Message from the Chair

Dear Colleague,

Best wishes for you and your families in 2015! As a new year begins, we are delighted to update you on our latest initiatives—from new clinical trials to a fellowship in reconstructive surgery and a comprehensive survivorship program for patients diagnosed with prostate cancer. You can learn more about our genomics research in interstitial cystitis as well as our clinical experience with molecular-targeted, guided robotic surgery.

Please take a moment to review our education offerings for 2015—these annual events feature national and international experts and thought leaders in urology. Our robotic course, for example, includes more than 10 live surgeries and a world-renowned faculty sharing their expertise. At our Advanced Endourology Symposium, you’ll get hands-on experience in the latest techniques. We hope to see you at one of our courses!

Best regards,

Anthony Atala, MD, William H. Boyce Professor and Chair
6th Annual International Robotic Urology Symposium  
Feb. 27–28, 2015  
Wake Forest Baptist Medical Center \ Winston-Salem, N.C.

World-renowned faculty perform 10 to 12 live surgeries with a focus on oncology and reconstructive procedures. Lectures, debates and panel discussions cover new techniques, challenging cases and the management of complications. To register, visit nwahec.org/45054. \ Director: Ashok K. Hemal, MD

Advanced Endourology 2015: Technical Recommendations and Practical Hints  
March 13–14, 2015  
Wake Forest Baptist Medical Center \ Winston-Salem, N.C.

View live-case demonstrations of percutaneous and retrograde flexible intrarenal surgery. State-of-the-art lectures and hands-on cadaver skills activities are included. Specific surgical techniques are presented in a step-by-step operative outline. For more information, email wfurology@wakehealth.edu. \ Director: Jorge Gutierrez, MD

Urology Today  
Sept. 17–20, 2015 \ Grove Park Inn \ Asheville, N.C.

Thought leaders in urology discuss the latest evidence-based approaches to managing a wide range of urologic conditions. For registration information, visit www.auanet.org/education. \ Director: Gopal Badlani, MD
Congratulations

Ashok Hemal, MD, is the new president-elect of the Society of Urological Robotic Surgeons (SURS). Hemal will assume the role of president in fall 2016. A section of the Endourological Society, SURS works to promote and maintain the highest standards of education, research and clinical applications of computer-assisted or robotic technology as it relates to the field of urology worldwide.

Jorge Gutierrez, MD, is one of six urologists nationwide who received a Presidential Citation from the AUA. The award was for his “outstanding efforts to improve education in Latin America and build a lasting relationship between the AUA and Confederación Americana de Urología,” a Latin-American urological association with more than 10,000 members in 24 Spanish- and Portuguese-speaking countries.

Wake Forest Baptist Urology led the annual N.C. Urology Residents Competition with the largest number of awards received:

Case Presentations, First Place, Kyle Wood, MD
Research: Second Place, Jason Sandberg, MD; Third Place, Austin Hester, MD

The event includes residents from Duke University and the University of North Carolina at Chapel Hill.

Karl-Erik Andersson, MD, PhD, research professor, received a one-year Dale T. Mortensen senior research fellowship at Aarhus University, Denmark. His project focuses on the hypothesis that age-related reduction of blood flow to the lower urinary tract can contribute to bladder and prostate dysfunction, and that the dysfunction can be improved by drugs. To learn more about the project, go to WakeHealth.edu/Urology/2015Update.

Welcome to Stanley Kogan

Meet our newest faculty member, Stanley Kogan, MD, FACS, on page 10.

Worldwide Outreach

Wake Forest Baptist urologists are involved in urology education and outreach throughout the world. In 2014, our faculty and fellows:

- Hosted 10 visiting urologists from China, India, Mexico, Panama and Spain who observed procedures and learned about new technologies and techniques.
- Volunteered for mission trips to India and Vietnam.
- Presented lectures and taught courses in Australia, China, Costa Rica, India, Japan, Mexico, Scotland, Singapore, Spain, Sweden, Taiwan, Turkey and Uruguay.
New Genitourinary Reconstructive Surgery Fellowship

This one-year program focuses on male genitourinary reconstructive surgery, prosthetic urology and infertility. Trainees have the opportunity to gain proficiency in the most up-to-date surgical techniques for conditions such as urethral and ureteral strictures, fistulas, Peyronie’s disease, male stress incontinence, erectile dysfunction, buried penis and neurogenic bladder. Fellows have the option of participating in research with the Wake Forest Institute for Regenerative Medicine. In addition to gaining surgical expertise, trainees are equipped to serve as educators and leaders in the field. Fellowship director: Ryan Terlecki, MD. Application Process: the Society of Genitourinary Reconstructive Surgeons’ match process.

Minimally Invasive Prostate Cancer Center

In addition to offering prostate cancer patients a full range of treatment options—including low- and high-dose brachytherapy and cryotherapy—the center also offers a creative approach to anesthesia. Patients who undergo outpatient urologic procedures have access to total intravenous anesthesia (TIVA), which provides a more pleasant experience because it avoids endotracheal intubation, minimizes abrupt changes in blood pressure and heart rate that can result in side effects, and reduces problems with nausea and vomiting after surgery, according to Chuanyao Tong, MD, professor of neuroanesthesiology. “The choice of TIVA, relative to other types of anesthesia, appears to improve the overall patient experience and likely is safer for many people undergoing urologic procedures such as cryoblation, prostate biopsy or endoscopy,” said Daniel Rukstalis, MD, professor. What else is new at the center? To read an article from OncLive, go to WakeHealth.edu/Urology/2015Update.

Cancer Survivorship Program

Urology offers a comprehensive prostate cancer survivorship program to help men explore the pros and cons of various treatment options as well identify financial, psychological, spiritual and practical matters related to treatment. “We identify their needs and provide appropriate information and resources,” said Ryan Terlecki, MD, who manages the program with fellow Caleb Kovell, MD. “This pre-planning approach educates them about what to expect and can lead to a smoother recovery.”
Cell Therapy for Stress Urinary Incontinence

A clinical trial investigating the effectiveness of autologous muscle cells to treat urinary incontinence due to sphincter insufficiency, caused by either acquired or congenital incompetent bladder neck, is currently enrolling women from 18 to 75 years of age. This phase 1 pilot study is based on research at the Wake Forest Institute for Regenerative Medicine. Gopal Badlani, MD, professor, is co-investigator. Muscle progenitor cells are isolated from a small biopsy of skeletal muscle. Expanded cells are injected into the bladder neck sphincter region using either an endoscopic needle via a cystoscope or periurethral injection under ultrasound guidance. All subjects are followed at 1 week, 6 weeks, 3 months, 6 months and 12 months post-injection to evaluate safety as well as changes in incontinence and quality of life. For information, visit clinicaltrials.gov (NCT01953315).

More Clinical Studies

Botulinum Toxin for Chronic Testicular Pain: 52 patients are being enrolled in a double-blind, placebo-controlled trial to assess the effectiveness of botulinum toxin for treating chronic testicular pain. Ryan Terlecki, MD, is leading this Wake Forest Baptist phase 2 study (NCT02058836).

Preventing Urethral Structure: Clinical studies are planned in Mexico and India to evaluate drug-coated Foley catheters, invented by Steve Hodges, MD, to assess their ability to prevent recurrence of urethral stricture. While the technology has potential to be used anywhere that strictures or scarring is a problem, the current study focuses on patients undergoing urethral dilation for existing strictures.

Viral Vector for Bladder Cancer: Wake Forest Baptist is one of eight sites for the Efficacy Study of Recombinant Adenovirus for Non Muscle Invasive Bladder Cancer (BOND) that is evaluating the use of a designed viral vector that can destroy cancer cells while leaving normal cells largely
Reducing the Risk of Penile Implant Litigation

Urology is ranked 8th out of 25 specialties for the number of malpractice claims and the average urologist will be sued at least twice, according to published reports. When it comes to penile implant litigation, 42 percent of cases end with an indemnity payment to the plaintiff. Reporting in the Journal of Sexual Medicine, Ryan Terlecki, MD, and colleagues from Rutgers analyzed 40 cases of penile litigation in the Westlaw database and make these recommendations to reduce the risk of litigation: ensure proper sizing; manage patient expectations; advanced implantation skills; and consider using inflatable, rather than malleable implants, when appropriate. To learn more, visit WakeHealth.edu/Urology/2015Update.


Biomarker Study Suggests IC Subtypes

Using mass spectroscopy, researchers found that tissue from IC patients with low bladder capacity had a significantly different gene expression profile than both IC patients with normal bladder capacity and study participants without IC. The findings suggest there may be a sub-type of IC. “This is the first study to document functional genomic variation based solely on bladder capacity,” said Robert J. Evans, MD, a co-author. “The results may reflect a fundamental difference in disease processes and may explain why clinical trials for IC are so variable in effectiveness and have a large number of non-responders.”


New Mouse Model of Prostate Cancer

In order to fully understand the molecular and cellular mechanisms that contribute to prostate cancer development and progression, it is vital to identify the original cells that give rise to cancer. Resolving current uncertainties at the cellular level could have significant impact on the clinical management of patients. Using an in vivo stochastic fluorescent protein combinatorial strategy, K.C. Balaji, MD, and team have developed a mouse model that expresses different types of fluorescent proteins specifically in prostatic cells. The model expresses fluorescent proteins in both benign and prostate cancer tissues and could be useful in studying pathology of the prostate.
**Vulvitis Predictive of UTIs?**

In a study of 101 toilet-trained girls between 2 and 8 years with symptoms of UTI, girls with vulvitis were at least eight times more likely to have a lab-diagnosed UTI than girls without vulvitis. The study suggests that vulvitis may cause UTIs by altering the type of periurethral bacteria. More than half (57 percent) of the girls with suspected UTIs also had signs of vulvitis. Of the 101 patients, 35 percent had proven UTIs and 86 percent of those had vulvitis. Seventy-nine percent of girls with vulvitis had organisms commonly associated with UTIs. “The study cannot conclude that vulvitis causes UTIs,” said senior author Steve Hodges, MD, “but given the association, we recommend that practitioners assess young girls for vulvitis and work with families to treat and prevent its recurrence.”

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**Evaluating Molecular-targeted Guided Surgery**

The incorporation of molecular imaging into robot-assisted surgery for prostate, kidney and bladder cancer, as well as other pathologies, is being studied to improve outcomes. As a leader in clinical research in this area, Wake Forest Baptist Urology’s minimally invasive surgery center, led by Ashok Hemal, MD, has published numerous reports on its experience. Among the manuscripts, which can be accessed at WakeHealth.edu/Urology/2015Update, are:

- Fluorescence-enhanced robotic radical prostatectomy (FERRP) using real-time injection of indocyanine green (ICG) dye for tissue marking and identification of sentinel lymphatic drainage.
- Robotic partial nephrectomy using near infrared fluorescence imaging (NIRF) with ICG.
- FERRC using combined cystoscopic and intravenous injection of ICG for bladder tumor marking.
- Robotic partial adrenalectomy with intraoperative ICG-NIRF.
- Robotic radical prostatectomy using real-time lymphangiography and tissue marking.
- ICG in partial nephrectomy to determine if malignancy can be predicted.
- Robotic partial nephrectomy for a rare renal epithelioid angiomyolipoma using NIRF imaging with ICG.
- NIRF imaging to facilitate super-selective arterial clamping during zero-ischaemia robotic partial nephrectomy.
Anthony Atala, MD, FACS, professor and chair, is editor of Therapeutic Advances in Urology and Stem Cells Translational Medicine and serves as associate editor or editorial board member of more than 10 other journals. He is a past recipient of the Ramon Guiteras Award from the AUA and the Barringer Medal from the AAGUS. Atala serves as Urology Chair and Board of Governors member of the American College of Surgeons. He is a member of the Institute of Medicine and is one of 98 innovators named a Charter Fellow of the National Academy of Inventors. Atala directs a team of more than 350 researchers at the Wake Forest Institute for Regenerative Medicine that works to engineer replacement tissues and organs and develop healing cell therapies for more than 30 different areas of the body.

K.C. Balaji, MD, professor, is chief of urology at the Veterans Affairs Medical Center in Salisbury, N.C. He specializes in prostate and kidney cancers. His federally funded basic science research focuses on cell signaling and stem cells in prostate cancer. In addition, his laboratory works on stem cells, transgenic mouse modeling and health disparity in prostate cancer, and he serves as a study section reviewer for the Department of Defense’s Prostate Cancer Research Program and on the editorial committee for the basic science section of Journal of Urology. He is the principal investigator on several Wake Forest Baptist Comprehensive Cancer Center clinical trials and has organized an active genitourinary oncology clinical trial working group at the Medical Center.

Gopal Badlani, MD, FACS, professor and vice chair for clinical affairs, is currently serving a four-year term as secretary of the AUA. As part of his role, Badlani edits the AUA News, is in charge of the AUA’s annual meeting, and directs international education efforts in nine different countries and at multinational meetings. Badlani was head of the Male Health Task Force and co-moderated the AUA’s Urinary Reconstruction Steering Committee. He also serves as historian of the Endourological Society. Badlani is a member of the National Institute of Diabetes and Digestive Health and Kidney Diseases. His NIH-funded research focuses on urinary incontinence.

Ronald L. Davis, MD, MBA, FACS, associate professor, specializes in adult urology with an emphasis on urologic oncology. Davis is an experienced clinical investigator and has been involved in numerous trials evaluating drug treatments for progressive prostate cancer, bladder cancer, overactive bladder, prostate cancer risk reduction, erectile dysfunction and other urologic conditions. He was part of one of the first teams in the nation to offer modern ultrasound-directed brachytherapy for prostate cancer. His expertise includes robotic surgery and new generation cryosurgery for prostate cancer. He is president of the N.C. College of Surgeons.
Robert J. Evans III, MD, FACS, associate professor, directs the department’s clinic operations. He specializes in pelvic pain syndrome, including painful bladder syndrome/interstitial cystitis. He serves on the medical advisory boards of the Interstitial Cystitis Association and the Interstitial Cystitis Network. He is currently involved in three clinical trials evaluating new treatments for painful bladder syndrome, as well as directing a study to determine the optimum injection site for botulinum toxin to treat the condition. In addition, he is part of a genomics study looking at genetic difference in subsets of IC patients. In 2014, he served as a faculty member at the AUA Highlights Course in Costa Rica and the Annual Instructional Review Course in India.

Jorge Gutierrez, MD, professor, heads the department’s endourology and stone disease program. He is assistant editor of the Journal of Endourology and is editor of the Spanish edition of the AUA News. In 2013, he was one of six urologists nationwide to receive a Presidential Citation from the president of the American Urological Association (AUA) for his work to improve education in Latin America and to build a lasting relationship between the AUA and Confederación Americana de Urología. He is a member and honorary member of various urological associations, including the American Association of Genitourinary Surgeons. He has served on the Board of Directors of the Endourological Society. Gutierrez directs an Endourological Society-approved training center for endourology, lithotripsy and laparoscopy at Wake Forest Baptist.

Ashok K. Hemal, MD, MCh, FACS, professor and director of the Robotic and Minimally Invasive Urologic Surgery Program, specializes in uro-oncology, robotic and pure laparoscopic surgeries. He is principal or co-investigator on several projects through Urology, the Wake Forest Baptist Comprehensive Cancer Center and the Wake Forest Institute for Regenerative Medicine. Hemal is well known internationally for his pioneering work in minimally invasive robotic surgery. He has edited several books and more than 300 scientific papers in peer-reviewed journals. Hemal is on the editorial boards of several journals. He is invited as a visiting professor to deliver lectures and perform live surgeries during major conferences around the world. He has been recipient of many academic distinctions and awards and most recently was named president-elect of the Society of Urologic Robotic Surgeons.

Steve Hodges, MD, associate professor, specializes in pediatric urology. His research interests include the prevention of luminal strictures and scar disease throughout the urinary tract and body, and dysfunctional elimination. He is an associate editor of Scientific World Journal, and on editorial boards of the Indian Journal of Urology and BMC Urology. Multiple new treatments developed by Hodges have been licensed to start-up companies, including drug-coated catheters and stents designed to prevent or treat urethral strictures. He has co-authored a book for consumers on toilet training and voiding dysfunction. He also developed a disposable wipe designed to prevent vulvitis and urinary tract infections in girls.
Stuart Howards, MD, professor, is a nationally recognized expert in male infertility. He works closely with the Reproductive Endocrinology clinic within Obstetrics and Gynecology at Wake Forest Baptist. He specializes in micro-surgery for varicocele repair, vasectomy reversal and sperm retrieval. Howards has edited four editions of Infertility in the Male and has performed more than 1,500 vasectomy reversals. He serves on the executive committee of the American Society of Reproductive Medicine. Howards is a graduate of Yale University and earned his medical degree from Columbia University. He served as executive secretary of the American Board of Urology for 15 years, and at the NIH as the urologic advisor to the director of the National Institute of Diabetes and Digestive and Kidney Diseases. He is the recipient of the AAGUS Keyes Medal for “outstanding contributions in the advancement of urology.”

Stanley Kogan, MD, FACS, clinical professor, is a nationally recognized expert in pediatric conditions that can subsequently affect fertility. He also developed several surgical procedures for children with disorders of sex development, including various modifications of feminizing genitoplasty techniques. At Wake Forest Baptist, he is collaborating with the Institute for Regenerative Medicine on related research, including early identification and subsequent fertility preservation in children with Klinefelter syndrome and preservation and growth of stem cells involved in sperm production. During his career, he served on the executive committee of the urology section of the American Academy of Pediatrics and on the editorial board of the Journal of Urology. Prior to joining Wake Forest Baptist, he was a clinical professor at Albert Einstein College of Medicine.

John D. McConnell, MD, FACS, chief executive officer of Wake Forest Baptist Medical Center, is a noted urologist and international authority on prostate disease who remains clinically active. He received the American Association of Genitourinary Surgeons’ Barringer Medal for his contributions to the field of urology and is a member of the Institute of Medicine. As CEO, a noted achievement has been leading the Medical Center to a legally integrated governance and management structure, the first time in the institution’s history that its components operated under a legally integrated structure. Before joining the Medical Center, McConnell was chair of Urology and then executive vice president for health system affairs at the University of Texas Southwestern.

Majid Mirzazadeh, MD, assistant professor, focuses on female urology and incontinence, stone disease, infections, prostate disease and kidney cancer. He also does complicated urologic reconstructive surgeries. He is director of the urology teaching clinic. He joined the faculty after completing a postdoctoral fellowship in female urology and pelvic reconstructive surgery in the Department of Urology. He was also a fellow at the University of California at Los Angeles, earned a postgraduate urology certification at the Institute of Urology and Nephrology at University College in London, and completed an endourology Faculty
fellowship. He is an American Urological Association delegate to the 12th Asian Congress of Urology.

**Robert G. Moore, MD**, clinical associate professor, specializes in endourology and minimally invasive techniques to treat urologic cancers and kidney stones at the Veterans Affairs Medical Center in Salisbury, N.C. He is also the urology resident site director at the VA. Moore is a worldwide expert and pioneer in minimally invasive urologic procedures. He has authored more than 200 published articles, book chapters and books.

**Daniel Rukstalis, MD**, professor, directs the urology residency program at Wake Forest Baptist and specializes in novel therapeutics in urologic diseases. He is an international authority on minimally invasive surgery, having described the first laparoscopic retroperitoneal lymph node dissection for testicular cancer. He is also a leader in the field of tissue ablation, having participated in the first kidney cryoablation in the United States. He is active in evaluating novel approaches in the use of urologic ultrasound and endoscopic therapy for prostate cancer and BPH. Additional research interests include patient-safety focused modifications of current urologic practice approaches.

**Allston J. Stubbs, MD**, clinical associate professor, specializes in urinary incontinence, voiding dysfunction and benign prostatic hyperplasia. He directs the urodynamics lab at the Veterans Affairs Medical Center in Salisbury, N.C. Certified by both the American Board of Urology and the American Board of Surgery, Stubbs is a graduate of Duke University School of Medicine and has been practicing urology for 35 years.

**Ryan Terlecki, MD, FACS**, assistant professor, directs the Men’s Health Clinic and the Urologic Cancer Survivorship Program. He is a national leader in reconstruction for urethral strictures and Peyronie’s disease, as well as in prosthetic surgery for erectile dysfunction and male stress urinary incontinence. Terlecki is associate editor of *BMC* and is a physician educator at a national level on shared medical appointments. With a focus on implementing novel therapeutics, his research includes investigation of a cell-based therapy for erectile dysfunction, Peyronie’s disease and urinary incontinence.
Urology Education Videos
What’s the best way to optimize sacral neuromodulation? Should lower pole stones be treated? Visit MedChannel, a new educational resource for clinical practitioners, to view videos of Wake Forest Baptist urologists sharing their expertise on these topics:

▶ Flexible Ureteroscopy \ Jorge Gutierrez, MD
▶ Hypogonadism: It’s in the Bag \ Ryan Terlecki, MD
▶ Lower Pole Stone: Decision to Treat or Not to Treat \ Jorge Gutierrez, MD
▶ Nocturnal Enuresis \ Anthony Atala, MD
▶ Peyronie’s: The New Fix for “Bent Out of Shape” \ Ryan Terlecki, MD
▶ Post CaP Stricture and Incontinence: Fix It or Shut It? \ Gopal Badlani, MD
▶ Recurrent UTI in Children \ Steve Hodges, MD
▶ Troubleshooting Interstim: Optimizing Your Results from Sacral Neuromodulation \ Robert Evans, MD

Go to MedChannel.WakeHealth.edu and click on Specialty.