

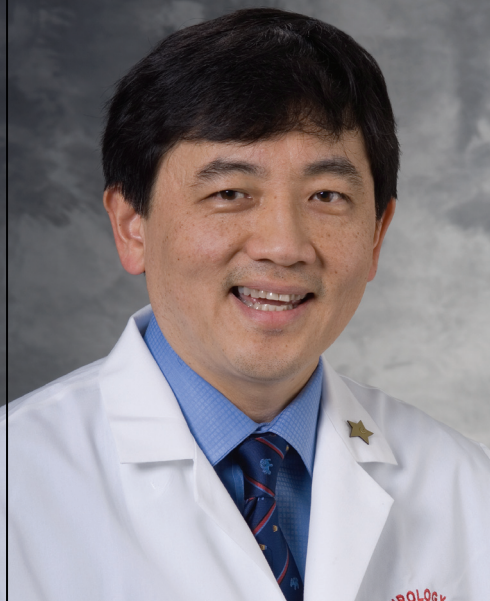
WISCONSIN Urology

THE NEWSLETTER FOR ALUMNI AND FRIENDS OF THE UW UROLOGY PROGRAM



WINTER 2006

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>> A MESSAGE FROM THE CHAIR

As summer winds down, another new academic year is dawning on us at UW. This past June marked the end of my first 5 years as the chair at UW. The Division has undergone significant growth in our faculty, our services, and our national scope since the millenium. More notably, patient care, education, and research at UW Health has risen to higher levels thanks to the work of all members of the UW Urology team.

I am happy to announce that Peter Carroll will be our 2006 Uehling lecturer and we look forward to another fine program. Gyan Pareek, our former endourology fellow and currently assistant professor at Brown University, will also return as a guest speaker. The focus will be urologic oncology, specifically prostate, bladder, and renal cancers. Dr. Carroll will also update us on board certification

during the dinner program. We plan to hold a golf event on Saturday at the beautiful University Ridge golf course. We hope to see you all there September 2006.

Other UW visitors will include Jay Sandlow from the Medical College of Wisconsin (fall speaker) and Jonathan Ross from the Cleveland Clinic (winter speaker).

I am most delighted to announce Dan Williams will join our staff starting September 1, 2006. Dr. Williams completed his fellowship in infertility and andrology with Dr. Larry Lipschultz at the Baylor College of Medicine and he will be practicing at both One South Park and UW Hospital. Dr. Williams completed his urology training at Northwestern and he played hockey at Dartmouth College in Hanover, New Hampshire.

This issue of *Wisconsin Urology* features an article focusing on our latest work in urolithiasis. Certainly, clinical trends support the importance of more aggressive medical management as well as the increasing role of diet and lifestyle in recurrent stone formers. Dr. Kris Penniston has been a strong champion of several new UW initiatives. The other feature focuses on robotics, more specifically the robotic prostate program here at UW. The da Vinci[®] robot (Intuitive Surgical, Inc.) represents exciting technology, and as with most minimally invasive options, I believe our patients will benefit from improved convalescence, decreased postoperative pain and perhaps eventually improved cancer control. Time will tell as our experience grows.

I hope you enjoy perusing this issue of *Wisconsin Urology* and we look forward to seeing many of you in the fall at the Uehling lectures! **WU**

STEPHEN Y. NAKADA, MD
CHAIRMAN AND THE UEHLING
PROFESSOR OF UROLOGY

>> NOTABLE AND NEWSWORTHY

- DR. DAVID JARRARD, ASSOCIATE PROFESSOR, received the Harold P. Rusch Award in Translational Cancer Research. This award is given to faculty of the University of Wisconsin-Madison School of Medicine and Public Health who are judged to have made seminal contributions to translational research and our understanding of disease.
- DR. DAVID JARRARD, ASSOCIATE PROFESSOR, was awarded \$420,000 by the Department of Defense Prostate Cancer Research Program for his grant entitled "Biological Impact of Senescence Induction in Prostate Cancer Therapy."
- DR. WADE BUSHMAN, ASSOCIATE PROFESSOR, was named as a recipient of a 2005 Competitive Award by the Prostate Cancer Foundation. This unique program supports innovative prostate cancer research projects directed by leading scientists around the world and enables them to forge ahead with their crucial work. **WU**

>> NEW INITIATIVES IN WISCONSIN

THE DA VINCI® MODE

WADE BUSHMAN, MD, PhD
ASSOCIATE PROFESSOR

The da Vinci® method of robotic prostatectomy is changing the way prostate surgery is performed. It brings the latest in robotic technology to bear on the technical challenges of radical prostatectomy and enhances the performance of the surgeon by providing improved visualization, enhanced dexterity, greater precision, and superior control. UW Urology initiated its robotic assisted prostatectomy program last winter and it is quite busy, with 3-5 of these operations performed weekly.

This procedure was FDA approved in 2000 and published studies are beginning to demonstrate its advantages. In a recent multi-institutional trial reported on by Wu et al at the 2006 American Urological Association annual meeting and published in *The Journal of Urology* abstracts, there was no significant difference in margin control rates and perioperative and postoperative complications. However, there were significant advantages to the robotic prostatectomy with decreased blood loss and less transfusion rates, shorter hospitalization stay, and decreased catheterization time. The foley catheter is only left in for one week. A growing number of institutions in the United States and Europe have embraced this technique and it is estimated that 16,000 cases will be done in the United States in 2006.

The procedure uses 5 keyhole incisions. The urologist inserts a tiny camera through one of the incisions and 3 robotic arms



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are used for the dissection and removal of the prostate. The final port is for the assistant. The urologist has 2 small-wristed instruments – either forceps, scissors or graspers – that are manipulated remotely. Additionally, the urologist is shown magnified images that are approximately 10 times greater than normal. This stereoscopic view of the operative field allows for improved visualization. The operation is performed in a very similar manner to the open approach. The prostate specimen is then removed through one of the ports by enlarging it slightly.

Several modifications of the procedure are being incorporated at UW Urology to refine the operation. These include the addition of several supporting stitches anchoring the bladder to the puboprostatic ligaments to minimize the risk of postoperative

incontinence and the use of laparoscopic clips rather than cautery around the nerves.

Issues surrounding the robotic prostatectomy include costs and complexity of the operation. There is a steep learning curve, and centers performing relatively few of these operations may incur a significant financial loss. However, these costs are ameliorated as experience is gained and volume increases. Ultimately, it will be the quality of the operation and outcomes as well as the financial factors that will determine the percentage of operations in the United States that will be performed by open versus robotic and/or laparoscopic approaches. Accordingly, UW Urology has on-going studies evaluating recovery and surgical outcomes. **WU**

NUTRITION AND KIDNEY STONES

KRISTINA PENNISTON, PhD
ASSISTANT SCIENTIST

The lifetime incidence of kidney stones is increasing, with estimates approaching 13% in men and 7% in women. Urolithiasis is associated with substantial morbidity and recurrent stone formers frequently undergo multiple surgeries, experience lost work time, and may have reduced quality of life. Treatment for stones is costly. According to the Urologic Diseases in America Project, the estimated total annual expenditure for individuals with a diagnosis of urolithiasis is nearly \$2.1 billion, and this is likely an underestimate.

Medical management of urinary stone disease has been shown to be cost-effective for recurrent stone formers. Medical nutrition therapy, aimed at preventing new stone formation and minimizing stone growth, is a cornerstone of medical management. While medication may be prescribed for some recurrent stone formers, depending on their risk factor(s), dietary modification tailored to an individual's stone risk factors is appropriate for all. Several randomized trials have shown success with dietary and medical prevention strategies, yet more research is clearly warranted.

As a registered dietitian, I provide medical nutrition therapy to patients with stone disease in the Metabolic Stone Clinic at UW Hospital and Clinics since joining the multidisciplinary clinic in July 1999. After completing a PhD in

Nutritional Sciences at University of Wisconsin, I joined the Division of Urology as assistant scientist in June 2005. Over the past year, Dr. Stephen Y. Nakada and I have initiated a research program focused on medical management of stone disease.

Our current research efforts include:

- **Lemonade Therapy:**

Lemonade is widely championed for prevention of calcium-based stones because of its high citric acid content but only one prior study evaluated its effect on urinary citrate, a potent stone inhibitor. We recently reviewed the medical records of 100 calcium oxalate stone formers of the Metabolic Stone Clinic, all of whom were prescribed lemonade therapy (as either 4 ounces of lemon juice distributed in fluids throughout the day or 32 ounces of low-sugar lemonade daily). Of this patient population, followed for about 40 months, about one-third was also prescribed potassium citrate. We found that all patients increased their urine output and increased urinary citrate over time. Results of this research were recently presented at the American Urological Association annual meeting in Atlanta and will also be presented at the World Congress of Endourology and the North Central Section meeting of the AUA. In a separate study, we are collaborating with colleagues at Wake Forest University in North Carolina to analyze the citric acid content of various commercially-available lemonade products in an effort to provide more specific clinical recommendations to patients aimed at increasing urinary citrate.

- **Understanding the Role of Citrate:** Maintaining high urinary citrate concentrations is considered desirable to prevent kidney stones. While there is a cutoff to assess hypocitraturia

(<320 mg/24 h urine excretion), no optimal citrate concentration is defined. We recently submitted a grant to the National Institutes of Health to explore the effect of citrate at varying concentrations on crystal growth with collaborators from the Medical College of Wisconsin, and to prospectively evaluate the efficacy of lemonade therapy in recurrent calcium stone formers. We also intend to evaluate patients' compliance with lemonade therapy and other dietary recommendations.

- **Quality of Life among Stone Formers:** It is assumed that recurrent stone formers may have reduced quality of life (QOL) as do others with chronic disease. However, this has not yet been studied in urolithiasis. We received a grant from the UW Health "Quality Through Safety" grant program to assess QOL in patients of the Metabolic Stone Clinic, using a validated health-related questionnaire (SF-36 Health Survey). Patient-focused medical outcomes are a growing area of clinical interest. Analysis of the data is continuing to understand the role of comorbidities, body mass index, age, stone type, surgical procedures, occupation, and other variables on QOL in our patients.

- **Kinetic Lithotripsy:** Stephen Y. Nakada, MD is spearheading a clinical trial at UWHC assessing the safety and efficacy of a new kinetic lithotripter designed specifically for percutaneous stone removal. The UW will be one of 8 sites internationally evaluating the device. This new instrument, "the Cyberwand," will undergo randomized assessment of speed and efficacy of clinical stone fragmentation and removal. **WU**

>> PROGRAM NEWS

WELCOME TO THE 2006 PGY-1 UROLOGY RESIDENTS

TRICIA THAKER, APNP



PETER
KNOESTER, MD

Dr. Knoester received his medical degree from the University of Michigan in June 2006. He graduated from Calvin College in June 2002 with a BA in Spanish. Dr. Knoester has excelled academically and was awarded the Palma Memorial Scholarship from 2002-2006. Throughout his academic career he has also displayed remarkable leadership skills and has been active in a number of philanthropic efforts. Dr. Knoester played a critical role in organizing medical missions to Ecuador and Honduras. He also has extensive research experience and recently worked with Dr. John DeLancey on 3D Female Cross Sectional Anatomy.



NATHAN
MOORE, MD

Dr. Moore received his medical degree from the University of Wisconsin in May 2006. He graduated from the University

of Wisconsin-Eau Claire summa cum laude with a BS in Biology in December 2001. Dr. Moore's success has continued throughout his career and he was recently the recipient of the Lewis and Edith Phillips Scholarship for outstanding academic achievement in 2005. He has been involved in a variety of volunteer efforts including mentoring troubled teens and is active in the Doctors Ought to Care organization. Dr. Moore was recently a research assistant in Dr. David Jarrard's laboratory. **WU**

>> UPCOMING WISCONSIN EVENTS

● 2006 Uehling Lectures

The University of Wisconsin, Division of Urology will be holding its annual David T. Uehling Lectures on September 22-23, 2006 at The Fluno Center here in beautiful Madison, Wisconsin. This year the topic of our lecture series is "The Changing Interface of Technology and Urologic Cancer Therapy" and will encompass urothelial, bladder and prostate cancers. Our keynote speaker is Peter R. Carroll, MD, FACS, Professor and Chair of the Department of Urology at the University of California-San Francisco. Dr. Carroll is the Ken and Donna Kerr-Chevron Distinguished Professor and is Surgeon-in-Chief at the UCSF Comprehensive Cancer Center. Returning to Madison as a guest speaker is Gyan Pareek, MD, our former endourology fellow. Dr. Pareek is currently an assistant professor in the Department of Urology at Brown University in Providence, Rhode Island. In addition to the lectures, the Division of Urology will be holding a golf event Saturday afternoon, September 23 at University Ridge Golf Course in Madison.

● 2006 Fall Urology Grand Rounds Visiting Professor

October 12, 2006
JAY SANDLOW, MD

Dr. Jay Sandlow will give a lecture entitled "The state of the art of male reproduction and endocrinology." Dr. Sandlow is Associate Professor and Vice Chairman of Urology at the Medical College of Wisconsin in Milwaukee. His clinical specialty is in male infertility.

● 2007 Winter Urology Grand Rounds Visiting Professor

JONATHON ROSS, MD

Dr. Jonathan Ross will give a lecture on the subject of pediatric urology. Dr. Ross is Head of Pediatric Urology in the Department of Urology, Glickman Urological Institute at the Cleveland Clinic in Ohio. **WU**

>> CLINICAL TRIALS IN WISCONSIN

A STUDY EVALUATING DIETARY SOY SUPPLEMENTS FOR CHEMOPREVENTION OF BLADDER CANCER

JOHN WEGENKE, MD
CLINICAL PROFESSOR

In long-term prevention studies for bladder cancer and other urologic malignancies, single agent toxicity is an important consideration and has prompted the clinical study of relatively non-toxic dietary agents such as soy nutrients, green tea extract or cruciferous vegetable compounds. Here at the University of Wisconsin we are conducting an NIH-sponsored clinical trial to investigate the potential of genistein, a natural soy product,

in the chemoprevention of bladder cancer. We are presently enrolling patients with bladder cancer prior to surgery so that we may determine the effects of these agents at the tissue level. The objective of this study is to evaluate whether genistein can influence the expression of specific tumor markers for bladder cancer, and to document any genetic susceptibility to the effects of genistein. These markers will be studied in urine specimens, blood, and in tissue retrieved from TURBT or cystectomy.

The study is a double-blind, placebo-controlled trial of oral genistein 300 mg vs genistein 600 mg vs placebo taken once daily for 2-3 weeks prior to TURBT or cystectomy. It is a multi-center trial being conducted at 9 institutions which are part of the University of Wisconsin Chemoprevention Consortium led by Dr. Howard Bailey. Safety labs, urine biomarkers, pharmacokinetic studies of blood and urine, and pharmacogenomic markers (blood) will be done pretreatment,

following one week of treatment and on the morning of surgery. Tissue biomarkers will be done on existing blocks or 10 unstained slides obtained from the TURBT or cystectomy specimen and the initial diagnostic biopsy if available.

Side effects are relatively non-toxic and may include headache, pain, sore throat, constipation, nausea, breast tenderness, and edema. Laboratory abnormalities included elevated lipase and decreased phosphorous, which were not clinically significant.

Clinical translational research studies such as these may have more immediate impact for patients with superficial bladder cancer in minimizing tumor recurrence and progression.

Further information regarding patient enrollment can be obtained by contacting Jason Gee, MD, Lead Study Investigator, Division of Urology/Department of Surgery at the University of Wisconsin Comprehensive Cancer Center. **WU**



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