Welcome to the Spring 2015 Duke Urology Newsletter. After a cold and snowy winter (by North Carolina standards), spring is in full bloom in Durham. After a successful Duke Urologic Assembly meeting in Orlando (see DUA article on page 8), Duke Urology had an impressive showing at the Southeastern Section meeting, with Jessica Lloyd winning second prize in the Montague Boyd Essay Contest. Moreover, Duke Residents and Faculty were omnipresent with a myriad of presentations during the meeting. We are now gearing up for the AUA meeting in May, where Duke Urology Residents, Fellows and Faculty will be well represented.

Over the last six months, I have asked the Housestaff and Faculty to focus on leadership. Leadership, locally at Duke with many of the Residents and Faculty serving on important institutional committees and taskforces within the Department of Surgery, Duke Hospital and Health System. Moreover, Duke Faculty are leaders regionally within the Southeastern Section, nationally on various AUA committees and internationally representing Duke Urology on various Societies. We have instituted a Leadership Book Club involving the Faculty and soon, the Residents on, leadership discussions and ways to support leaders within the Division.

A number of the articles in this month’s Newsletter demonstrate the leadership initiatives across many venues – research, clinical and education / training. In addition, we encourage our DYSURIA members to become leaders in supporting the E. Everett Anderson Educational Fund which supports educational initiatives within the Division. We have included information on how you can support this important program, just as Duke Urology sustains Resident learning materials and travel to scientific meetings in the past.

Finally, we hope to see our alumni and friends during the DYSURIA Reception at the AUA in New Orleans on Saturday evening 16 May (http://urology.surgery.duke.edu/dysuria). Please stop by to say hello and let us know how you and your family are doing.

All the best,
Glenn
Joining the Duke Urology Faculty in July 2015 will be J Todd Purves, MD and Monty Hughes, PhD. Dr. Purves was Associate Professor of Urology, Pediatrics and Regenerative Medicine and Cell Biology at the Medical University of South Carolina and Dr. Hughes was a staff scientist in the MUSC Department of Urology. They co-founded the Basic Urology Research Laboratory at MUSC in 2010 which has become a leader in studying the innate immune system in the genitourinary tract. In 2014, they were the first to localize and characterize inflammasome forming Nod-like receptors in the urothelium and demonstrated their role in sterile cystitis. These findings have led to a novel model of bladder deterioration in the setting of bladder outlet obstruction, as seen with benign prostatic hyperplasia, whereby high bladder pressures initiate an inflammatory process within the bladder tissue. Drs. Purvis and Hughes have also recently developed the first interactive three dimensional map of human bladder innervation, which will be presented at the 2015 AUA meeting in New Orleans. Working with industrial partners, this map will be used to optimize ablative therapies for overactive bladder and guide nerve sparing surgical procedures, particularly for reconstructive techniques for women. In addition to further developing these projects, they will be active in establishing a Duke collaboration with their colleagues in Zurich, Switzerland to apply the methodology of opto-genetics to urological diseases.

Clinically, Dr. Purves will be joining Drs. John Wiener and Jonathan Routh of Duke Pediatric Urology. He completed his pediatric urology fellowship at Johns Hopkins in 2008 and brings considerable experience in complex reconstructive surgery for children with urologic birth defects as well as expertise in neurogenic conditions, voiding dysfunction and stone disease.

Maryellen Kelly, DNP, CPNP is joining us from the University of California, Irvine and CHOC Children’s Hospital’s pediatric urology department where she has been working for the last 5 years under Dr. Antoine Khoury and Dr. Gordon McLorie. Maryellen grew up in Maine before obtaining her undergraduate nursing degree and Masters in Nursing from Columbia University. She then completed her education with her Doctorate in Pediatric Nursing at the University of Pittsburgh. Maryellen has also worked as a faculty member at CalState Fullerton in their nursing department and been a preceptor for nursing students from University of California, San Francisco and Columbia University. Maryellen is passionate about continuing her research endeavors highlighting changes in the care for pediatric patients with spina bifida, hypospadias and vesicoureteral reflux.
Duke Urology Quality Improvement Initiative: Targeted antibiotic prophylaxis for men undergoing TRUS biopsy

Melissa Mendez M.D., Kevin Hazen M.D., Amy Boswell MSN RN, Russell Moore PharmD, Thomas Polascik M.D.

Infection is one of the more common complications related to prostate biopsy and can range from mild and self-limited to severe and life threatening.

Initially, no formal recommendations existed for prophylactic antibiotics prior to prostate biopsy. However, the PSA era spurred a dramatic increase in the number of prostate biopsies performed and an explosion of research followed supporting the use of pre-procedure prophylactic antibiotics to reduce rates of infection. Ciprofloxacin became the first-line agent as recommended by the AUA. Unfortunately, throughout the 2000’s, an exponential rise in fluoroquinolone resistance in E.coli was noted, which is the organism that accounts for >90% of all post-prostate biopsy infections. While the etiology of this resistance is likely multifactorial, the consequence of it is clear; increasing rates of resistance paralleled increasing rates of post-prostate biopsy infection and hospitalization.

Duke was not immune to this pattern. E.coli resistance to Ciprofloxacin increased over fivefold in less than a decade, with current rates of resistance hovering at approximately 20%. In order to improve patient safety, we sought to provide personalized medicine and tailor the prophylactic antibiotic to the individual. This quality improvement initiative required a multidisciplinary team comprised of Urology, Microbiology, Pharmacology, as well as clinical staff and administration all playing a critical role in its development and implementation.

The protocol begins with a rectal swab using routine wound culture swabs. It takes about 15 seconds and can be done at the time of the DRE. The culture is submitted to the lab, plated and results are typically released in 48 hours. If the patient is resistant to Ciprofloxacin, an alternative antibiotic that is sensitive is called into their home pharmacy or an IM injection is administered in the clinic just prior to biopsy.

While Duke specific data is not yet available, other institutions have demonstrated a significant decline in rates of infection after prostate biopsy. These types of protocols are becoming even more important as the prevalence of Extended Spectrum Beta-Lactamase (ESBL) infections among E.coli isolates continues to increase putting our patients at even higher risk of serious infectious complications.
Dr. Matthew O. Fraser, Ph.D., is an Associate Professor of Urology and the Director of Basic Science Research for the Division. In the past few years, he has become very active in Resident research training within the Division, and is currently the Director of both the Research Residents and Fellows Basic and Clinical Research Course and the Urology Resident Research Fellowship Year (PGY3 Research Year).

The Research Course Core Faculty Team includes Ms. Leah Gerber, Dr. Jonathan Routh, Dr. Charles Scales, Dr. Brant Inman and Dr. Fraser. The course meets once a week on Tuesday mornings for 1 hour, and covers a broad range of general topics, including:

- Intro to Research at Duke
- Statistics Boot Camp (Broad Overview)
- Overview of Databases, Data Sources and Database Creation
- Statistical Analysis – Working with JMP Software
- Systematic Review/Meta-analysis
- Meeting Abstract Writing and Submission
- Oral and Poster Presentation
- Journal Article Critiques
- Health Services Research
- PRO/Quality of Life Tools
- Clinical Data Management
- Clinical Trials
- Basic Science Research
- Paper Writing
- Grant Writing
- Research Networks

The Research Fellowship Year, which is a full year of almost entirely protected research time (with the exception of some night float responsibilities) has been formally structured, such that certain guidelines for both Residents and Mentors must be met:

**For the Residents:**
- The Residents must select a Primary Mentor, and may also have a Secondary Mentor
- The Residents are expected to work full time during the Research Year
- The Residents must seek outside funding (e.g. Societal Fellowships)
- Mandatory participation is expected for the following:
  - Research Resident and Fellows Basic and Clinical Research Course
  - The Pelvic Medicine Research Consortium
  - The Department of Surgery Research Meeting
- The Residents will meet with the Director on a Quarterly basis to discuss their progress and any issues
- Metrics of Success for the Year include:
  - Project Funding
  - Society Meeting Participation
    - Abstract submissions, Presentations
    - Essay Competitions
  - Papers submitted
  - Coursework (Urology Resident Research Course, Medical School Offerings)
  - Community involvement (GME Council Representative, Teaching of Medical Students)
For the Mentors:
- Primary Mentors must have a track record of successful research mentoring
- Those without such a record may enter into the role as a Secondary Mentor
- Primary Mentors may also serve as Secondary Mentors
- Secondary Mentors may only expect 20% of the Resident’s effort

For the Resident/Mentor Teams:
- Formal research proposal by prospective mentor(s) and resident
- In the case of multiple mentorship, the proposals must “mesh” in the beginning and remain so if any changes throughout the year
  - Resident understands and agrees with what is expected of them – a “contract”
  - Research program must contain at Least two of the Following
    - Retrospective Database
    - Prospective Database
    - Systematic Review ± Meta-Analysis
    - Clinical Trial Participation
    - Health Services
    - Basic Science
  - The Director/Vice Chiefs/Chief will evaluate the plan
  - Primary and secondary mentors must communicate and coordinate throughout the year
  - Changes in the research plan must be communicated to the Director
- Quarterly meetings with the residents, mentors and the director are mandatory
  - In the case of multiple mentors, all must be in attendance at the single group meeting

As Director of the Neuourology Laboratory at the Durham VAMC, Dr. Fraser offers Basic Science Research opportunities to students, staff and faculty in Benign Urologic Research. In this role, he has trained/is training Medical Students (Mr. Bradley Potts), Residents (3 Urology PGY3: Dr. Abhey Singh, Dr. Nicholas Kuntz and Dr. Anika Ackerman; and 1 PGY4-5: Dr. Jessica Lloyd), Fellows (1 Urology; Dr. Danielle Stackhouse; and 1 Urogynecology; Dr. Alexis Dieter) and Junior Faculty (1 Assistant Professor of Urogynecology K12 Scholar: Dr. Nazema Siddiqui) in Urologic Research. Many of these interactions have resulted in numerous societal awards and oral presentations, and three have resulted in continued funding.

He is also currently involved in a long term research project with Dr. Andrew Peterson focusing on the Prevention and Treatment of Radiation Cystitis (Drs. Singh and Kuntz, and Mr. Potts have been trained through this collaboration). He and Dr. Michael Lipkin have also procured Divisional seed funding for a ureteral stent pain project (Dr. Anika Ackerman is being trained under this project). It is one of Dr. Fraser’s goals to help provide the means to harness the creativity and innovative thinking of the clinical faculty to the benefit of all involved.
Given from the perspective of a 40-year supporter of Duke Urology, there are certain things at Duke we can always count on such as exciting basketball seasons, the beauty of Duke Gardens especially in the spring, stunning architecture in the new buildings being added all around campus, and lots of changes in technology and organizational structure.

Even though the division’s Urology Residency Program is increasing in number, there are certain things that always seem to remain the same. Spring is such a busy time for resident travel after having spent most of the academic year either in research or clinical studies, collaborating with faculty, and working tirelessly to get papers submitted to the SESAUA, AUA, and other major Urology meetings. The cost of providing the opportunity to attend educational conferences as well as the purchase of other educational materials would not be possible without the continued support of grateful patients and alumni.

The creation of the E. Everett Anderson Resident Education Fund has provided additional support of resident travel to regional and national meetings for presentation of basic science and clinical research as well as other graduate medical education expenses. The Division is grateful for the generous response thus far and acknowledges support during the current fiscal year from the following donors.

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<th>FY15 EE Anderson Resident Education Fund Alumni Donors</th>
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<td>Dr. Earl P. Galleher (1958)</td>
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<td>Dr. William (Bill) H. Atwill (1968)</td>
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<td>Dr. R. Dale Ensor (1969)</td>
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<td>Dr. Harold R. (Randy) Reeve (1979)</td>
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<td>Dr. Paul W.F. Coughlin (1984)</td>
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<td>Dr. Rudy T. Andriani (1987)</td>
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<td>Dr. John E. Danneberger (1989)</td>
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<td>Dr. Glenn M. Preminger (1993)</td>
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<td>Dr. William (Bill) W. Kerfoot (1994)</td>
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<td>Dr. John S. Wiener (1995)</td>
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<td>Dr. Jeffrey E. Taber (1998)</td>
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<td>Dr. Philip M. Newhall (2000)</td>
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<td>Dr. Charles D. Scales (2011)</td>
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To make a gift to Duke Urology, please contact Jillian Ream at 919-385-3100 or jillian.ream@duke.edu

We are hopeful your donation will be made on a yearly basis or that we will hear from other alumni who have not yet had a chance to contribute. Dr. Anderson’s role of resident mentor at the Durham VA Hospital where he continues to teach and advise residents two days a week has been something the division has counted on since his retirement in 2002. His love of teaching residents has not diminished over the years and continues to be valued by residents and faculty.
This August will mark the third occasion of the Basics of Endourology Symposium. The course is offered to rapidly integrate early urology residents into their urology years via exposure to hands-on wet lab experience as well as didactic lectures focused on endourologic principles and techniques. The didactic lectures review the indications and contraindications for cystoscopic, ureteroscopic, percutaneous, and transurethral resection procedures. Equipment and techniques, as well as complications are reviewed during the interactive sessions. The hands-on portion of the program centers around six lab stations dedicated to various endourologic intervention: basic endoscopic equipment, stent placement, distal ureteroscopy, proximal ureteroscopy, laser lithotripsy, and transurethral resection.

The course has been held for the past two years at Duke University Medical Center. It was initially offered to four programs (Duke, UNC, Wake Forest and VCU) based on proximity and to establish feasibility. Seventeen residents attended the first course in 2013 with PGY years ranging from 1-4. Feedback from all residents was positive, particularly in regards to the more complex skills and knowledge. In 2014 the program was attended by a wider geographic range of programs (VCU, Duke, Wake Forest, Emory, MUSC, Georgia Regents). Twenty-four residents were in attendance, all PGY 1, 2 or Uro1. Again the program was well received with positive reviews from all attendants and positive feedback from faculty at their programs. Faculty from Duke, UNC and Wake Forest have graciously donated their time to teach and train the residents during this event.

This project was begun for several reasons. Exposure to hands on urology during PGY1 and/or two years may be limited at programs thereby creating a timeframe of 1-3 years where residents are not experiencing urologic equipment and techniques. Changes in the ACGME and RRC guidelines are limiting time for exposure to operative experience. Increasing emphasis is being placed nationally on simulation as a part of all training programs. Immersing residents in this one day, simulation, hands-on and didactic educational experience jump starts our residents’ knowledge base and skill level.

Our goal is to continue to expand this symposium with the hopes that is may include all of the SESUA. We are currently in discussions with SESUA leadership in attempt to have them support and adopt the program. Forseeing the difficulties of bringing 40+ residents to Duke University, we are partnering with Emory in the hopes that a more central location (Atlanta) will optimize attendance, minimize cost, and limit time away from home institutions.

It has been a great project thus far and will hopefully only become more impactful as we grow through our next phases of development.
The 47th annual Duke Urologic Assembly was held at the Grand Floridian Hotel and Resort at Disney World in Orlando, FL this past March 5-8, 2015. For the second year, the course was combined with Duke Urologic Cancer Symposium co-sponsored by the Duke Cancer Institute (DCI). The first two days were devoted to the management of GU cancers, and the collaboration with the DCI allowed us to include our partners in medical and radiation oncology to highlight our leading edge, multi-disciplinary approach to cancer at Duke.

The warm locale provided a needed break from the historical winter on the East Coast for the approximately 50 participants as well as the invited and Duke faculty. Minus one. The Victor Politano Lecturer, Peter T. Scardino, MD (a graduate of Duke Medical School) from Memorial-Sloan Kettering could not get out of New York City after LaGuardia Airport was closed when a plane slid off the runway, and he had to give his keynote lecture by telephone piped into the lecture room. Despite the snafu, Dr. Scardino provided an excellent review of where we have come from and where we are going in prostate cancer screening, but he was missed at the Politano luncheon following the talk.

Former Duke residents and faculty, Johannes Vieweg, MD (from Univ. of Florida) and Philipp Dahm, MD (from Univ of Minnesota) gave outstanding lectures as well. Noted expert Michael Ferragamo, MD shared his extensive knowledge on procedural coding as well as on the looming upcoming changes with ICD-10. As usual, nearly the entire Duke Urology faculty (16 were in attendance) including uroradiologist Rich Leder, MD covered the breadth of field of urology over the four days.

We are finalizing negotiations for the 2016 Duke Urologic Assembly. Our recent rotation of the DUA between the Carolinas and Florida has been well-received, and we plan to be in Hilton Head, SC in early April 2016. Please be on the lookout in the near future when we post the exact locale and dates. We hope that you can join us in 2016!
Starting in early 2015, the Duke Cancer Institute helped coordinate the regrouping of the core members of the genitourinary oncology research team into a single location. The GU oncology research team is now located in the Snyderman building—formerly known as the Genome Sciences Research Building (GSRB)—in a new open-concept laboratory. The laboratory is equipped with the most modern research tools and is designed to maximize contact and collaboration between the investigators and researchers working in the space. The diversity in the lab is incredible and includes experts in molecular epidemiology, cancer genetics, molecular biology, tumor immunology, circulating tumor cells, human tumor xenograft models, and clinical trials from translational research. In the brief time the group has been together, they have submitted several grants to the Department of Defense, National Cancer Institute, and other organizations. The first of these, a project evaluating poliovirus as a novel immunotherapy for prostate cancer, was recently funded for preclinical study. The group has high expectations for the future of collaborative team science in GU oncology at Duke.
In past years the Movember campaign at Duke has been a great way for the Division of Urology to have some fun and raise awareness for men’s health issues. However, the fundraising efforts have been limited to those within our division and other small interested groups throughout the hospital. This year, Urology Residents Michael Granieri and Joseph Fantony teamed up with GU Medical Oncologist Dr. Andy Armstrong to involve not only the entire medical center but also the undergraduate and graduate campuses.

This was no small task, but with a group of motivated faculty, residents, researchers, medical students, undergraduates, and administrators, we were well equipped to take this on. Throughout the month we had several Movember events on campus and in the community that were incredibly well received. With the help of Dr. Preminger and Debbie Savarino (nee Krzyzewski), we kicked off the month with an enormously successful information booth/bake sale outside of Cameron prior to a well-attended men’s basketball exhibition game. This was followed by a mid-month “pub-night” and raffle at the James Joyce, which stimulated a ton of interest, and was quite lucrative in the way of fundraising. These two events generated over $1000 in donations. The month was capped off with a Movember night sponsored by the popular Shooters nightclub in downtown Durham.

The crux of our success this year was a strong social media presence with much help from DUMC Media Relations. Through their efforts our campaign was spotlighted on three local news channels, Scientific American, and The Duke Chronicle. These interviews included three of our brave prostate cancer survivors, including our very own Dr. Anthony Galanos. He delivered a powerful message to those considering screening that we hope will resonate with the men in our community. WNCN included us in their Frozen spoof song “Let it grow,” which reached over 8,400 views on YouTube.

To encourage participation we offered a wide array of awards, all of which were donated by community businesses or employees of the university. These prizes ranged from a weekend trip to the Grove Park Inn in Asheville to a round of golf at the Washington Duke, and even several basketballs autographed by Coach Mike Krzyzewski.

In 2013 our fundraising efforts resulted in approximately $2000. We were able to demolish this record reaching nearly $20,000 in 2014 placing us second among all urology programs nationwide. This enormous success is due to the after-hours efforts of many altruistic people from all around the Duke campus, and we are incredibly grateful for their hard work. We look forward to the 2015 campaign in which we hope to see even greater participation in order to surpass this year’s record fundraising.
Movember HIGHLIGHTS
By Andrew Peterson, MD

What began with our group sporting mustaches in November in support to men’s health has spurred, through the Movember Foundation a grant of $36 million to develop True NTH (pronounced “True North”)

True NTH is a resource to help men with prostate cancer overcome the challenges associated with the disease, including side effects and quality-of-life issues. This international endeavor consists of five countries with more than $10 million to be used in the United States alone to de velop individualized programs for men diagnosed with the prostate cancer. Under the leadership of Dr. Andrew Peterson researchers and clinicians from Duke urology, medical oncology, radiation oncology and the Duke cancer Institute are among the world class experts who have been selected to participate in this groundbreaking intervention.

In the last few decades, advancements in treating prostate cancer have surged and drastically increased survival for men with the disease. However, with this improved survival, the side effects experienced by these men have become much more of an issue. These quality-of-life issues include sexual dysfunction, fatigue, depression, anxiety and incontinence, and are often not assessed by the physician or disclosed by the patient, leading to additional distress. Furthermore, studies have shown that these quality-of-life issues also affect the patients families and partners.

The True NTH three-year program includes collaboration among patient advocates, researchers and physicians to develop ways to better assist patients in making initial treatment decisions, recover from therapy, and improve quality of life in survivorship. In the United States, the LiveStrong Foundation and the Prostate Cancer Foundation will be working closely with Movember in the True NTH projects that will focus on the patient, his family, partners and care givers.

Dr. Andrew Peterson has been selected as the United States National Coordinating Principle Investigator for a large component of the United States True NTH intervention. In this role he will oversee 7 sites in the United States involving clinicians and researchers from Harvard, Johns Hopkins University, Memorial Sloan-Kettering Cancer Center, and the University of North Carolina. This large grant of $1.6 million will allow the development of a survivorship care plan tool referred to as “ASCENT” (A Survivorship Care plan and Embedded Navigation Tool). For this project Dr. Peterson and his group will work with researchers from University of Michigan to develop a new technology-based application to help men monitor their progress through treatment, carry with them a history of their cancer care and recovery and navigate through the multiple quality-of-life side effect issues that may develop after completion of their primary treatment. The goal of this intervention is to increase the quality of life of men living with or surviving from prostate cancer throughout the rest of their lives.

Dr. Peterson is confident that the True NTH program will drastically increase the quality of life of patients, their families and caregivers for the next several decades! “I am particularly excited about this collaborative, groundbreaking international, multi-institutional intervention for prostate cancer survivors. Never before have we seen such an organized and well-funded project for men and their quality of life after the definitive treatment for cancer. These programs are sure to be guaranteed game changers!”

Dr. Glenn Preminger was recognized by the AUA with the Robert C. Flanigan Education Award for commitment to urological education as chair of the AUA Office of Education, the AUA Nephrolithiasis Guidelines Panel, co-chair of the AUA/EAU International Nephrolithiasis Guidelines Panel, as well as service on the ABU Exam Committee.

Dr. Philip Walther was selected for the National Surgery Office’s Urology Surgical Advisory Board to serve from February 1, 2015 – January 31, 2018.

Dr. Brant Inman was awarded International Hypothermia Journal Editor’s Award for the best the clinical paper of the year (2014) for hyperthermia.

Dr. Brant Inman and Dr. Smita Nair received an award from the Duke Translational Research Institute (DTRI) for their DTMI Collaborative Agreement Pilot Award application entitled “Oncolytic Poliovirus Immunotherapy for Prostate Cancer.”

ACCOLADES

MOVEMBER

DECEMBER
The clinical research portfolio of Duke Urology continues to expand in 2015, and these activities are supported by a busy clinical research team. Jennifer Stout leads our group of clinical research coordinators who are responsible for divisional research regulatory affairs as well as the day-to-day conduct of all prospective clinical trials. The current trial portfolio is well balanced and includes lifestyle and nutritional interventions for cancer, new biomarkers for cancer, novel immunotherapies for malignancies, new technologies for ablating tumors, registries for pediatric conditions and cancers, and novel imaging modalities for urolithiasis and cancer. We are also extensively involved in health services research, clinical outcomes research, and epidemiologic studies. Leah Gerber leads our database development group who is responsible for obtaining and storing a wide variety of clinical and research data for our division. We are currently working with the health information technology group to develop the first working models of real time clinical outcomes monitoring at Duke. Duke Urology is truly a hot clinical research environment!