Message from the Chair

Dear Colleague,

As a new year begins, we are delighted to update you on our latest initiatives—from embarking on cell therapy clinical trials to offering male pediatric cancer patients the option to bank testicular cells with the hope of preserving their fertility. We are also proud to announce that our clinical care has once again been recognized in *U.S. News & World Report*. Our medical center is currently ranked as a “Best Hospital” for both Urology and Pediatric Urology.

Please take a moment to review our CME offerings for 2014—we now offer four annual courses that feature national and international experts and thought leaders in urology. Our newest event—scheduled for February—offers live-case demonstration of surgical techniques for percutaneous and retrograde flexible intrarenal surgery as well as hands-on skills activities. We hope to see you at one of our courses.

We wish you all the best in 2014!

Best regards,

Anthony Atala, MD, William H. Boyce Professor and Chair
CME Events

**Advanced Endourology 2014: Technical Recommendations and Practical Hints**
Feb. 26–27, 2014
Wake Forest Baptist Medical Center \ Winston-Salem, N.C.
Live-case demonstration of surgical techniques for percutaneous and retrograde flexible intrarenal surgery performed by world expert faculty providing commentary and tips on techniques. State-of-the-art lectures and hands-on skills activities. To register: www.nwahec.org/?42046 
**Director:** Jorge Gutierrez, MD

**5th Annual Advanced International Robotic Urology Symposium**
Feb. 28 – March 1, 2014
Wake Forest Baptist Medical Center \ Winston-Salem, N.C.
World experts demonstrate specific surgical techniques during 10 to 12 live surgeries. Keynote lectures and panel discussions focus on techniques and how to optimize outcomes. To register: www.nwahec.org/?41706 
**Director:** Ashok K. Hemal, MD

**2nd Annual Prostate Cancer Symposium: Challenges and Solutions**
June 6–7, 2014 \ Winston-Salem, N.C.
Nationally recognized experts in prostate cancer share the latest clinical advances in managing localized and advanced disease as well as state-of-the-art basic science research. To register: www.nwahec.org/?42275 
**Director:** K.C. Balaji, MD

**Urology Today**
Sept. 18–21, 2014 \ Grove Park Inn \ Asheville, N.C.
Thought leaders in urology discuss the latest evidence-based approaches to managing a wide range of urologic conditions. 
**Director:** Gopal Badlani, MD
Fertility Preservation in Young Male Cancer Patients

Wake Forest Baptist is one of a few centers in the country that will soon offer young male cancer patients the opportunity to participate in a research study focusing on fertility preservation. Co-investigator Steve Hodges, MD, associate professor of urology, said the research gives boys who have a high risk of becoming sterile from cancer treatment the option to “bank” a small piece of testicular tissue prior to treatment.

Hooman Sadri-Ardekani, MD, PhD, researcher at the Wake Forest Institute for Regenerative Medicine, developed a protocol to expand spermatogonial stem cells (SSC) in the laboratory. He said SSC auto transplantation has been successful in several species of animals, including monkeys, and is expected to be translated to the clinical setting.

In this experimental tissue banking, the boys’ tissue will be frozen free of charge until patients are at least 18 years old. At that time, it is expected that they will have the opportunity to enter into a separate clinical trial to consider implantation. This multidisciplinary project involves Wake Forest Baptist Urology, the Institute for Regenerative Medicine, Pediatric Oncology and the Center for Reproductive Medicine.

Congratulations

Stuart Howards, MD, received the Keyes Medal from the American Association of Genitourinary Surgeons, an international organization of leading academic urologists. The medal is presented to an individual for “outstanding contributions in the advancement of Urology.” It is recognized as the greatest individual citation in the specialty and it has been awarded sparingly.

Gopal Badlani, MD, was one of three physicians nationwide selected to receive a Physician of the Year Award for Clinical Excellence from Castle Connolly Medical Ltd. in 2013. The Clinical Excellence Award recognizes physicians who exemplify excellence in clinical medical practice.

Irina Stanasel, MD, 2012-13 chief resident, won first prize in the American Urological Association Resident Quiz Bowl and second prize in the annual Hugh Hampton Young Radiology Contest.
Diagnosing Megarectum: A Cure for Bedwetting?

Research by Steve Hodges, MD, has shown that excess stool in the rectum can contribute to bedwetting and daytime wetting accidents. In a study of 30 children who presented with bedwetting, all had megarectum and 83 percent were cured with laxative therapy. Because these patients frequently have normal toileting habits, Hodges recommends X-rays to diagnose the hidden fecal burden.

How much stool is too much and what are Hodges’ tips for reading X-rays? Hodges, who has treated hundreds of children with the condition, shares his expertise at www.wakehealth.edu/urology/2014Update.

New Hope for Traumatic Genital Injuries

The explosive devices used in the Afghanistan war have resulted in a record number of genital and pelvic injuries, leaving warriors and their families to cope with loss of sexual function and fertility, fecal and urinary incontinence and the need for testosterone replacement. The Department of Defense is tackling the problem through the Armed Forces Institute of Regenerative Medicine (AFIRM), a $75 million project to apply regenerative medicine to a wide range of battlefield injuries.

Through AFIRM, a Wake Forest Baptist team led by Anthony Atala, MD, urology chair and director of the Wake Forest Institute for Regenerative Medicine, aims to engineer urologic tissue to help improve reconstructive procedures, as well as to explore the use of stem cells to restore erectile function. Atala also directs the overall AFIRM program that involves 30 institutions and 80 projects.
What’s New for Pelvic Pain?
When using botulinum toxin to treat interstitial cystitis (IC), does the injection site matter? Robert Evans, MD, associate professor of urology, is developing a randomized trial to explore that question by comparing injections at the base of the bladder versus injections at the top. In a separate study that Evans is developing, the goal is to compare injections of botulinum toxin versus injections of anesthetic for treating voiding dysfunction associated with high-tone pelvic floor.

In collaboration with Robert Moldwin, MD, Evans, who is on the Medical Advisory Board of the Interstitial Cystitis Association, will conduct an advanced session on the management of IC, “The Nuts and Bolts of Pelvic Pain,” at the 2014 AUA Meeting.

Urology Welcomes Robert G. Moore, MD
Robert G. Moore, MD, has joined Wake Forest Baptist Urology as an associate clinical professor. Moore, co-editor of Minimally Invasive Uro-Oncologic Surgery, is an expert and pioneer in minimally invasive urologic procedures. He specializes in endourology and minimally invasive techniques at the Veterans Affairs Medical Center (VAMC) in Salisbury, N.C.

Wake Forest Baptist’s partnership with the VAMC has advanced the urologic care of veterans in the region and broadened the training experience of residents. Since the alliance began, it has expanded beyond outpatient care to encompass a full-service program including robot-assisted surgery of the bladder, kidney and prostate and percutaneous surgery for kidney stones.

K.C. Balaji, MD, Chief of Urology at the VAMC, leads a team of five urologists. “Active collaboration between Wake Forest Baptist and the VAMC in prostate cancer clinical and basic science research fosters advances in cancer research by utilizing a fast growing clinical volume and creates additional opportunities for residents’ scholarly activities,” he said.
Clinical Research: Cell Therapies for Urologic Conditions

From erectile dysfunction to incontinence and Peyronie’s disease, Wake Forest Baptist urologists are leading research efforts to evaluate cell therapies for a variety of urologic conditions:

**Autologous muscle cells:** Gopal Badlani, MD, professor, will serve as co-principal investigator for an FDA-approved trial to evaluate injections of autologous muscle cells into the urinary sphincter to treat female incontinence. The study will enroll 10 patients, ages 18 to 80. Badlani is also working with scientists at the Wake Forest Institute for Regenerative Medicine, where the treatment was developed, to compare the efficacy of direct sphincter injection versus intravenous injection in a nonhuman primate model of urinary sphincter deficiency. The research, led by Koudy Williams, DVM, will also explore whether cell therapy is effective in long-term sphincter deficiency and clarify the role of injected cells in sphincter regeneration.

**Platelet-rich Plasma:** Ryan Terlecki, MD, associate professor, is the first in the world to explore the use of platelet rich plasma, commonly used in plastic surgery and for sports injuries, to treat erectile dysfunction, female stress incontinence and Peyronie’s disease. Ten patients have opted for the treatment with the goal of avoiding surgical intervention. Terlecki is conducting a retrospective analysis to evaluate effectiveness.

**Fat-derived Stem Cells:** Terlecki is co-principal investigator on a 10-patient trial evaluating the use of adipose-derived stem cells for the treatment of erectile dysfunction.

New Prosthetic Device for BPH

“Because it can offer rapid and lasting relief from lower urinary tract symptoms associated with prostate enlargement and doesn’t compromise sexual function, the prosthetic urethral lift has the potential to change our treatment paradigm,” said Daniel Rukstalis, MD, professor, and principal investigator for the study. A total of 104 men who were randomized to receive the device experienced a reduction on the American Urological Symptom Index from 22.1 at baseline to 11.1 at 12 months. The small permanent implants are placed within the prostate to retract encroaching lobes and open the prostatic urethra.

**Multicenter, Randomized, Controlled, Blinded Study of the Prostatic Urethral Lift for the Treatment of Lower Urinary Tract Symptoms Associated with Prostate Enlargement Due to Benign Prostatic Hyperplasia: The L.I.F.T. Study.**


Novel Model for Studying Prostate Cancer Microenvironment

The laboratory of K.C. Balaji, MD, has developed a new “prostate microenvironment model” using micro capsulation technology. Paracrine function is a major mechanism of cell-to-cell communication, yet an ideal three-dimensional tumor model for studying paracrine function is lacking. In this project, prostate cancer epithelial and stromal cells were incorporated into double-layered alginate hydrogel microspheres. The model simulated the in vivo microenvironment and allowed the
analysis of the paracrine interaction between different types of cells. The cells remained viable for more than 30 days. Paracrine function was demonstrated by levels of the shedded component of E-cadherin in the media.


**Advancing Robotic Surgery**

As a high-volume robotics center, Wake Forest Baptist conducts numerous clinical studies with the goal of advancing the treatment of prostate, bladder and kidney conditions. **Ashok K. Hemal,** MD, director of the Robotic and Minimally Invasive Urologic Surgery Program, and colleagues have recently reported a variety of findings, from a simple blood test to potentially predict survival of total cystectomy patients to an analysis of whether clamping improves outcomes in partial nephrectomy. Read summaries of the research findings at www.wakehealth.edu/urology/2014update.

**Genitourinary Oncology Research**

In addition to conducting urologic cancer clinical trials through full membership in the Cancer and Leukemia Group B and Radiation Therapy Oncology Group, Wake Forest Baptist, through its own Genitourinary Oncology Clinical Trial Working Group, is active in many research endeavors. Current and upcoming studies initiated by Wake Forest Baptist include integrating a genetic score, based on germline DNA, to better determine the need for prostate biopsy. Other studies will explore the interaction of tumor-associated neutrophils and regulatory T Cells in prostate cancer and test the soluble E-cadherin levels in urine and serum of prostate cancer patients.
Anthony Atala, MD, FACS, professor and chair, is editor of Therapeutic Advances in Urology, Stem Cells Translational Medicine, and serves as associate editor or editorial board member of 22 journals. He was the recipient of the Guiteras Award from the AUA and the Barringer Medal from the AAGUS. Atala serves as Urology Chair and Board of Governors of the American College of Surgeons. He is one of 98 innovators named a Charter Fellow of the National Academy of Inventors. Atala directs a team of more than 300 researchers at the Wake Forest Institute for Regenerative Medicine that works to engineer therapies for more than 30 different organs. He is a member of the Institute of Medicine.

Gopal Badlani, MD, FACS, professor and vice chair for clinical affairs, is currently serving a four-year term as secretary of the American Urological Association (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’s research funded by NIH focuses on urinary incontinence. He received the “National Physician of the Year” award in 2013.

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 and is a pioneer and expert in robotic and laparoscopic urological surgery. His federally funded basic science research focuses on cell signaling and stem cells in prostate cancer, and he serves as a study section reviewer for the Department of Defense’s Prostate Cancer Research Program. He is the principal investigator on several Comprehensive Cancer Center clinical trials and has organized an active genitourinary oncology clinical trial working group.

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-elect 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 is a member of the board of directors of the Interstitial Cystitis Association and serves on the association’s Medical Advisory Board. Evans directed a 23-center study that investigated the efficacy of a monoclonal antibody for treating pain associated with interstitial cystitis. He is currently developing studies to determine the optimum injection site for botulinum toxin to treat interstitial cystitis and to compare injections of botulinum toxin versus injections of anesthetic for treating voiding dysfunction associated with high-tone pelvic floor.

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. He is a member and honorary member of various urological associations, including the American Association of Genitourinary Surgeons (AAGUS). 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 reconstructive and ablative surgeries of the kidney, bladder and prostate. His research as a principal or co-investigator focuses on prostate, kidney and bladder cancer. He has performed and published many world firsts in robotic surgery and is currently working on advancing the field of minimally invasive surgery. Hemal is on the editorial boards of several journals and is invited to deliver lectures and perform live surgeries at conferences around the world.

Hector Henry II, MD, MPH, clinical professor, is an attending urologist at the Veterans Affairs Medical Center in Salisbury, NC, where he provides clinical services and also coordinates urology residents who rotate through the center. He serves on the executive board and as the historian for the Southeastern Section of the American Urological Association.

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...
Meet Our Faculty

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.

**Stuart Howards, MD**, professor, is a nationally recognized expert in male infertility. He works closely with Obstetrics and Gynecology’s Reproductive Endocrinology clinic. 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.

**Majid Mirzazadeh, MD**, is an attending urologist who focuses on female urology and incontinence, stone disease, urologic cancer and infections. 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 fellowship.

**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. Before joining the Medical Center, McConnell was executive vice president for health system affairs at the University of Texas Southwestern, where he had also served as chair of the Department of Urology and directed the NIH-designated George W. O’Brien Urology Research Center.

**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. 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**, 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, assistant professor, directs the Men’s Health Clinic and the Urologic Cancer Survivorship Program. He is a national leader in reconstruction for urethral structures 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 implementation of 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.

Minimally Invasive Prostate Cancer Center
Wake Forest Baptist urologists, radiation oncologists and anesthesiologists have established an outpatient treatment center offering a complete range of minimally invasive treatment options for prostate cancer:

- High Dose Rate (HDR) and Low Dose Rate (LDR) Brachytherapy
- Cryotherapy and Focal Cryotherapy
- 3-D Transperineal Template-guided Prostate Biopsies for Difficult to Diagnose Cases

The Minimally Invasive Prostate Center of Excellence, located in Wake Forest Baptist’s Comprehensive Cancer Center, offers valet parking and concierge-level service in a single location. Attending physicians are urologists Ronald Davis, MD, and Daniel Rukstalis, MD, anesthesiologist Michael Olympio, MD, and radiation oncologist Bart Frizzell, MD. Davis was on one of the first teams in the nation to offer modern ultrasound-directed brachytherapy for prostate cancer. Rukstalis was a member of the AUA panel that wrote the best practice policy statement on cryosurgery for the treatment of localized prostate cancer.

The new center complements Wake Forest Baptist’s established programs in robot-assisted surgery and external beam radiation for prostate cancer, providing a comprehensive approach to the diagnosis and management of the disease.
Welcome to Stuart Howards

Stuart Howards, MD, a nationally recognized expert in male infertility, has joined Wake Forest Baptist Urology. He works closely with Obstetrics and Gynecology's Reproductive Endocrinology clinic, where 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 is a 2013 recipient of the Keyes Medal from the American Association of Genitourinary Surgeons.

AUA 2014 Meeting

Gopal Badlani, MD, Wake Forest Baptist professor of urology and secretary of the AUA, says the 2014 AUA Annual Meeting will include more than 2,000 presentations and 100 courses. Early bird registration begins Feb. 21.