

M.D. NEWS

A BUSINESS AND LIFESTYLE MAGAZINE FOR PHYSICIANS

Leading the Way in Urologic Oncology Care

*Wake Forest University Baptist
Medical Center*



Leading the Way in Urologic Oncology Care

The Urologic Oncology Program at Wake Forest University Baptist Medical Center, the most comprehensive program in the region for treating genitourinary cancers, offers a full spectrum of diagnostic and treatment modalities, plus bench-to-bedside translational studies and access to novel clinical trials.

Highly specialized experts in urologic surgery, robotic surgery, medical oncology, radiation oncology, interventional radiology, pathology and clinical research work together seamlessly to offer patients the most effective treatments and the best long-term outcomes. The group is committed to advancing knowledge about urologic cancers through research and collaboration between basic scientists and practicing physicians.

PROSTATE CANCER

When facing prostate cancer, having access to a comprehensive Prostate Cancer Program gives patients and referring physicians the assurance of an optimal outcome. Wake Forest Baptist's Prostate Cancer Program is a hallmark of our urologic oncology offerings.

Not all prostate cancer should be treated the same — treatment

modality depends on many factors — and it is very important to tailor treatment to the individual patient's grade and stage of tumor, age, functional status, expectations, personality and lifestyle.

The Department of Urology is the point of entry for patients with prostate cancer. Their multidisciplinary approach and collaboration with other specialists makes the program at Wake Forest Baptist unique. For convenience and ease of access, the medical center recently opened an off-site outpatient state-of-the-art Urology Clinic, which incorporates endoscopic procedures, CT scans, ultrasound and lab studies all in one location.

A team of specialty-trained urologic oncological surgeons brings their surgical expertise and focus on the best treatment for each patient with prostate cancer. For many men with early-stage prostate cancer, the robotically-assisted laparoscopic radical prostatectomy has emerged as an attractive option.

Heading the robotic surgical team is Ashok Hemal, M.D., a world-renowned minimally invasive surgeon who is one of the pioneers in

Robotically-assisted laparoscopic radical prostatectomy is an attractive option for patients with early-stage prostate cancer. Dr. Ashok Hemal (at console) is internationally recognized as a pioneer in urologic robotic surgery.





The new outpatient Urology Clinic offers patients convenience and easy access. Services offered at the clinic include endoscopic procedures, CT, ultrasound and laboratory studies.

establishing robotic surgery in the field of urology. He is among the most experienced surgeons in the world in laparoscopic and robotic prostate surgery, and has traveled the globe initiating urologic robotic surgery programs.

“The ability to achieve outcomes that are comparable to conventional surgery in eliminating the cancer while preserving sexual function and urinary continence makes this modality an attractive option for many patients with localized prostate cancer,” said Dr. Hemal. It offers the additional advantages of shorter hospital stay, less blood loss, pain and recuperation.

Karim Kader, M.D.; John Smith, M.D.; and Joseph Pettus, M.D., complete the urologic oncology surgical team. Dr. Kader was a co-author of a Center for Human Genomics study on prostate cancer risk recently published in the *New England Journal of Medicine* that received national media attention.

ACCURATE DIAGNOSIS IS KEY

Prostate biopsy is crucial to making a diagnosis of prostate cancer and in selecting treatment strategies. At Wake Forest Baptist,

ultrasound-guided biopsy can be performed right in the clinic. Once the biopsy has been taken, accurate diagnosis demands interpretation by pathologists familiar with the subtleties of prostate cancer histology. Again, Wake Forest Baptist is fortunate to have Jerry Garvin, M.D., an expert in urologic cancers, including kidney tumors, who heads the Pathology Department. They are also hiring another dedicated pathologist who trained specifically in urologic pathology.

WHEN SURGERY IS NOT THE BEST OPTION

Radiation oncology serves a critical role in treating prostate cancer patients either as the primary therapy or in concert with surgery. Wake Forest Baptist offers the most technologically advanced therapies available, including intensity-modulated radiation therapy (IMRT), image-guided radiation therapy (IGRT) and high-dose rate (HDR) brachytherapy.

Since the prostate is not a static organ and moves within the pelvis, IGRT allows accurate placement of the radiation beams to spare tissue in the bladder, rectum and penile bulb. Implantation of three gold chips in the prostate enables technicians to pinpoint the exact location of the prostate prior to each treatment.

For appropriate patients, HDR brachytherapy can be used alone, as an adjunct to external beam radiation or as salvage brachytherapy for patients who have failed external beam radiation or have recurrent disease.



Research is an important component of the Urologic Oncology Program. Dr. Jianfeng Xu (standing left) was principal investigator of a study that found that five genetic variants previously associated with prostate cancer risk have a strong cumulative effect. His research team includes Bao-Li Chang, Ph.D. (left) and Siqun (Lilly) Zheng.

“The beauty of our program is that we offer a full spectrum of therapies and we also are actively involved in translational research trials exploring future diagnostic and therapeutic options,” said radiation oncologist Daniel Fried, M.D.

In some instances, neither surgery nor radiation therapy is the best option. When pharmacologic management is the treatment of choice, patients at Wake Forest Baptist have access to the only medical oncologist in the country specializing in genitourinary cancers, who also directs an NCI-designated Comprehensive Cancer Center. Frank Torti, M.D., has garnered a national reputation as an expert in genitourinary cancers and as director of one of the oldest continually funded NCI Comprehensive Cancer Centers in the country.

PIONEERING RESEARCH

Their Comprehensive Cancer Center is one only a few in the country with a Prostate Cancer Center of Excellence. Established in 1999 as a center for innovative research and treatment of this common but complex cancer, the Prostate Cancer Center of Excellence has three broad areas of emphasis: chemo prevention, molecular epidemiology and novel therapies.

Because the optimal treatment for many prostate cancers is still uncertain, the greatest impact on reducing mortality and morbidity from prostate cancer can be achieved by research focused on chemoprevention, on identifying men at high risk for the disease or its recurrence and on the development of new therapies for men with existing prostate cancer.

In chemoprevention, studies are being conducted on soy protein with isoflavones and vitamin D as preventive agents. Risk factor research is examining aberrations at the cellular and molecular level that contribute to increased risk for the disease. Among the new therapies being explored are the use of dendritic (immune) cells and vitamin

D to fight off prostate cancer.

New genomics research conducted at Wake Forest University School of Medicine, in concert with researchers at Johns Hopkins and the Karolinska Institutet in Stockholm, Sweden, has found that a simple blood test can determine which men are likely to develop prostate cancer. The research, recently published in *New England Journal of Medicine*, found that five genetic variants previously associated with prostate cancer risk have a strong cumulative effect. A man with four of the five variants has an almost 10 times increased risk of prostate cancer compared to men with none of the variants.

“This is significant and could affect clinical care,” said senior researcher Jianfeng Xu, M.D., Dr.P.H., professor of epidemiology and cancer biology at Wake Forest. “The information could substantially improve physicians’ ability to assess risk and determine the need

for more aggressive screening or even a biopsy.”

Webcast

View a robotically-assisted laparoscopic radical prostatectomy, performed by urologic oncology surgeons at Wake Forest University Baptist Medical Center, by going to wfubmc.edu/webcasts. This webcast was first broadcast live on March 26, 2008.

BLADDER CANCER

The American Cancer Society estimates that in 2008 there will be about 68,810 new cases of bladder cancer diagnosed in the United States (about 51,230 men and 17,580 women). The chance of a man developing this cancer at any time during his life is about one in 27 and for a woman, one in 85. It is the fourth most common cancer in men. Fortunately, about 70% of bladder cancer is superficial and has not invaded the muscle. Treatment for superficial bladder cancer is transurethral electroresection of bladder tumors, as well as intravesical immunotherapy and chemotherapy including BCG, interferon and mitomycin C to reduce the chance of tumor recurrence and progression.

In recent years, it has become increasingly clear that multidisciplinary treatment modalities are necessary to optimize invasive bladder cancer outcomes. The team works in concert with colleagues in medical oncology to offer neoadjuvant and adjuvant chemotherapy. Among the surgical modalities for bladder cancer at Wake Forest Baptist are open and robotic-assisted cystectomy with all types of urinary diversions. Their urologic surgeons have extensive experience in using bowel for neobladder creation and for continent cutaneous urinary diversion, avoiding a stoma and appliance, in men and women. In addition, nerve-sparing techniques are routinely employed to improve postoperative sexual function. In a select group of patients with invasive bladder cancer, bladder preservation can be achieved using combination chemotherapy and radiation therapy.

KIDNEY CANCER

The incidence of kidney cancer is increasing in the U.S. Currently, most cases are detected incidentally. Many tumors are detected very early, expanding the role of laparoscopic and robotic surgery to remove them.

Recent studies have underscored the importance of renal function on the overall health of an individual. Their surgeons are aggressive in pursuing nephron-sparing cures whenever technically feasible to do so. “The question is not whether a tumor can be removed using laparoscopic or robotic surgery. The real issue is, can a tumor be removed without removing the entire kidney? Then, laparoscopic or robotic techniques are employed whenever feasible to do so,” said Dr. Joseph Pettus.

Their interventional radiologists, headed by Ronald Zagoria, M.D., and Raymond B. Dyer, M.D., have earned national and international recognition for the use of radiofrequency ablation (RFA) in treating lesions for which resection is not an option. Both have authored definitive textbooks on urologic radiology and have been teachers for the American Urological Association’s review course for urologists taking their boards. Their opinion on diagnosis is routinely sought from other medical centers and patients at Wake Forest Baptist have the great advantage of having their urology films routinely read by these experts.

TESTES CANCER

The multimodality approach to treating testis cancer has led to five-year survival rates exceeding 90%. At Wake Forest Baptist, the diagnosis of a testis tumor can be made during a single clinic visit, leading to prompt orchiectomy so that appropriate management decisions can be made quickly. Depending on the tumor histology, either radiotherapy or retroperitoneal lymph node dissection is performed in patients with minimal or no evidence of lymphadenopathy. Select patients are candidates for surveillance. Patients with bulky metastatic disease receive induction platinum-based chemotherapy followed by postchemotherapy resection of all residual disease. Our surgeons perform nerve-sparing surgery when technically and oncologically feasible to reduce incidence of retrograde ejaculation.

ADDITIONAL RESEARCH INITIATIVES

The Urologic Oncology Program also supports numerous in-house and cooperative oncology group trials through the Cancer and Leukemia Group B (CALGB) and Radiation Therapy Oncology Group (RTOG). Through these mechanisms, patients have access to clinical trials for most genitourinary malignancies that incorporate multiple modalities of treatment to affect the best possible outcome. In addition to the clinical activities noted above, this group also supports, through additional collaborations, significant translational and basic research efforts in urologic oncology.

THE OPTIMAL CHOICE FOR UROLOGIC ONCOLOGY PATIENTS

The Urologic Oncology Program at Wake Forest Baptist offers referring physicians the assurance that their patients are being seen by some of the most respected experts in the country.

Patients from all over the region, as well as other states, rely on the combined knowledge of a team of specialty-trained physicians working shoulder to shoulder to ensure the most effective treatment option for their particular cancer.

The referring physician is considered a key member of the treatment team and is kept apprised of his/her patients’ progress until they can be returned to the referring physician’s care.

At Wake Forest Baptist they are doing what they do best: providing the best and latest breakthrough technologies and treatments for their patients, individualizing the treatment modality to offer the optimal outcome and coordinating the care with patients and their families.

They pride themselves on making educated choices with their patients on the best management for their particular form and stage of cancer, and working collaboratively between basic scientists and practicing physicians to advance knowledge about urologic cancers. That’s when knowledge makes all the difference.

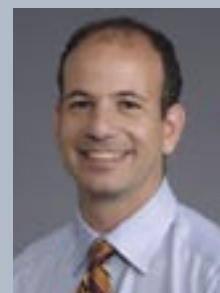
CLINICAL FACULTY

UROLOGIC SURGICAL ONCOLOGY



Ashok Hemal, M.D.

An internationally recognized leader in laparoscopic and robotic prostate surgery, Dr. Hemal is a pioneer in establishing robotic surgery in the field of urology. He completed a robotic fellowship at Henry Ford and has vast experience with robotic surgery for all prostate, bladder and kidney tumors.



A. Karim Kader, M.D., Ph.D.

Dr. Kader completed a doctorate degree in proteomics and cell biology and a fellowship in urologic oncology at M.D. Anderson Cancer Center. He has a clinical interest in and treats all forms of urologic malignancy and is proficient in endoscopic, open, laparoscopic and robotic surgeries. His research interests include genetic factors affecting prostate cancer risks and outcomes and he is on the CALGB GU surgical subcommittee.



Joseph Pettus, M.D.

Dr. Pettus completed a fellowship in Urologic Oncology at Memorial Sloan Kettering Cancer Center. He has a clinical interest in and treats all forms of urologic malignancy and performs endoscopic, open, laparoscopic and robotic surgeries. He research interests have focused on outcomes following surgery for bladder and renal cancers.



John J. Smith III, M.D., M.Sc.

Received urology and complex solitary kidney surgery training at Lahey Clinic and Harvard Medical School, a referral center for complex kidney tumors. His interest in kidney-sparing procedures stems from 17 years of experience. In addition, with a background in physiology, Dr. Smith has a keen interest

in neobladder, bladder reconstruction and stem-cell therapy for bladder replacement.

UROLOGIC MEDICAL ONCOLOGY



Frank M. Torti, M.D., M.P.H.

Dr. Torti received his B.A. and M.A. degrees from Johns Hopkins University, his medical degree from Harvard Medical School (*cum laude*) and his M.P.H. from Harvard School of Public Health. He is the Charles L. Spurr Professor of Medicine, Director of the Comprehensive Cancer Center and Chair of the Department of

Cancer Biology. He is a recognized expert in genitourinary cancers and has routinely been chosen by his peers for lists in national magazines of “top cancer doctors” and “top GU cancer doctors.”



Mebea Aklilu, M.D.

Dr. Aklilu received his medical school training at the University of Wisconsin (Madison) School of Medicine. He completed his internal medical residency and a fellowship in hematology and oncology at the University of Chicago Medical Center. Dr. Aklilu’s clinical interests include genitourinary and gastrointestinal

cancers and his research interests involve development of phase I and II clinical trials using novel therapeutics for these cancers.

UROLOGIC RADIATION ONCOLOGY



Daniel B. Fried, M.D., Ph.D.

Dr. Fried completed his medical degree, Ph.D. and residency at the University of North Carolina at Chapel Hill. His clinical interests include prostate brachytherapy, image-guided radiation therapy (IGRT) and intensity-modulated radiation therapy (IMRT) for prostate cancer, radiation therapy

for bladder preservation in locally advanced bladder cancer. Areas of research interest include IGRT, IMRT and hypofractionated

radiation therapy for prostate cancer and radiotherapy in bladder preservation for bladder cancer.

URO-RADIOLOGY



Raymond Dyer, M.D.

Dr. Dyer trained in diagnostic radiology and interventional radiology at the University of Virginia, where he became interested in imaging of the genitourinary tract. He participated in some of the first therapeutic renal artery balloon angioplasty procedures performed in the U.S. He joined the faculty of Wake

Forest University School of Medicine in 1983 and has been a member of the Abdominal Imaging Section with a special focus in the GU system since that time. All of his research and publications are related to the GU system, with an interest in imaging of upper tract neoplasia. He is President-Elect of the Society of Uroradiology and will assume the presidency in 2009.



Ronald Zagoria, M.D.

Dr. Zagoria graduated from Johns Hopkins University, earned his medical degree at the University of Maryland School of Medicine and completed his residency and fellowship training in diagnostic and interventional radiology at Wake Forest University School of Medicine. He has more than 20 years experience

specializing in radiology of the urinary tract with special expertise in diagnosing urinary tract cancer and in ablation of renal tumors.

PATHOLOGY



A. Julian Garvin, M.D., Ph.D.

Having good tissue diagnosis is critical for making the right decisions on the extent of the tumor and the best options for treatment. Wake Forest Baptist has an expert pathology service with in-house expertise in reading complex tissue sections. Dr. Garvin is a recognized authority in the urologic pathology field. He

earned his medical and doctorate degrees at the Medical University of South Carolina and completed his residency at the National Cancer Institute, National Institutes of Health. He also completed fellowship training at the National Institute of Arthritis, Metabolism and Digestive Diseases, National Institutes of Health.

For consultation or to refer a patient, call the Physician’s Access Line (PAL) at 1-800-277-7654 or (336) 716-7654. ■