

UROLOGY NEWS

YEAR IN REVIEW
2009

NIH AWARDS BEAUMONT \$2.3 MILLION GRANT TO STUDY NERVE REROUTING

Three years ago, Beaumont researchers were first in the U.S. to perform a nerve rerouting procedure in hopes of restoring bladder and bowel function in people with spina bifida.

While the procedure shows promise, the researchers were seeking to expand their initial pilot study and needed more funding. They submitted an application through the National Institutes of Health's highly competitive grant process. The NIH recently awarded the Beaumont Research

continued on page 3

HAPPY NEW YEAR!

The Department of Urology at Beaumont Hospital, Royal Oak, had a successful year in 2009 and I am excited about the future of urology at Beaumont.

As you will see in this issue of *Beaumont Urology News*, the department and our clinicians continue to make an impact, not only in the Beaumont community, but also on a national level.



Kenneth M. Peters, M.D.

Our success was made possible by the hard work of our faculty and staff. Philanthropy is needed to perform leading-edge research and enhance patient care. We remain grateful to Peter and Florine Ministrelli for their support of the urology program and we recently received a generous donation to create a dedicated woman's urology center slated to open this spring.

Beaumont had a major presence at the annual meeting of the American Urological Association in April and at the North Central Section of the AUA in November.

Our clinicians had numerous articles published in prestigious journals, we received two noteworthy grants that will be used to further our research and education, and the department once again made the *U.S. News & World Report's* "Best Hospitals" list for 2009.

In September, Beaumont hosted a two-day international symposium at the Royal Oak campus and at the Ritz-Carlton in Dearborn focusing on our success with the lumbar to sacral nerve rerouting procedure. Physicians from all over the globe came to Beaumont to learn more about the procedure and take part in a hands-on lab.

The symposium coincided with our seventh annual MPURE Golf Outing, held at Twin Lakes Golf & Swim Club in Oakland. Special thanks to Ron Marino and Jose Gonzalez, M.D., for organizing this event.

While these tough economic times have made it challenging for all of us in the health care field, we here at Beaumont are as committed as ever to conducting leading-edge research and providing the highest quality of care to our patients.

All the best to you in 2010,

Kenneth M. Peters, M.D.

Chairman of Urology, Beaumont Hospitals

Professor, Oakland University William Beaumont School of Medicine

INSIDE

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Nerve rerouting symposium.....	2
AUA North Central Section.....	4
Urology residents.....	4
BioBank resource.....	4
Urology well represented at AUA....	5
Stem cell trial for stress incontinence.	6
Grant from SUFU.....	7
Bladder repair with <i>da Vinci</i>	7
Urology research update.....	8
BioBank symposium.....	8
WISH Program.....	10

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NERVE REROUTING SYMPOSIUM A ROUSING SUCCESS

The weekend of September 11-12 was a weekend to remember for the department of Urology at Beaumont Hospital, Royal Oak.

After numerous hours of planning and organizing, the First Annual Symposium on Bladder Neuro-restoration and Nerve Rerouting took place in the state-of-the-art Applebaum Surgical Learning Center at Beaumont and the beautiful Ritz-Carlton hotel in Dearborn.

According to Urology Chairman Kenneth Peters, M.D. and Michael Chancellor, M.D., director of Neurourology, the co-directors of the symposium, the entire weekend was splendid.

"We had more than 80 participants from all over the world come to Beaumont," said Dr. Peters. "People came from Australia, China, India, the United Kingdom, Italy, Germany, Canada and the United States. Our international attendees, such as those from Australia, said it was well worth the 26-hour flight. I am very proud of my Urology team who helped put this course together and their hard work and dedication to making this a successful meeting."

A hands-on lab with three cadavers started the two-day event at the SLC. Dr. Peters, Holly Gilmer, M.D., chief of Pediatric Neurosurgery at Beaumont, and Chuan-Guo Xiao, M.D., the physician who pioneered the nerve rerouting procedure over in China and was the first to perform the surgery in the U.S., demonstrated the procedure on the cadavers in three breakout sessions for the participants.

"Just about every attendee came up to me and told me how appreciative they were of having the best experts in the world, such as William de Groat, M.D. (from the University of Pittsburgh) and Dr. Xiao, come to Detroit



Cadaver dissection with Dr. Gilmer (at far left)

to teach and that they were so open to answering all their questions," added Dr. Chancellor.

The following day at the Ritz-Carlton, a didactic lecture was staged with some of the leading urology and neurology experts in the world. Dr. Peters, on behalf of Beaumont, also presented Dr. Xiao an award in recognition of his contributions to modern medicine.



Kevin Feber, M.D., Kenneth Peters, M.D., Chuan-Guo Xiao, M.D. and Michael Chancellor, M.D.

William Nantau, B.Sc, CNIM, Clinical Neurophysiology, made a presentation on Friday, and Drs. Peters and Chancellor also lectured on Saturday. Dr. Peters took part in a roundtable discussion Saturday on other medical centers' experiences with the nerve rerouting procedure and also gave a talk on pudendal nerve neuromodulation.

"The course was very well-received with rave reviews," says Dr. Peters. "The attendees commented that it was one of the best courses they ever attended. Having the opportunity to disseminate to the world the great things we are doing in the Urology Department at Beaumont is an honor. This course further solidifies our department as the world's leader in neuro-restoration and has opened the door to international collaboration.

"In these difficult economic times, it is very refreshing to hear some positive news to remind us that Beaumont is truly a great hospital system."

Beaumont Faculty

- **Kenneth M. Peters, M.D.**, chairman of Urology; clinical professor, Oakland University William Beaumont School of Medicine
- **Michael B. Chancellor, M.D.**, director, Neurourology Program; clinical professor, Oakland University William Beaumont School of Medicine

continued on page 3

Beaumont Faculty *continued*

- **Holly Gilmer, M.D.**, chief, Pediatric Neurosurgery, Beaumont nerve rerouting study co-investigator
- **Kevin Feber, M.D.**, pediatric urologist, Beaumont nerve rerouting study co-investigator
- **William Nantau, B. Sc., CNIM**, Department of Clinical Neurophysiology

Guest Faculty

- **Chuan-Guo Xiao, M.D.**, Professor and Chairman, Department of Urology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China
- **William C. de Groat, Ph.D.**, Professor of Pharmacology, University of Pittsburgh, Penn.
- **Ravish Patwardhan, M.D.**, The Comprehensive Neurosurgery Network, Shreveport, La.
- **Michael R. Ruggieri, Sr., Ph.D.**, Director of Urologic Research, Temple University School of Medicine, Philadelphia, Penn.
- **Karl-Dietrich Sievert, M.D.**, vice chair, professor of Urology, director of Uro-Oncology, Neurourology, Incontinence and Reconstructive Urology, Department of Urology, University of Tubingen, Germany
- **Changfeng Tai, Ph.D.**, assistant professor of Urology and Pharmacology, University of Pittsburgh, Penn.
- **Gerald Tuite, M.D.**, Department of Pediatric Neurosurgery, All Children's Hospital, St. Petersburg, Fla.

NIH AWARDS BEAUMONT \$2.3 MILLION GRANT TO STUDY NERVE REROUTING *continued from page 1*

Institute \$2.3 million to conduct a more rigorous study to establish the safety and effectiveness of the nerve rerouting procedure for children with spina bifida.

"Obtaining a prestigious, five-year research grant from the NIH is very difficult in this economy," says Kenneth Peters, M.D., principal investigator and chairman of the department of Urology.

The NIH-funded research trial is titled, "Safety and Efficacy of Nerve Rerouting for Treating Neurogenic Bladder in Spina Bifida."

In spina bifida, the nerves that control the bladder and sphincter are damaged. People cannot urinate without the use of a catheter or are constantly wet. Most experience recurrent urinary tract infections. Also, the backup of urine into the kidneys can damage these delicate organs. As a result, kidney dialysis may be required.

The research at Beaumont uses a spinal surgery pioneered in China to redirect nerves from the leg to the bladder to gain better control of urination. Beaumont was the first hospital in the nation performing this surgery, and patients have traveled from as far as Utah and Pennsylvania to have it.

Adds Dr. Peters, "Achieving the aims of this study will provide both short and long-term follow-up data and place this procedure on a firm foundation for becoming one of the standard surgical approaches used to restore bladder and bowel function in the U.S."

Beaumont will be the lead research center and anticipates having one or two other centers participate in the trial. Co-investigators include Holly Gilmer, M.D., chief, Pediatric Neurosurgery and Kevin Feber, M.D., pediatric urologist.

Beaumont is currently the only center in the nation funded to study nerve rerouting to restore voiding by the National Institute of Diabetes and Digestive and Kidney Disease, a division of the NIH.

The Beaumont Research Institute has 430 investigators conducting more than 925 active laboratory and clinical studies. This includes 96,000 participants. The research studies are funded by government, foundation and commercial grants.

"Being awarded this federal funding demonstrates the importance of the leading-edge research we are doing in Urology."

Kenneth M. Peters, M.D.

NORTH CENTRAL SECTION OF AUA YIELDS MANY PRESENTATIONS

At the annual meeting of the North Central Section of the American Urological Association held last November in Phoenix, Ariz., the following presentations were given by Beaumont urologists.

Beaumont Urology staff is noted in **bold**.

Bui DT, Relle J, Rosenberg B, Seifman B, Shetty S. Robotic-assisted laparoscopic cystectomy (RALC) in a community hospital.

Burks FN, Diokno AC, Sirls LT, Nagaraju P, Cooney MN, Peters KM. Sexual function and urinary symptoms after vaginal surgery.

Burks FN, Carrico DJ, Cooney MN, Peters KM. Current perception thresholds of the bladder and urethra after sacral neuromodulation.

Burks FN, Carrico DJ, Peters KM. Interstim® impact on vulvar current perception thresholds (CPT) of women with interstitial cystitis (IC/PBS).

Dyche D, Bui DT, Burks F, Hafron J. Percutaneous renal cryotherapy using three-dimensional (3D) cone beam fluoroscopy (CBF) in a swine model.

Eliya F, Sirls LT, Nagaraju P, Killinger KA, Mullins K, Thomas P, Peters KM. Complications associated with a mesh based system for repair of pelvic organ prolapse.

Nikolavsky D, Chancellor MB, Peters KM, Tyagi V, Vodovotz Y, Barclay D, Tyagi P. Urine proteomic study on interstitial cystitis/IC, painful bladder syndrome/PBS patients.

Peters KM, Killinger KA, Boguslawski B. Pudendal neuromodulation is a viable option for symptoms refractory to sacral neuromodulation.

Peters K, MacDiarmid S, Wooldridge L, Leong FC, Shobeiri SA, Rovner E, Siegel S, Tate S, Faegins B. Long term results of percutaneous tibial nerve stimulation (PTNS).

In addition, **Howard Korman, M.D.**, is on the NCS bylaws committee, awards committee, and AUA bylaws committee.

BIOBANK: A USEFUL RESOURCE FOR ALL OF BEAUMONT

Beaumont's Research Institute at Royal Oak has a newly established BioBank that is used as a resource to collect specimens for future research trials.

Urology Chairman Kenneth Peters, M.D., explained how the BioBank is useful and valuable for researchers today and researchers decades from now.

"The BioBank researchers search the OR schedule and come to my hydrodistensions and consent patients to bank urine, serum and bladder biopsies," said Dr. Peters. "This is done in ulcerative and non-ulcerative interstitial cystitis and has been seamless. It provides a valuable tissue bank for future biochemical and genetic studies. My goal is to extend this to renal cancer."

continued on page 9

UROLOGY RESIDENTS REFLECT ON SIX YEARS AT BEAUMONT

As each year passes, two residents from the Urology department graduate from the residency program and join a private practice or pursue a fellowship program.

This year, Benjamin Girdler, M.D., and Scott Kalinowski, M.D., completed their six-year residencies and were both honored



Benjamin Girdler, M.D.

at a ceremony at the Ritz-Carlton in Dearborn on June 20.



Scott Kalinowski, M.D.

Dr. Girdler is heading to Fort Collins, Co., to join a private practice, Urology Center of the Rockies, while Dr. Kalinowski is venturing home to Phoenix to join Urology Associates.

Both physicians reflected on their time at Beaumont and why they chose the urological field in the first place.

"I chose Urology because I met a couple of great mentors at my medical school at the University of Iowa," said Dr. Kalinowski. "They were great role models for me in my professional and family life. I was also attracted to the variety Urology offers and the ability to be a surgeon with long-term follow-up with my patients."

continued on page 10

BEAUMONT UROLOGY AGAIN WELL REPRESENTED AT AUA MEETING

This past April, the Urology Department at Beaumont again made great strides with numerous presentations at the annual meeting of the American Urological Association in Chicago.

The presentations were as follows, with Beaumont urologists and staff in **bold**:

- Carr LK, Herschorn S, Birch C, Murphy M, Robert M, Jankowski RJ, Pruchnic R, Wagner D, **Chancellor MB**. Autologous muscle-derived cells as a therapy for stress urinary incontinence: A randomized, blinded, multi-dose study.
- **Chancellor MB**, Vasavada S. The overactive bladder syndrome (OAB) and obesity: Evidence of antimuscarinic efficacy regardless of body mass index at baseline.
- **Chancellor MB**, Lajiness MJ. Botulinum Toxin: Why use it? How to do it? What are the results?
- Chuang YC, Hsien K, **Tyagi P**, Huang CC, Wu M, Yoshimura N, Kaufman J, **Chancellor MB**. Urodynamic and immunohistochemical evaluation of intravesical Botulinum Toxin A delivery using liposomes.
- Girdler BJ, Turzewski C, Feber K, Nantau W, Gonzalez JA, de Benito J, Kass EJ, Diokno AC, Trock G, Bush B, Peters KM. One year clinical outcomes with lumbar to sacral nerve rerouting in spina bifida.
- Girdler BJ, de Benito J, Gonzalez JA, Nantau W, Feber K, Bush B, Trock G, Diokno AC, Eliya F, Peters KM. Detailed method of performing nerve rerouting in spinal cord injury and spina bifida.
- Jacobs BL, Smaldone MC, Tyagi V, Philips BJ, Jackman SV, Leng WW, **Tyagi P**. Increased urine levels of nerve growth factor in patients with neurogenic overactive bladder and interstitial cystitis/painful bladder syndrome.
- Kaufman J, **Tyagi P**, **Chancellor MB**. Intravesical liposomal (LP08) instillation protects bladder urothelium from chemical irritation.
- Kitta T, Miyazato M, Honda M, **Chancellor MB**, Nonomura K, Yoshimura N. Estrogen deficiency causes an early stage altering of urethral responses during sneeze reflex.
- Kuo HC, **Chancellor MB**. Comparison of intravesical Botulinum Toxin A injections plus hydrodistention and hydrodistention alone for treatment of refractory interstitial cystitis.
- Liu HT, Kuo HC, **Chancellor MB**. Decrease of urinary nerve growth factor levels after antimuscarinic therapy in patients with overactive bladder.
- MacDiarmid SA, Peters KM, Leong FC, Shobeiri A, Rovner ES, Wooldridge LS, Siegel SW, Tate SS, Jarnagin BK, Rosenblatt PL, Feagins BA. Long-term sustained therapeutic effect of percutaneous tibial nerve stimulation in the management of overactive bladder.
- Miyazato M, Kaiho Y, Kitta T, Sugaya K, Saito S, **Chancellor MB**, de Groat WC, Yoshimura N. Effects of fluoxetine, a serotonin reuptake inhibitor, on the sneeze-induced continence reflex in rats.
- **Tyagi P**, Nikolavsky D, Vodovotz Y, Barclay D, Tyagi V, Peters KM, **Chancellor MB**. Urine levels of selected chemokines positively correlate with lower bladder capacity and psychometric scores in IC/PBS patients.
- **Tyagi P**, Tyagi V, Witteemer E, Kuo HC, Yoshimura N, Peters KM, **Chancellor MB**. Expression of Ghrelin receptor in bladder points to a new link between obesity and the overactive bladder.
- **Tyagi P**, Jacobs BL, Barclay D, Vodovotz Y, Leng WW, Kuo HC, **Chancellor MB**. Urine levels of inflammatory chemokines can be novel biomarkers for the overactive bladder.
- Watanabe JH, Campbell JD, Ravelo A, **Chancellor MB**, Kowalski J, Sullivan SD. Three year cost analysis of sacral neuromodulation, intra-detrusor injection of Botulinum Toxin type A, and augmentation cystoplasty for overactive bladder with urinary urge incontinence.
- Yokoyama H, Saitoh C, Miyazato M, Nishizawa O, **Chancellor MB**, Goins WF, Goss JR, Glorioso JC, Yoshimura N. Effects of herpes simplex virus vector-mediated enkephalin gene therapy on bladder overactivity and nociception.
- Yunoki T, Naito S, **Chancellor MB**, Yoshimura N. Botulinum neurotoxin-A inhibits L-type voltage-gated Ca²⁺ current in rat and human detrusor smooth muscles.

"Research done at Beaumont is recognized on a national level and consistently on an international level," stated Urology Chairman Kenneth Peters, M.D.

"At the AUA conference, we always seem to have some of the most well-attended sessions and that's a credit to the hard work of our clinical staff."

Larry Sirls, M.D., also presented "Single institution experience of peri-operative and short-term complications with the Prolift repair system for pelvic organ prolapse."

continued on page 10

Offering New Hope Through Research:

ADULT HUMAN STEM CELL TRIAL TO TREAT STRESS INCONTINENCE

For 15 years, Janice Hoffman carried a troubling burden. Every time she left the house, she made sure she could quickly find the nearest restroom. Shopping trips, a round of golf and even a simple walk around the neighborhood became more worrisome. Hoffman suffered with stress urinary incontinence, the cause of wetness with coughing or physical activity.

"My problem became more serious over the years," said Hoffman, 66, a retired insurance adjustor from Clawson. "My husband and I do a lot of traveling, but that became a pain. I was always fearful that I wouldn't be able to find a bathroom in an unfamiliar place. I worried about making it to the nearest bathroom on the golf course. I sometimes had the urge to go every half hour and even carried a change of clothes."

Two autumns ago, Hoffman decided she'd had enough and made an appointment at Beaumont Hospital in Royal Oak. She intended to have invasive surgery to correct the problem, but instead she became the first woman in the country to have her own stem cells used to strengthen weak muscles that control urination. Beaumont urologists are pioneering this study, supported by Cook Urological.

"If successful, muscle-derived stem cell therapy could offer new hope to people and offer them a life free of urinary leakage," said Kenneth Peters, M.D., chairman of Urology, who is leading the research with Michael Chancellor, M.D., director of Neurourology. "This is an exciting study because it doesn't involve surgery and patients are using their own stem cells."

Stress urinary incontinence affects about 13 million Americans, most of them women, but also men who have had surgery for prostate cancer. Current

treatments, including medicine, exercises and surgery, are not always effective and may have undesirable side effects.

Beaumont is actively enrolling research participants. At this time, the study is open to women experiencing stress urinary incontinence. The goal is to enroll 48 participants. To date, 33 women have been enrolled in the study.

Research related activities include collecting a small sample of muscle tissue from the participant's thigh and growing the tissue into cells, which are then injected into the muscles that control urination to strengthen the muscles and prevent leakage.

Participation includes physical exams, procedures to assess the bladder, completing voiding diaries and questionnaires and a variety of diagnostic tests. Beaumont urologists will evaluate patients up to 14 months after cell injection.

Dr. Chancellor removed tissue from Hoffman's thigh in October of 2008. Six weeks later,

the stem cells were injected into her muscle tissue. After just three months, Hoffman says she's showing some improvement with fewer trips to the bathroom.

"I can play an entire round of golf lasting two and a half hours without having the urge to go," she said. "It's a wonderful new procedure that can really help a lot of people. I'm glad to have been one of the pioneers of this study."

"The department of Urology at Beaumont, Royal Oak, is nationally known for their clinical care and leading-edge research on female urological issues," noted Dr. Peters. "With the launch of the Women's Urology Center this spring, we will further enhance our ability to provide urologic care to women."

"With the launch of the Women's Urology Center this spring, we will further enhance our ability to provide urologic care to women."

UROLOGY AWARDED GRANT FROM SUFU

The Urology Department has been awarded a \$40,000 grant from the Society for Urodynamics and Female Urology (SUFU) for a new study on urine markers.

Urinary Biomarkers in IC/PBS Patients Before and After Treatment With InterStim®

Interstitial cystitis/painful bladder syndrome (IC/PBS) is a difficult disease to diagnose and treat. Urinary biomarker identification using proteome-wide analysis used can be used to assess patient's response to treatment with InterStim® in addition to providing an unbiased noninvasive and expeditious diagnosis of IC/PBS. Urine biomarkers can provide information about the state of bladder as a whole compared to limited site-specific information from tissue biopsy. We have begun a comprehensive research program to assess urine biomarkers in IC/PBS and propose to use a new high throughput technique for biomarker discovery after Interstim® therapy.

We hypothesize that therapeutic benefit of InterStim® mediated neuromodulation is reflected by changes in urine levels of cytokines, chemokines and growth factors in treated patients. Our aim is to screen for a panel of urinary proteins (NGF and inflammatory chemokines) in a prospective study on IC/PBS patients at baseline for 6 months InterStim®.

The investigators of this study, which will start in the first quarter of 2010, will be Michael Chancellor, M.D., fourth-year Urology resident Don Bui, M.D., and Kenneth Peters, M.D., Urology Chairman.

WOMEN'S UROLOGIST DOES MINIMALLY INVASIVE REPAIR OF BLADDER USING DA VINCI® SURGICAL ROBOT

Paula Marengo was home recuperating from a hysterectomy when she started leaking a small amount of urine.

"I was sitting watching television and I noticed there was something going on that shouldn't be going on," she said.

Marengo, 42, of Royal Oak had developed a small hole – a fistula – between her bladder and vagina that allowed the leakage.

Her doctor referred her to Beaumont Hospitals' Melissa Fischer, M.D.

That may be because in addition to medical school and a urology residency, Dr. Fischer completed additional training, a female urology fellowship, at New York University, and because she focuses her practice on women's issues, including prolapse, voiding and incontinence.

Dr. Fischer made five tiny incisions in Marengo's abdomen and used a *da Vinci* robot to repair the hole in a minimally invasive surgery.

Marengo was discharged from the hospital the next day and a few days later she was out enjoying dinner with friends.

"All in all, it was good, it was fine," she said. "I felt like a new person."

Dr. Fischer believes that robotic surgery is far superior to the traditional method for repairing a fistula, which involves accessing it through the vagina or making a 10-inch incision in the abdomen. The surgeon can see the area she's operating on better; there is less blood loss and possibly reduced need for transfusion; and less vaginal manipulation minimizes the possibility of sexual dysfunction.

Working inside the vagina can lead to sexual dysfunction.

In addition, patients stay on average one to two

nights in the hospital after robotic surgery compared with two to four nights of hospitalization after surgery involving an abdominal incision.

"Furthermore, previous abdominal surgery, including a prior attempt at repairing the fistula, doesn't rule out a robotically assisted repair," said Dr. Fischer. "In my opinion, the robotic approach offers unique advantages while maintaining a high success rate for a challenging situation."



Melissa Fischer, M.D., with the *da Vinci* surgical robot

BASIC RESEARCH HAS BEGUN IN UROLOGY

Pradeep Tyagi, Ph.D.

The department of Urology at Beaumont has a long tradition of carrying out leading-edge research in the clinic and developing translational research programs.

Since last year, the department invested heavily to build on its known strengths in clinical research for interstitial cystitis and neuromodulation for voiding dysfunction. The investment included transitioning into basic research lab space in Beaumont's Research Institute. We started work on several projects that have immense potential for clinical translation in the immediate future as well as a better chance to secure extra-mural funding.

One of the new projects is on urinary proteomics, which looks at patients' urine samples at the urology clinic to decipher objective information about their health or disease status. We are also studying the new concept of inflammation in the bladder mediated by chemokines as a crucial step in the evolution of disease. The project aims to derive maximum benefit from the initiative of the Biobank, which was established by the Research Institute.

Using traditional ELISA and the Luminex xMAP technology, we hope to replace the biopsy-based diagnosis of bladder dysfunction. The proof of principle for our approach is demonstrated in the numerous research articles published by Michael Chancellor, M.D., Beaumont's director of Neurourology, that support the use of nerve growth factor in urine for dynamic monitoring of bladder dysfunction. Unlike a biopsy, urine-based diagnosis is non-invasive and drastically reduces the associated health care costs.

The other basic science project also aims to reduce the health care cost to the patient and hospital with a new drug delivery system using liposomes to deliver Botulinum toxin into the bladder. In current urological practice, Botulinum toxin is delivered by a sophisticated injection into the bladder that requires a trip to the operation room to help patients with overactive bladder, painful bladder syndrome/interstitial cystitis.

We plan to use liposomes to develop a simpler, less invasive and less costly method of delivering Botulinum toxin without injection. Liposome-based formulation of Botulinum toxin can be easily instilled into the bladder to achieve its pharmacological effects with lower drug- and procedure-related risks.



Pradeep Tyagi, Ph.D.

Background

- Assistant professor of Urology at the University of Pittsburgh School of Medicine
- earned his Ph.D. from the University of Pittsburgh School of Medicine
- research includes previous NIH-funded research on urine biomarkers and the use of liposomes to coat the bladder as well as a platform for bladder drug delivery

DR. TYAGI SPEAKS AT 2ND ANNUAL BIOBANK SYMPOSIUM

Beaumont research hosted the 2nd Annual BioBank Symposium on Nov. 13, 2009, which featured presentations on the "Road to Personalized Medicine." More than 200 clinicians, nurses, researchers and administrators from across the Beaumont system were in attendance.

One of the presenters, Pradeep Tyagi, Ph.D., is the director of the Urology Research Laboratory.

Dr. Tyagi described the clinical problem of interstitial cystitis (IC) and why biomarkers are needed for better diagnostic, prognostic and treatment response information. He discussed a pilot study using the BioBank's bead array platform to study multiple chemokines simultaneously in a series of urine samples from patients with moderate or severe IC and controls. This pilot study identified IL-8, an inflammatory-related chemokine, being associated with severe IC.

UROLOGY IN SPOTLIGHT AT LOCAL, INTERNATIONAL MEETINGS

Aside from Beaumont making a splash at the annual meeting of the American Urological Association (see article in this issue), several Urology staff members also made an impact at meetings held across the country.

Beaumont received two awards at the **Society for Urodynamics and Female Urology meeting** in Las Vegas in February.

Melissa Fischer, M.D., won best video award for her work on robotic vesicovaginal fistula repair and Pradeep Tyagi, Ph.D., director of the Urology Laboratory at the Research Institute, won best clinical research award as primary author of "Hypotesis Drive Urine Proteomic Study on Interstitial Cystitis/Painful Bladder Syndrome Patients."

At the **National Institutes of Health-sponsored National Institute of Diabetes and Digestive and Kidney Diseases' New Research Directions in Urinary Incontinence Symposium** in Bethesda, Md., in January, two more awards came to Beaumont.

Dr. Tyagi won the Basic Science Research Award as primary author of "Urine Inflammatory Chemokines are Novel Biomarkers for the Diagnosis of the Overactive Bladder," and Kenneth Peters, M.D., chairman of Urology at Royal Oak, won the Clinical Research Award as primary author of "One Year Clinical Outcomes with Lumbar to Sacral Nerve Rerouting in Spina Bifida."

Ananias Diokno, M.D., Beaumont urologist, chief medical officer and executive vice president, and Michael Chancellor, M.D., director of Neurourology, were also invited speakers at the NIH meeting along with Dr. Peters.

"Considering this meeting included international experts in incontinence, to have three invitees from Beaumont speaks volumes as to the expertise we have at our hospital in voiding dysfunction," noted Dr. Peters.

Dr. Peters also received a third-place award for the most significant original research contribution for his urology abstract, "One Year Clinical Outcomes with Lumbar to Sacral Nerve Rerouting in Spina Bifida," at the **Spina Bifida Association's First World Congress on Spina Bifida Research and Care** in March in Orlando.

Donna Carrico, N.P., M.S., presented information on the WISH Program and interstitial cystitis to the Women's Leadership Initiative at Beaumont in April and to the Interstitial Cystitis Support Group in March. In addition, she lectured on interstitial cystitis at the Michigan Council of Nurse Practitioners Conference in Troy in March.

Shelly Lajiness, APRN, BC, Nurse Practitioner with Urology Associates, presented "The Use of Botulinum Toxin in Urology: A Case Study Approach" at the Society of Urologic Nurses and Associates (SUNA) Annual Conference in Chicago on October 4, and was also awarded the Patricia Putetti Memorial Lectureship for that presentation.

BIOBANK: A USEFUL RESOURCE FOR ALL OF BEAUMONT *continued from page 4*

Amy Murawka, R.N., research associate nurse manager, monitors the OR schedule for procedures and spends time with each patient and their families as the consent is reviewed and signed.

The BioBank will also work closely with Pathology if a specimen needs oversight prior to collection.

Dr. Peters went on to detail how this would work for the renal cancer patients.

"The BioBank would identify nephrectomies and partial nephrectomies being done for renal cancer (robotic, laparoscopic or open)," he said. "The BioBank researchers would meet the patient in pre-op and consent them to bank tissue.

"In the pre-op area, urine and serum will be collected and flash frozen. Once in the operating room, the circulator would page the BioBank when the specimen is nearly out.

The BioBank researchers will then come to the operating room. The surgeon or resident needs to biopsy the mass once the specimen is out and this can be done with a biopsy gun or wedge resection. Two samples of the mass will be collected and processed for banking in separate containers provided by the BioBank."

Ideally, two biopsies of the "normal" portion of the kidney should be done also, added Dr. Peters. This would be required for nephrectomies and would be at the discretion of the surgeon for partials (i.e. the whole kidney was not removed).

The BioBank is located on the fourth floor of the Research Institute in office 412.

For more information on the BioBank, please call Amy Murawka, R.N., 248-551-0120 or visit www.beaumont-hospitals.com/biobank.

BEAUMONT AT AUA MEETING *continued from page 5*

This is a very important study for Beaumont as it shows that the Prolift mesh delivery system for pelvic organ prolapse can be accomplished with acceptable morbidity.



Larry Sirls, M.D.

The Gynecare Prolift System uses mesh to correct the anterior, apical and posterior compartments through a vaginal approach. Dr. Sirls presented the team's findings where they retrospectively reviewed 191 patients who underwent prolapse surgery with the Gynecare Prolift System between October 2005 and April 2008 by three fellowship-trained urologists

at Beaumont. Peri-operative and short-term complications were evaluated focusing on surgical complications, transfusion, mesh exposure and re-operation for any reason.

The mean patient age is 65 +10 years and mean follow up was 18.6 + 9 months. A total of 102 (53%) had anterior or anterior and apical mesh, 26 (14%) posterior mesh only, 63 (33%) had anterior, apical and posterior mesh and 48 (25%) had concurrent hysterectomy. Mean operative time and length of stay was 118 minutes and two days, respectively. Two out of the 191 (1%) had a recognized bladder injury that was repaired and mesh placed.

Peri-operative complication rates included 6/183 (3%) patients with post-operative hematoma, 10/190 (5%) patients required transfusion and none requiring intervention. A learning curve was observed with 4/10 transfusions in the first 25% of cases, 4/10 the second 25%, 2/10 in the third 25% and none in the last 25% of patients. A total of 9/183 (5%) had urinary retention requiring prolonged catheterization and 9/183 (5%) patients reported perineal or buttock pain that resolved without intervention. Sixteen of 183 (9%) patients had mesh exposure on physical exam and 9/183 (5%) had recurrent prolapse identified.

Secondary operations were required in 29/182 (16%) patients for local mesh excision, obstructed voiding, persistent or de-novo stress urinary incontinence and recurrent prolapse. Mesh exposure and need for transfusion did not correlate with age, body mass index, grade of prolapse, prior prolapse surgery, prior or concurrent hysterectomy, menopausal status or HRT use.

Co-authors on the Prolift presentation were Pradeep Nagaraju, M.D., Fadi Eliya, M.D., Kim A. Killinger, M.S.N., Keith Mullins, B.S., Paul Thomas and Dr. Peters. Funding was made possible through the Ministrelli Program for Urology Research and Education (MPURE).

Next year's AUA meeting will be held in San Francisco.

WISH PROGRAM RECOGNIZED ON LOCAL BROADCAST

A recent WXYZ-TV7 story generated great publicity for Beaumont's Urology department.

The story, which featured Donna Carrico, N.P., M.S., from the Women's Initiative for Pelvic Pain and Sexual Health, or WISH, and one of her patients, led to more than 7,000 hits to that article's page on the TV7 Web site – the second highest number of hits of any story they had that week – and also resulted in 27 new appointments for the WISH Program.



Donna Carrico, N.P., M.S.

The WISH program is available to women of all ages who experience pelvic pain, bladder pain, urgency frequency, vulvar pain or alterations in their sexual function.

To view the WXYZ news story, please go to www.wxyz.com and search "Pelvic Pain Relief."

For more information on the WISH Program, please call 248-551-3565.

UROLOGY RESIDENTS *continued from page 4*

"I was attracted to the balance between major operations, minor procedures and the office," added Dr. Girdler. "The technology used by urologists was appealing as well. Most of all, urologists seemed to love what they do."

Both graduates also gave praise to those who helped guide them on their six-year grind.

"There is no doubt that Dr. Jay Hollander has been the biggest influence in my training," Dr. Kalinowski said. "He is a dedicated surgeon and a great moral compass for all Urology residents."

"I think I've taken a little bit away from everyone I've come in contact with at Beaumont," Dr. Girdler noted. "From the secretaries, to the research nurses, surgical techs, floor nurses, to all of the attendings, it's been an amazing experience."

Frank Burks, M.D., and Fadi Eliya, M.D., are the incoming chief residents and Dr. Kalinowski offered some worthwhile advice to both.

"I think the key to chief year is remembering to enjoy it," he said. "It is a stressful year, but full of great opportunities. I hope they enjoy it to the fullest."