Message from the Chair

We always enjoy getting news from our colleagues, and are delighted to share highlights from Wake Forest Baptist Medical Center Urology. Examples include our positive experience with the shared medical appointment, an introduction to our faculty members and a profile of AUA Secretary Gopal Badlani’s passion for international volunteerism. We wish you the best in 2013!

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Urology Research & Clinical Update

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Patient Satisfaction High with Shared Medical Appointment

A new initiative to offer shared medical appointments to urology patients with certain diagnoses has resulted in high patient satisfaction and is a more efficient use of provider time, says Ryan Terlecki, MD, assistant professor, who is spearheading the program.

“This type of program is amenable to any condition that requires in-depth discussion of disease management and treatment,” said Terlecki. “Rather than seeing two to three new patients in an hour, the physician can see eight to 12 patients and give them detailed information that often cannot be relayed in the typical appointment. Our patients have been extremely pleased with this option.”

With this concept, eight to 12 patients who have a common diagnosis have a group appointment to learn more about the condition and treatment options. Wake Forest Baptist began the program with erectile dysfunction and Peyronie’s disease and expanded it to include nighttime wetting.

The group session, held in the department’s education room, typically lasts less than one hour and allows ample time for the physician to provide education and for patients to ask questions. For the erectile dysfunction and Peyronie’s visits, both patients and their spouses were invited. For the nighttime wetting patients, parents and care providers were invited.

“This format allows for more in-depth discussion of the problem,” said Terlecki. “The group setting helps patients to realize that they are not alone in their problem and it’s helpful for them to hear each other’s questions and concerns. It’s a much more efficient use of both the provider’s and the patients’ time.”

Patients who want a private consultation or exam are able to meet with the physician after the group session.

Currently, the program is offered to patients who’ve already had an office visit and been diagnosed. Terlecki said, however, that the program will be extended to new patients once the office staff is trained to identify those who would be appropriate for this format.

There have been no problems with billing or collections, Terlecki said. Each patient’s insurance company is billed for the physician’s time. To assess the financial feasibility, the pilot group was chosen to represent patients with a variety of payers, including commercial insurance, Medicaid and Medicare.

Terlecki will be teaching a course on the shared medical appointment at the 2013 annual meeting of the American Urological Association.
Prostate Cancer Center of Excellence: A Focus on Chemoprevention, Epidemiology and Novel Therapies

With projects ranging from studying the effects of stress on prostate cancer to determining the implications of prostate cancer susceptibility genes on clinical care, Wake Forest Baptist’s Prostate Cancer Center of Excellence, part of the Comprehensive Cancer Center (CCC), focuses on chemoprevention, genetic epidemiology and novel therapies.

The Prostate Cancer Center of Excellence draws on Cancer Center members from all of its scientific programs and includes clinicians, basic scientists and public health scientists. For example, urologists K.C. Balaji, MD and Ronald Davis, MD, collaborate with radiation oncologist Bart A. Frizzell, MD, medical oncologist Christopher Y. Thomas IV, MD, and cancer biologist Gary Schwartz, PhD, to increase the number of oncology clinical trials through a Genitourinary Oncology Clinical Trials Working Group.

Current Prostate Cancer Research Includes:

Stress and Prostate Cancer: Is it possible that managing stress levels or pharmacologically inhibiting stress hormone signaling may improve outcomes of prostate cancer therapy and slow progression of the disease? That’s the long-term implication of research by George Kulik, DVM, PhD, associate professor of cancer biology. Kulik has demonstrated that elevated epinephrine levels due to stress can protect prostate cancer cells from apoptosis by activating the ADRB2/PKA signaling pathway. In mouse models, stress accelerated prostate cancer development and reduced sensitivity of prostate tumors to therapies. In collaboration with urologist Ashok Hemal, MD, Kulik is examining the effects of increased epinephrine levels on activation of signaling pathways in prostate biopsies. The goal of the study is to identify biomarkers that could be used to select patients who would benefit most from inhibiting epinephrine signaling.

Preoperative Aspirin and Robot-assisted Surgery: The administration of aspirin to patients undergoing robot-assisted radical prostatectomy and nephrectomy appears to be safe, according to research by urologic oncologist Daniel Rukstalis, MD, and colleagues. The risk of cardiovascular complications resulting from stopping aspirin may exceed the risk of perioperative bleeding and associated complications. The study involved 44 patients who underwent prostatectomy who had not taken aspirin for seven days and 51 patients who received aspirin the morning of surgery. Patients on other antiplatelet agents or anticoagulants were excluded. There were no differences in median blood loss (65 vs 50 mL, P=0.96), median operative time (176 vs 140 min, P=0.14), or median hospital stay (2 vs 2 days, P=0.74) between the two groups. No patient received a transfusion.

Clinical Trial: Recurrent Prostate Cancer and Calcium: Based on research by Gary Schwartz, PhD, director of the Prostate Cancer Center of Excellence, showing that men with higher serum calcium levels are more likely to die from prostate cancer, Schwartz and urologists K.C. Balaji, MD, and Ronald Davis, MD, are collaborating on a clinical trial to treat men with recurrent prostate cancer with calcium-lowering drugs. Schwartz has previously reported that in a large prospective study of men without clinical prostate cancer, men in the highest tertile of serum calcium had greater than a 2.4-fold increased risk for eventually dying from prostate cancer.

(Schwartz GG, Skinner HG. A prospective study of total and ionized serum calcium and time to fatal prostate cancer. Cancer Epidemiology Biomarkers & Prevention, doi: 10.1158/1055-9965.EPI-12-0585.)

The Genetics of Prostate Cancer: Jianfeng Xu, MD, DrPH, who directs the Center for Cancer Genomics, and colleagues have made important contributions to prostate cancer genetic studies, including identifying the first prostate cancer susceptibility gene and multiple prostate cancer risk-associated genetic markers. Xu’s group continues to contribute to the body of evidence on the role of genetic markers in predicting prostate cancer risk. In one recent study, they found that a genetic score—based on combinations of 33 single nucleotide polymorphisms—has better precision for measuring the effect of inherited risk of prostate cancer than family history. And separate research, involving men who had an initial negative biopsy, found that genetic score is an independent predictor of prostate cancer risk and can provide added value to existing clinical variables. While the improvement in risk prediction is modest, it may be helpful for the millions of men with an initial negative biopsy, especially because it can reduce the number of biopsies needed to detect the same number of cancers.


Signaling and Stem Cells in Prostate Cancer: Following his original discovery of downregulation of the novel Protein Kinase D1 (PKD1) in prostate cancer, urological oncologist K.C. Balaji, MD, identified several novel signaling pathways centered on PKD1. Importantly, through phosphorylation of a transcription factor Snail and downregulation of major cell adhesion protein E-cadherin, loss of PKD1 induces stem-cell-like characteristics in cancer cells that may play a major role in prostate cancer development and progression. With the ultimate goal of identifying new biomarkers and treatment targets, Balaji’s laboratory has developed novel 3D in vitro models to study paracrine function of cells, fluorescent-labeled transgenic mouse models to identify the cellular origins of prostate cancer and elucidate critical signaling pathways.


Bedwetting Can Be Due to “Hidden” Constipation, Research Shows

Reporting in Urology, Wake Forest Baptist pediatric urologist Steve Hodges, MD, and colleagues found that 30 consecutive children and adolescents who sought treatment for bedwetting all had large amounts of stool in their rectums, despite the majority having normal bowel habits. After treatment with laxative therapy, 25 of the children (83 percent) were cured of bedwetting within three months.

“Having too much stool in the rectum reduces bladder capacity,” said Hodges. “Our study showed that a large percentage of these children were cured of nighttime wetting after laxative therapy. Parents try all sorts of things to treat bedwetting—from alarms to restricting liquids. In many children, the reason they don’t work is that constipation is the problem.”

Hodges said the link between bedwetting and excess stool in the rectum was first reported more than 25 years ago by Dr. Sean O’Regan, but did not lead to a dramatic change in clinical practice, perhaps because the definition of constipation is not standardized or uniformly understood.

“The definition for constipation is confusing and children and their parents often aren’t aware the child is constipated,” said Hodges. “In our study, X-rays revealed that all the children had excess stool in their rectums that could interfere with normal bladder function. However, only three of the children described bowel habits consistent with constipation.”

Hodges said that guidelines of the International Children’s Continence Society (which recommend asking if bowel movements occur irregularly and if the stool consistency is hard) focus on functional constipation and cannot help identify children with rectums that are enlarged and interfering with bladder capacity.

“The kind of constipation associated with bedwetting occurs when children put off going to the bathroom. This causes stool to back up and their bowels to never be fully emptied. We believe that treating this condition can cure bedwetting in many children.”

Children in the study ranged from 5 to 15 years old. Rectal size was measured on X-rays using a technique developed by Hodges and Wake Forest Baptist radiologists. Hodges said rectal ultrasound could also be used for diagnosis.

The constipated children were treated with an initial bowel cleanout using polyethylene glycol (Miralax®). In children whose rectums remained enlarged after this therapy, enemas or stimulant laxatives were used.

“The importance of diagnosing this condition cannot be overstated,” Hodges said. “When it is missed, children may be subjected to unnecessary surgery and the side effects of medications. We challenge physicians considering medications or surgery as a treatment for bedwetting to obtain an X-ray or ultrasound first.”

The authors cautioned that some cases may have improved on their own over time. They said a more accurate measure of the treatment’s success would be to randomly assign constipated children to laxative therapy or an inactive therapy, an approach that would identify true response from cases that would resolve over time.

Hodges has written a book for consumers on bedwetting and other “potty” problems, “It’s No Accident: Breakthrough Solutions To Your Child’s Wetting, Constipation, UTIs, and Other Potty Problems,” published by Globe Pequot Press.
MEET OUR FACULTY

Anthony Atala, MD, FACS, professor and chair, is editor-in-chief of the journals *Therapeutic Advances in Urology* and *Stem Cells Translational Medicine*, and serves as associate editor or editorial board member of 22 other journals. He was the 2012 recipient of the Ramon Guiteras Award from the American Urological Association. Atala serves as the Urology Program Chair and on the Board of Governors of the American College of Surgeons. He was recently one of 98 innovators in the U.S. named a Charter Fellow of the National Academy of Inventors. Atala directs a team of more than 250 researchers at the Wake Forest Institute for Regenerative Medicine that works to engineer replacement organs and develop healing cell therapies for more than 30 different areas of the body. He is a member of the Institute of Medicine.

Gopal Badlani, MD, FACS, professor and vice chair for clinical affairs, is 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 Brazil, China, India and Japan. Badlani heads 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 focuses on determining the genetic basis for stress urinary incontinence.

K.C. Balaji, MD, professor, is chief of urology at the Veterans Affairs Medical Center in Salisbury, NC. He specializes in prostate and kidney cancers and is an 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.

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 showed preliminary efficacy of a monoclonal antibody for treating pain associated with interstitial cystitis. In 2013, he will begin enrolling patients in new interstitial cystitis trials—one testing a novel pain medication that is not a narcotic and the other a second trial of the LIRIS intravesical drug delivery system.

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.
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 clinical research focuses on prostate, kidney and bladder cancer. He has performed and published many world firsts in robotic surgery. A current project is to evaluate the role of indocyanine green dye with NIFR imaging for a variety of urologic surgeries. He is also working on advances for robotic radical prostatectomy. Hemal is on the editorial boards of several journals and is invited to deliver lectures and perform live demonstrations 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 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, and a wipe to prevent urinary tract infections in young girls. He has developed an online teaching tool for toileting problems in children and authored a book for consumers on toilet training and voiding dysfunction.

John D. McConnell, MD, FACS, is chief executive officer of Wake Forest Baptist Medical Center. A noted urologist and international authority on prostate disease, he 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.

Majid Mirzazadeh, MD, is an attending urologist who focuses on female urology and incontinence, urinary stones and reconstructive urology. 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 and he earned a postgraduate urology certification at the Institute of Urology and Nephrology at University College in London.

Daniel Rukstalis, MD, directs the urology residency program at Wake Forest Baptist and specializes in novel therapeutics in urologic diseases, including urologic oncology. He is an international authority on minimally invasive surgery, having described the first laparoscopic retroperitoneal lymph node dissection for men with 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.
Ryan Terlecki, MD, assistant professor, specializes in urethral and urologic reconstruction, sexual dysfunction and Peyronie’s disease. He is fellowship-trained in urologic reconstruction, female urology and urodynamics, as well as in trauma and prosthetics. He earned his medical degree and completed his residency at Wayne State University. He is director of the Men’s Health Clinic as well as director of medical student education for the Department of Urology. He served as the 2012 AUA Exchange Fellow to Brazil and will be teaching a course on the Shared Medical Appointment at the 2013 AUA Annual Meeting.

Research Faculty Members

Karl-Erik Andersson, MD, PhD
Regenerative pharmacology (bladder)

Colin E. Bishop, PhD
Reproductive tract, infertility

Yong Chen, PhD
Biology of urinary system cancers

George J. Christ, PhD
Erectile dysfunction, bladder smooth muscle physiology

Scott D. Cramer, PhD
Prostate cancer biology

Steven Kridel, PhD
Cancer biology

George Kulik, MD, DVM
Biology of urinary system cancers

Sang Jin Lee, PhD
Biomaterials development for urologic applications

Baisong Lu, PhD
Testicular genetics

Jan Rohozinski, PhD
Reproductive tract, infertility

Gary Schwartz, PhD, MPH
Epidemiology and prevention, urinary system cancers

Shay Soker, PhD
Angiogenesis, stem cells

Guangchao Sui, PhD
Cancer biology

Koudy Williams, DVM
Veterinary research

Jianfeng Xu, MD, PhD
Genetics of prostate cancer

James Yoo, MD, PhD
Translational urology

Yuanyuan Zhang, PhD
Urologic stem cells

Weixin Zhao, MD
Bladder physiology
Urology Research Update

With projects ranging from identifying gene expression profiles that may help diagnose interstitial cystitis to an effort to engineer replacement kidneys in the laboratory, urology researchers are at the forefront of developing the next generation of treatments.

Spermatogonial Stem Cell Autotransplantation: Young boys treated with high-dose chemotherapy are often confronted with infertility once they reach adulthood. This is in contrast to adult men, for whom ejaculated sperm can be cryopreserved. Spermatogonial stem cell technology may be an avenue to preserve fertility. Cryopreserving testicular tissue before chemotherapy and autotransplantation of spermatogonial stem cells (SSC) at a later time could theoretically allow for restoration of fertility. However, because small testicular biopsies do not contain sufficient SSC to fully repopulate the testis after transplantation, in vitro propagation of human cells is necessary.

Hooman Sadri-Ardekani, MD, PhD, andrologist and research fellow at the Wake Forest Institute for Regenerative Medicine, helped to develop a protocol for in vitro propagation of human SSC from small testicular biopsies. His research using testicular materials from both adult (JAMA 2009) and prepubertal (JAMA 2011) patients showed the feasibility of long-term culture and propagation of stem cells in vitro. The culture system allowed for a more than 18,000-fold increase in spermatogonial stem cell number, which is estimated to be sufficient for future human autotransplantation in high-risk patients. The transplantation procedure has been performed successfully in several species including mice, bovine, goat and monkey models by several groups around the world. After transplantation, the SSC migrated to their niche in the testis and restored spermatogenesis. Sadri-Ardekani is continuing the research at Wake Forest Baptist, with the long-term goal of bringing SSC transplantation to a clinical setting.

Gene Expression Profiles for IC? As a nationally recognized expert in interstitial cystitis/bladder pain syndrome (IC/ BPS), Robert Evans, MD, has one of the country’s largest base of patients. Using data from this rich resource, Wake Forest Baptist urology researchers, including Evans, are investigating the potential for correlating gene expression profiles in bladder urothelium with clinical and histological parameters. Diagnosis of interstitial cystitis/bladder pain syndrome doesn’t always correlate with symptoms, so a means of relating clinical symptoms and the outcome of diagnostic tests with markers of disease severity is desirable. In a pilot study, the team aimed to correlate symptom severity and operative findings of non-ulcer type IC/BPS with urothelial gene expression profiles. Principal component analysis on unfiltered data indicated a distinct grouping of gene expression profiles for patients undergoing cystectomy for end-state ICF, whereas patients with less severe disease showed significant overlap with the control group of patients without IC. Gene expression profiles seem to be a promising tool for subcategorizing IC/BPS patients and may give valuable pathophysiological information. Researchers on the team include urologist Gopal Badlani, MD, uro-pharmacological scientist Karl-Erik Andersson, MD, PhD, and geneticist/molecular biologist Steve Walker, PhD.
Mammalian Model of Bladder Regeneration Identified: While it is well known that starfish, zebrafish and salamanders can re-grow damaged limbs, scientists understand very little about the regenerative capabilities of mammals. Now, urology researchers at Wake Forest Institute for Regenerative Medicine report on the regenerative process that enables rats to re-grow their bladders within eight weeks. The scientists characterize this unique model of bladder regeneration with the goal of applying what they learn to human patients. “A better understanding of the regenerative process at the molecular and cellular level is a key to more rapid progress in applying regenerative medicine to help patients,” said George Christ, PhD, senior researcher. In a previous study by Christ’s team, research in rats showed that when about 75 percent of the animals’ bladders were removed, they were able to regenerate a complete functional bladder within eight weeks. The current study, which focused on how the regeneration occurs, found that the animals’ bodies responded to the bladder removal by increasing the rate at which certain cells divided and grew.

The most notable proliferative response occurred initially in the urothelium, the layer of tissue that lines the bladder. As the proliferative activity in the bladder lining waned, it continued elsewhere: in the fibrous band (lamina propria) that separates the bladder lining from the bladder muscles and in the bladder muscle itself. The researchers said that by understanding the bladder’s regenerative process, they hope to prompt the regeneration of other organs and tissues where structure is important—from the intestine to the heart.


“A better understanding of the regenerative process at the molecular and cellular level is a key to more rapid progress in applying regenerative medicine to help patients,” said George Christ, PhD.

Engineering Replacement Kidneys: In proof-of-concept research published in Annals of Surgery, Wake Forest Baptist urology and regenerative medicine researchers successfully used pig kidneys to make “scaffolds” or support structures that could potentially one day be used to build new kidneys for human patients. The idea is to remove all animal cells—leaving only the organ structure or “skeleton.” A patient’s own cells would then be placed on the scaffold, making an organ that the patient theoretically would not reject.

“These kidneys maintain their innate three-dimensional architecture, as well as their vascular system, and may represent the ideal platform for kidney engineering,” said lead author Giuseppe Orlando, MD, an instructor in surgery and regenerative medicine at Wake Forest Baptist. For the research, pig kidneys were soaked in a detergent to remove all cells, leaving behind the organ’s “skeleton,” including its system of blood vessels. In addition, the structure of the nephron—the kidney’s functional unit—was maintained. The scaffolds were implanted in animals, where they were refilled with blood and were able to maintain normal blood pressure, proving that the process of removing cells doesn’t affect the mechanical strength of the vessels. But, the fact that nephron structure is maintained suggests the potential to repopulate the kidney with cells, according to the scientists. They speculate that new cells introduced into the scaffold would recognize their natural niche through physical or chemical signals of the scaffold.

Since this initial report, the team has continued the project and developed protocols to reintroduce cells into the scaffold and implanted them in animals. “There are many challenges to be met before this system could be used to engineer replacement kidneys, including problems with blood clots forming in the vessels, but the potential for creating these scaffolds for tissue replacement is promising,” said Anthony Atala, MD, co-author and director of the Wake Forest Institute for Regenerative Medicine.

Upcoming CME Events

March 2013 CME Events

Offering the opportunity to see 12 live surgeries over two days, our Robotic Urology Symposium has become a favorite of urologists who want to update their skills. Our Prostate Cancer Research and Translation Symposium is a forum for discussing new research.

“Prostate Cancer Research and Translation Symposium”
March 6-7, 2013, Downtown Marriott, Winston-Salem, NC
Course director: K.C. Balaji, MD, Professor of Urology and Cancer Biology

Nationally recognized experts in prostate cancer will share the latest clinical advances in managing localized and advanced disease as well as state-of-the-art basic science research. With a focus on opportunities and challenges in prostate cancer research—and the need to align research with clinical need—the symposium is designed for urologists, medical and radiation oncologists, allied health professionals, basic and translational scientists, and trainees.

Register Now or visit http://www.nwahec.org/?37579

“4th Annual International Robotic Urology Symposium: Focusing on Urologic Oncology, New Developments and Reconstructive Surgeries”
March 8-9, 2013, Piedmont Triad Research Park, Winston-Salem, NC
Course director: Ashok K. Hemal, MD, Professor of Urology and Regenerative Medicine

Specific surgical techniques will be demonstrated by world experts performing live surgeries. The course will focus on urologic oncology, newer technologies (ICG-NIRF, suction, ultrasound, clamp, newer clips and sutures) and reconstructive surgeries. Keynote lectures, panel discussion, moderated videos and interactive discussion will focus on techniques and the latest strategies to optimize outcomes.

Register Now or visit http://www.nwahec.org/?39089
Assimos Named Distinguished Alumni

Dean Assimos, MD, chair of urology at the University of Alabama, was the 2012 recipient of the Distinguished Alumni Award. This is the highest honor Wake Forest Baptist Urology can bestow upon any graduate or trainee and is awarded to individuals whose contributions to the profession are notable and merit special recognition.

Assimos joined Wake Forest Baptist as a clinical fellow in stone disease and renal reconstructive surgery in 1983 and was an AUA research scholar from 1984-1986. He then joined the Wake Forest Baptist faculty and served until 2012, most recently as professor and vice chair for academic affairs.

His main clinical interest is the management of patients with complex renal calculous disease and ureteral strictures. His clinical research has focused on the surgical management of patients with kidney stones and metabolic stone disease while his basic science investigations, for which he has been awarded multiple National Institutes of Health grants, have been the role of dietary oxalate and stone formation, and endogenous oxalate synthesis.

As a clinical and basic science researcher, Assimos advanced the field’s understanding of stone formation and his findings helped to determine treatment standards. He has served as a mentor of numerous clinician-scientists through his laboratory and endourology fellowships, many who are currently leaders at other academic centers. Assimos is a member of the American Urological Association Nephrolithiasis Clinical Guidelines Panel and is section editor of Reviews in Urology.

A native of Chicago, Assimos received his BS degree in biology from Purdue University in 1974 and MD from the Loyola Stritch School of Medicine in 1977. He completed a residency in urology at Northwestern University School of Medicine in 1983.

AUA Secretary Committed to International Urology

As a busy urologist, Gopal Badlani, MD, has always made time for international volunteerism—from performing surgery at “MASH-like camps” in India to repairing fistulas in Niger. Now, with an even busier schedule as secretary of the American Urological Association, Badlani has reduced the number of volunteer trips he takes each year, but is still active in international urology.

“As AUA secretary, I have the great opportunity to interact with the global urology community,” said Badlani, professor at Wake Forest Baptist and vice chair for clinical affairs. “I am privileged to help direct some of the AUA’s global philanthropic efforts, such as a program in Africa to reduce HIV infections through circumcision. And, I’m working to expand the role of the AUA internationally.”

Just two years into his job as secretary, Badlani has been part of memorandums of understanding with seven countries (Argentina, Brazil, China, Egypt, India, Japan and Mexico) that allow for the exchange of faculty and residents, AUA programming and research collaborations. An agreement with South Korea is in progress.

“Since 2009, the AUA has been repositioning itself as a global leader in urology committed to the advancement of urologic health throughout the world,” said Michael Sheppard, AUA’s Executive Director. “In the past two years, as AUA Secretary, Dr. Badlani’s leadership, philanthropic passion and incredible energy have exponentially accelerated AUA’s educational programs for health care providers and patients.
Badlani’s personal commitment to global urology began as he was leaving his native India to continue his medical training. His father asked him to one day return to share his skills with his native country. Since 1994, Badlani has not only served as a volunteer physician himself, but has mentored US and Indian physicians who volunteer—increasing the number of India’s poor who can be helped.

Badlani prefers to serve “without waving a flag about it.” But he is quick to share the rewards of volunteerism and to mentor others who want to get involved.

“For those who want to volunteer, all it takes is a week or 10 days of time and the willingness to travel and give up some comforts that you are used to,” said Badlani. “In return, you get the silent smile or a tear of gratitude from a person who otherwise may not have been helped.”

Badlani founded a collaboration between IVUmed Traveling Resident Scholar Program, which matches urology residents with mentor urologists to provide surgical service abroad, and the Jeev Sewa Sansthan, an Indian nonprofit organization that provides health care for rural poor people in India.

The result of the partnership is six annual “urology camps” that each treat 125 to 150 people who otherwise wouldn’t have access to the latest care. Since 1992, doctors volunteering at the camps have performed more than 10,000 surgeries.

“We treat stones, prostate disease, incontinence and sometimes fistulas,” said Badlani. “India is a country where you are a ‘have’ or a ‘have not.’ In the camps, we’re able to perform less invasive procedures that can save a patient six weeks of recovery—if they don’t work, they don’t earn.”

In addition to his volunteerism in India, Badlani volunteers through a program in Niger to help women suffering from fistulas as a result of inadequate medical care during childbirth. As an expert in pelvic floor disorders, Badlani helped the International Organization of Women’s Disorders raise the standards for surgical care of obstetric fistula. He has visited the area frequently to perform the repair surgeries himself and to build the skill level among local doctors to provide care for the condition.

“My international relationships and experiences have meant a lot to me personally,” said Badlani, “and I’m gratified that they are helping me to share the AUA’s mission internationally.”
Robotic Fellowship Training

The department’s one-year Fellowship in Minimally Invasive and Robotic Uro-Oncologic and Urologic Surgery offers the opportunity to train under Ashok K. Hemal, MD, a world leader in urologic robot-assisted surgery.

Accredited by the Endourology Society, the program prepares fellows for a career in robotic urologic surgery, laparoscopic urology and urologic oncology. Fellows receive certification of advanced clinical training in robotic, laparoscopic and urologic oncology. One fellow is accepted each year.

Hemal, professor and director of the Robotic and Minimally Invasive Urologic Surgery Program, has been responsible for designing some of the robotic surgical protocols in use today. He started many endoscopic, laparoscopic and robotic uro-oncology programs internationally and is invited to speak and perform live surgeries around the world. His expertise includes robot-assisted and pure laparoscopic reconstructive and ablative surgeries of the kidney, bladder and prostate, as well as pelvic organs in females. His clinical research focuses on prostate, kidney and bladder cancer, both developing new techniques and comparing the procedure with open surgery.

“The biggest selling points for me were volume, variety, and cutting edge clinical research,” said current fellow Ted Manny, MD. “The volume can only be described as incredible. There are many days I am involved in up to six robotic cases, and I regularly operate three days a week and see patients in the clinic and do research the remainder of the week. The variety of both malignant and benign cases is excellent.”

Robotic urologic procedures range from radical prostatectomy and cystectomy to partial nephrectomy, pyeloplasty and reconstructive procedures. The fellow participates in ongoing research projects—or has the opportunity to develop his/her own project—through the Department of Urology’s laboratory, the Comprehensive Cancer Center, Public Health Sciences, the Center for Genomics or the Wake Forest Institute for Regenerative Medicine.

“The clinical research opportunities are broad,” said Manny. “Recently we have become a leading center worldwide in the use of real-time fluorescent imaging for lymphangiography, vascular angiography, and target tissue marking during robotic surgery. There are several databases for bladder cancer, upper tract transitional cell carcinoma, and partial nephrectomy that are very robust as well.”

Wake Forest Baptist’s unique learning environment includes a 28,000-square-foot Applied Learning Center offering hands-on learning through a fully functional surgical simulation lab and mock operating room, as well as laparoscopic, thoracoscopic, robotic and endoscopic surgical skills training, an anatomical training center and standardized patient assessment examination rooms. The Surgical Skills Lab is designed as part of the National Referral Center for Continuing Education. The monitors, instruments and cameras are identical to the equipment used in the operating rooms.

“I had known Dr. Hemal for quite some time and was familiar with the unique experience with robotics at Wake Forest Baptist,” said Manny. “After investigating the opportunities elsewhere and attending national and international meetings, I was even more convinced that Wake Forest Baptist was the best option. If faced with the same decision again I would choose Wake every time.”
Urology Video Forum

From urethral reconstruction to diagnosis and treatment of radiorecurrent prostate cancer, visit WakeHealth.edu/School/Urology/Urology-Video-Forum.htm to view videos of our faculty members sharing their expertise.

Clinical Quandary: Mesh Controversy
Gopal Badlani, MD, FACS, with more than 10 years of experience with mesh, discusses the AUA position statement and some “lessons learned” in using mesh for incontinence and pelvic organ prolapse.

Urethral Reconstruction
Ryan Terlecki, MD, summarizes surgical treatment and followup for urethral stricture, including the advantages of a six-week, pre-surgical rest period to delineate stricture disease.

Radiorecurrent Prostate Cancer: Diagnosis Dilemmas
Ronald L. Davis, MD, FACS, prostate cancer specialist, shares some “lessons learned” in diagnosing recurrent disease in this patient population using screening tests, tumor grading, metastatic workups and dosimetric assessment.

Radiorecurrent Prostate Cancer — High-Intensity Focused Ultrasound and Salvage Radical Prostatectomy
Ronald L. Davis, MD, FACS, prostate cancer specialist, discusses the up-and-coming HIFU treatment, as well as the pros and cons of radical prostatectomy.

Radiorecurrent Prostate Cancer — Cryosurgical Ablation
Ronald L. Davis, MD, FACS, prostate cancer specialist, summarizes important aspects of this treatment, including patient selection, complications, the potential risk of peri-urethral cancer, and the importance of baseline quality of life assessments.

Nocturnal Enuresis
Steve Hodges, MD, pediatric urologist, discusses research showing that many cases of nocturnal enuresis are curable with laxative therapy.

Pediatric Hematuria
Pediatric urologist Steve Hodges, MD, discusses a streamlined algorithm for identifying the small percentage of children who need further workup.

Frequency Dysuria Syndrome
Steve Hodges, MD, pediatric urologist, has found that undiagnosed constipation is a frequent cause of dysuria syndrome and is cured with laxative therapy.