the importance of quality of life of our staff and patients, and their families.

The change begins with attention to the quality of life and work of the individual health care provider. The result is a well-balanced team of urologists with an improved quality of life and an appreciation for the opportunity to improve our patients’ quality of life. As you read this issue, we hope you are inspired by our faculty and staff who recognize their responsibility and privilege as leaders in the field.

Innovation doesn’t just come from individuals, though; it comes from collaboration. Just as companies like Google have designed their offices to spark creative thought, we have created a department where research happens at the same time as clinical care. Our ability to generate innovative research inspired by patient care makes the UH Urology Institute at UH Case Medical Center and the Department of Urology at the School of Medicine a role model for other programs. Just as we must improve our staff from within, we can spread this same quality-of-life improvement through the work we do and the care we provide.

Warm Regards,

Firoz Daneshgari, MD
Chairman, Department of Urology, UH Case Medical Center and Case Western Reserve University School of Medicine
Director, University Hospitals Urology Institute
Lester Persky Professor, Case Western Reserve University School of Medicine

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University Hospitals Case Medical Center
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The commitment to exceptional patient care begins with revolutionary discovery. University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine, a national leader in medical research and education and consistently ranked among the top research medical schools in the country by U.S. News & World Report. Through their faculty appointments at Case Western Reserve University School of Medicine, physicians at UH Case Medical Center are advancing medical care through innovative research and discovery that bring the latest treatment options to patients.

National Institutes of Health (NIH) funded research is awarded to the School of Medicine at Case Western Reserve University.
Preventing for Survivorship

Improving quality of life after treatment for prostate cancer

Nearly all of the estimated 63,000 patients in the U.S. each year who undergo radical prostatectomies to treat prostate cancer, as well as individuals treated with other therapies, will suffer from some degree of chronic urinary incontinence as a result of the treatment. About half of surgical patients will experience erectile dysfunction. Unfortunately, many men are unprepared for what to expect after prostate cancer treatment or are not aware that side effects can be improved or managed.

A Model of Care

Although the risks of radical prostatectomy and other prostate cancer therapies are well-known, the pretreatment focus in many clinics throughout the country is limited to the clinical features of disease and staging of cancer. At the UH Urology Institute, the multidisciplinary care team is unique in that it not only addresses the cancer but also prepares the patient for survival and quality of life after surgery.

“Treating a patient’s cancer is paramount, but where we go beyond many centers is by providing a dedicated interest in quality-of-life concerns that arise postsurgery or radiation,” explains Sue Flick, CNP, Co-Director, Men’s Health & Stones Center, UH Urology Institute at UH Case Medical Center. “We include pretreatment counseling as part of our Survivorship Program to prepare patients for possible quality-of-life limitations and education on post-treatment recovery and therapeutic options.”

At UH Urology Institute, in collaboration with University Hospitals Seidman Cancer Center, the Survivorship Program matches well with the nurse practitioner role. Many nurse practitioners have developed advanced skills that allow them to facilitate discussions with patients about concerns that are sensitive or personal in nature. As a member of the multidisciplinary urological cancer team, the nurse practitioner must rely on his or her medical insight to ensure any clinical features of disease are adequately addressed.

Setting Goals

A key aspect of the program is to ensure that a patient’s level of sexual and urinary function is documented before treatment to help prepare for realistic goals for post-treatment function. Many prostate cancer patients have already experienced decreased erectile function related to the natural aging process or from conditions such as high blood pressure, alcohol use, diabetes or obesity or treatments for these conditions. Knowing what to expect and knowing possible treatment options, a patient will be more likely to seek help when he needs it during recovery.

“Each patient may have concerns that differ generally based on the type of treatment he has had, for instance, prostatectomy, radiation or hormone therapy,” says Flick. “Hormone therapy may create completely different concerns that also impact quality of life.” Those undergoing radiation therapy have minor short-term urinary complaints, but sexual function declines slowly over time compared with up to two years of continued healing and recovery from prostatectomy.

With most men living years after prostate cancer treatment, cancer control is only part of the picture. Our goal is maintaining optimal quality of life no matter which treatment men choose, including active surveillance. By taking a comprehensive view of care, patients are better able to manage the day-to-day challenges of recovery.

Contact our Men’s Health & Stones Center to schedule a patient referral by calling 1-866-UH4-CARE. To speak with one of our specialists directly, call 216-844-3085 or email UroInnovations@UHhospitals.org.
Health services research (HSR), as the study of patient care services and related outcomes, is being leveraged at UH Urology Institute to examine current practice patterns and determine whether they are consistent with the most advanced guidelines and standards. As a leader in urological oncology, Robert Abouassaly, MD, MSc, Urologic Oncology & Minimally Invasive Therapies Center, UH Case Medical Center; and Assistant Professor, Case Western Reserve University School of Medicine, is developing an HSR program to study practice patterns in the UH 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 the UH Urology Institute as well as HSR experts from other areas of UH and the School of Medicine. The goal is to establish a methodology for HSR while applying it to key concerns in urological oncology, with the future goal of creating a resource for studying the latest trends in any area of urological clinical practice.

“This research leverages population level data and looking at overall trends in a large group of physicians, but it doesn’t give specific data or detail. It may suggest a need for education or more in-depth study of the problem;” Dr. Abouassaly says. Once a potential gap between a guidance recommendation and the actual practice pattern is identified, the team will then determine whether the barrier is simply a lack of awareness or adoption, or whether there are other barriers that require further study. “For instance,” he adds, “adoption of a new guidance may be prevented by malpractice concerns or financial challenges that are only evident at the individual physician level.”

Examples of Investigations
An example of HSR in action involves the recent recommendation by the U.S. Preventive Services Task Force to no longer use prostate-specific antigen (PSA) as a general screening biomarker. This recommendation reflected research showing that, in many cases, PSA screenings resulted in overtreatment of early prostate cancer and substantial side effects with little improvement in overall survival.

In light of this recommendation, the UH Urology Institute’s HSR group has begun examining several local and regional databases to learn how well this recommendation is being adopted. “We looked at all the PSAs being ordered within the UH health system to determine if there’s been an impact or change in PSA screening by primary care physicians,” Dr. Abouassaly says. “There does not appear to be an impact, as of yet, on actual clinical practice.”

Another area of HSR that the team is actively investigating relates to treatment of small renal masses. Traditionally total nephrectomy was the standard of care; the current gold standard, however, is to perform partial nephrectomies for small renal masses. Using HSR techniques, the team has studied surgical patterns to determine whether partial nephrectomies were actually the predominant surgery versus full nephrectomy for small renal masses. “By employing health services research, we have been able to study the changing practice patterns,” Dr. Abouassaly says. “While there was not an immediate change, over 10 years there has been a gradual increase in the number of partial nephrectomies performed.”

The UH Urology Institute HSR Team
By including members from many specialties and at various stages of their careers, the UH Urology Institute’s HSR team is able to approach each research problem with enough perspective to succeed at finding solutions. The present team includes Dr. Abouassaly; Firouz Daneshgari, MD; Matthew Maurice, MD; Resident, UH Urology Institute, UH Case Medical Center; Benjamin Johnson, MD, Clinical Fellow in Oncology, UH Case Medical Center; Afshin Aslani, MD, MPH, Postdoctoral Fellow, Case Western Reserve University School of Medicine; and Siran Koroukian, PhD, Associate Professor, Department of Epidemiology and Biostatistics, Case Western Reserve University School of Medicine, who specializes in HSR (all of whom are pictured on the cover), The UH Urology Institute’s HSR group also benefits from collaboration with others at UH and the School of Medicine who are experienced in HSR, such as Gregory Cooper, MD, Medical Director, Gastrointestinal Cancer Center, University Hospitals Digestive Health Institute; and Professor of Medicine, Oncology, and Epidemiology and Biostatistics, Case Western Reserve University School of Medicine.
Future Team Goals
Dr. Abouassaly and his group have begun by focusing their research on questions pertaining to urological oncology treatment and by leveraging local UH system databases. In the future, the research will use other databases, such as the Ohio Cancer Incidence Surveillance System, and will look to provide guidance to other specialties within urology. These might include female urological concerns or stone disease.

“Our goal is to develop a team that can answer questions in any field of urology and to have infrastructure in place so that if anyone has a question, then we can provide them with the proper tools to obtain an answer,” Dr. Abouassaly says. Through this research, the team will present its research at urology and related congresses and in peer-reviewed journals.

“We intend to develop the methodology and then disseminate our findings to share with others who are interested in doing similar work,” Dr. Abouassaly says. “By determining and understanding the barriers affecting practice patterns, we hope to improve overall quality of care.”

Developing Tomorrow’s Surgeon-Scientists
Research scholars at the UH Urology Institute undergo research training made possible in part through a T32 Training Grant awarded to Case Western Reserve University School of Medicine that was one of only nine awarded to urology departments nationwide. As a result, two postdoctoral residents recently were recruited for the program. One is Afshin Aslani, MD, MPH, who will be part of the multidisciplinary HSR group. The other is Jonathan Kenyon, PhD, who will work closely with Adonis Hijaz, MD, Director, Female Pelvic Medicine & Surgery Center, UH Urology Institute, UH Case Medical Center; and Associate Professor, Case Western Reserve University School of Medicine, and Arnold Caplan, PhD, Professor, Biology & General Medical Sciences (Oncology), Director, Cellular and Molecular Basis for Aging Training Program, and Director, Skeletal Research Center, Case Western Reserve University. Dr. Kenyon’s work will focus on preclinical extraction and utilization of stem cells for conditions such as urinary incontinence, bladder dysfunction, partial nephrectomy, urological reconstruction, and oncology.

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Case Study

Resolving Surgical Mesh Complications

A group of surgeon-scientists is successfully addressing adverse events in complex referrals

UH Urology Institute specializes in improving the lives of women who have undergone transvaginal repair of pelvic organ prolapse (POP) and stress urinary incontinence (SUI) using surgical mesh implants. Although the Federal Drug Administration (FDA) has issued a notification of potential problems regarding this in 2008, a more recent safety communication by the FDA highlighted how common the complications truly are with over 1,000 reports during 2005-2007. Based on recently collected safety data, the complications of transvaginal surgical mesh involve erosion through the vagina, pain, infection, bleeding, dyspareunia, organ perforation and urinary problems. The frequency of mesh erosion, the most common adverse event, is estimated at 10 percent but has been as high as 30 percent in some reports.

Adonis Hijaz, MD, Director, Female Pelvic Medicine & Surgery Center, UH Urology Institute, UH Case Medical Center, and Associate Professor, Case Western Reserve University School of Medicine.

“It appears that adverse mesh quality may be related to surgical design or placement, not to the patient’s tissue compatibility or the nature of the underlying condition,” says Dr. Hijaz. “It is extremely important that the treating physician performs a comprehensive evaluation of patients with mesh-associated complications to determine whether or not the occurrence of functional complaints like pain and dyspareunia is actually related to the mesh implant itself before embarking on any surgical endeavor to remove the mesh. In-depth knowledge of the initial underlying conditions as well as complications following surgical repair are critical to obtaining the best solution for each individual patient.”

Knowledge and Awareness

At UH Urology Institute at UH Case Medical Center, surgical mesh is not used transvaginally for POP repair. Mesh for SUI in the form of slings, however, is used in accordance with the national trends. According to the FDA, transvaginal mesh for POP was used to improve surgical outcomes, but a systematic review has shown no clear advantages for either symptomatic results or quality of life. Applications that use surgical mesh applied abdominally, such as for support extravesically, have not been associated with the high rate of complications.

“It tends to be the transvaginal applications of surgical mesh for POP repair that lead to the most problematic adverse effects,” says Dr. Hijaz. “Mesh exposure into the vagina is the most reported complication and its management could vary from medical to surgical excision. The less reported, but more problematic, complication is the occurrence of pain and dyspareunia following transvaginal mesh implant that presumably occurs secondary to mesh contraction.” Correcting these complications requires in-depth surgical knowledge and awareness of the diverse range of problems that can arise. Because the mesh is meant to fuse to the natural tissues, removal can be difficult and may not lead to optimum results. “It can be tedious and labor-intensive when it is warranted,” Dr. Hijaz says.

The team of surgeon-scientists also sees perforations and secondary fistulas, where the mesh has eroded and has caused damage to other tissues, such as the bowel or bladder. These complications are significantly more complicated in their nature than those previously mentioned and may warrant a collaborative approach from the members of the center. “Our primary concern is to address the problem that has occurred with the mesh in order to restore the patient’s quality of life," says Dr. Hijaz.

Improving Care, Focusing on Patient Safety

Innovation is a priority at UH Urology Institute. As part of a formal process, faculty from the School of Medicine and staff meet weekly to discuss ideas for translational and applied research designed to improve patient care and outcomes. Clinical studies are also carefully conducted to ensure that any new product meets the very highest standards of safety.

Surgical Mesh Care

For patient referrals and appointments, call 1-866-UH4-CARE. To speak with one of our specialists directly, call 216-844-3009 or email UroInnovations@UHhospitals.org.
Innovative Research

Pediatric Oncology Research

Improving surgical perspectives in pediatric urological cancer

As a recognized national expert in pediatric tumors of the kidney, bladder and testicles, Jonathan Ross, MD, Director, Pediatric Urology Center, UH Urology Institute and University Hospitals Rainbow Babies & Children's Hospital; and Professor, Case Western Reserve University School of Medicine, has been active in encouraging research and education surrounding pediatric urological cancer.

At the national meeting of the American Academy of Pediatrics (AAP) in October 2012, Dr. Ross presented work on testicular tumors as an AAP urology section clinical prize finalist. His research was performed as part of the Children's Oncology Group (COG), the largest organization devoted exclusively to childhood cancer research.

Very Different Treatment

"Unlike the adult population, little is known about performing retroperitoneal surgery for children and adolescents with malignant testicular germ cell tumors," explains Dr. Ross. "As part of our research we reviewed nearly 100 patient records for cases of rare malignant germ cell tumors and confirmed that treatment in prepubertal patients is very different than in adolescents."

The research focused on the role of retroperitoneal surgery in treatment and outcomes in pediatric patients and will form the basis for prospective trials that are being designed by Dr. Ross and his colleagues in COG.

Dr. Ross also presented on treatment strategy and management of the retroperitoneum in pediatric germ cell tumors as part of a conference panel session on the management of pediatric and adolescent testicular tumors. As a recognized leader in treatment of testicular cancer in children, Dr. Ross often consults on these rare tumors with pediatricians, urologists and oncologists throughout the country.

The Role of Surgeon-Scientist

Pediatric urological tumors and cancer often encompass many of the same tissues and organs found in adults, but they may represent very different histological/pathological bases and therefore typically have treatments and outcomes that are unique from adults. "Within the pediatric population we consider some tumors differently depending on the patient's age or stage of development," says Dr. Ross. "For instance, testicular tumors in the very young or prepubertal boys are less likely to be malignant and therefore are more likely to be candidates for testis-sparing surgery. Testicular tumors in adolescent males appear to be more similar to those in adults."

Pediatric urologists often are considered technical experts in surgical treatment rather than having an interest in oncological treatment. Since many solid tumors in young children are benign, surgery may be all that is required for treatment when needed. But Dr. Ross and colleagues who treat rare malignancies of the genitourinary tract are interested in research into how surgical treatment can support the best outcomes for pediatric patients with malignancies. Tumors of the genitourinary tract include testicular, bladder, prostate and kidney (such as Wilms' tumor). At UH Rainbow Babies & Children's Hospital, Dr. Ross frequently collaborates with John Letterio, MD, Chief, Pediatric Oncology, UH Rainbow Babies & Children's Hospital; and Professor, Case Western Reserve University School of Medicine, and other nationally recognized pediatric oncologists in the division to ensure that children with rare genitourinary malignancies receive complete, leading-edge treatment and care.

A bilateral nerve-sparing retroperitoneal lymph node dissection (RPLND) revealed teratoma (likely curative). Had this been a prepubertal child with testicular cancer, the mass might have been biopsied, but no RPLND would have been performed and he would have received chemotherapy instead — again with an almost 100 percent cure rate.
Heroes Honored

Lee E. Ponsky, MD, Director, Urologic Oncology & Minimally Invasive Therapies Center, UH Urology Institute, Leo & Charlotte Goldberg Chair in Advanced Surgical Therapies, UH Case Medical Center; and Associate Professor, Case Western Reserve University School of Medicine, and founder of MedWish International, was named as one of the 2012 Medical American Red Cross Heroes for his leadership in Cleveland’s international humanitarian aid efforts and dedication to bringing relief and medical supplies to people in need around the world.

It was very important that the residents that he taught knew the history of the field,” said his widow, Vicki Resnick. “It was important to Marty that people understood who the pioneers were in their field, and that played a part in my decision. He was a pioneer in his field.”

“He was one of the first to use ultrasound to diagnose urological problems, in the 1960s, and there were various other surgical techniques he used and taught the residents for so many years,” she said. “Remembering him, from my and my family’s standpoint, is important.”

Ironman Finisher!

Covering more than 140 miles by swimming, cycling and running, Edward E. Cherullo, MD, Vice Chair, Clinical Operations, UH Urology Institute; Urology Residency Program Director, UH Case Medical Center; and Associate Professor, Case Western Reserve University School of Medicine, completed an Ironman competition in Mont Tremblant, Quebec, last August. After training for five months to prepare, he completed the race in just over 14 hours, and his friends and colleagues at UH are in awe of his endurance – on and off the “field.”

Win an Apple iPad2!

Your feedback is important to us. As a medical professional, your input is invaluable in helping us shape future issues of Innovations in Urology. We want to know what’s important to you. Do you want to read about leading-edge research, learn about the latest technology, or hear firsthand case studies of how others in your specialty are improving and saving lives? Tell us what you want to read about and your name will be entered to win one of two Apple iPad 2s!

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