



CENTER FOR NEUROUROLOGY & CONTINENCE *Newsletter*

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BIDMC Establishes New Multi-Disciplinary Neuro-urology and Continence Center

The Center for Neuro-urology and Continence is up and running. We are located on the third floor of the Shapiro Clinical Center at Beth Israel Deaconess Medical Center at the corner of Longwood and Brookline Avenues.

The principals involved in the formation of the Center are Drs. Anurag K. Das (Director), David Chapin, Kathy Niknejad and Frank Opelka. Of course, it took many people working together to realize our goal. Special thanks go to Paul Levy, chief executive officer; Michael Epstein, chief operating officer; Dr. Josef Fischer, chairman of surgery; Dr. Benjamin

Sachs, chairman of obstetrics/gynecology; and Dr. William Dewolf, chief of urology. We also want to thank Pat Thurston, Suzanne Campion, and Gina Reidy for their support; and Jan Krohn, Coleen Ryan and Ione Echeverria for all their hard work.

The Center will continue to grow as we add more staff and services. Working with urologists, neurologists, obstetrics and gynecologists and primary care physicians locally, regionally, and nationally, we will provide the highest standard of clinical care utilizing a multidisciplinary approach.

The research arm of the Center will be conducting clinical trials primarily in the fields of incontinence, voiding dysfunction, BPH, and erectile dysfunction.

For continuing education, in the spring, we will have a postgraduate course for primary care physicians on the current treatments for incontinence and pelvic prolapse.



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Jan Krohn in the Video-urodynamics and neuro-physiology laboratory.

New Developments

Urinary urge incontinence and urinary frequency/urgency are common problems often referred to as overactive bladder. There are several new drugs in various stages of development for this condition. In the near future, we will be

involved in a Phase III clinical trial to test a new medication for overactive bladder. All medications and testing will be free of charge to participants who qualify. We will also be conducting trials for a new drug for stress

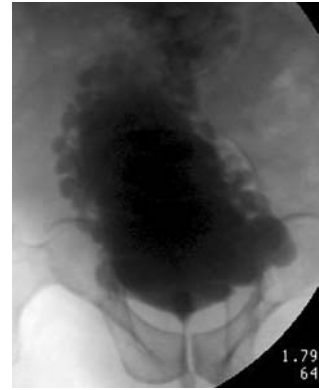
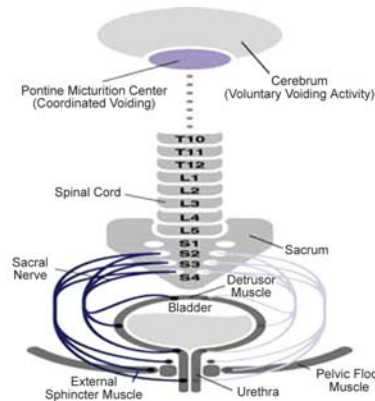
incontinence and treatments for refractory overactive bladder. For further information, please contact Jan Krohn at jkrohn@bidmc.harvard.edu or call 617-667-9720 or 617-667-5619.

Neuro-urology

Patients with neurological diseases often have voiding dysfunction (voiding problems), such as incontinence (leakage), incomplete emptying or retention (inability to urinate). They can also develop dyssynergia, a condition that occurs when the sphincter muscles and bladder muscle work against each other rather than in a coordinated fashion; or poor bladder compliance (elasticity). If left untreated, these conditions can sometimes lead to kidney damage. Aside from causing adverse health problems, urinary problems are a major source of frustration in this patient population. Accurate diagnosis can prevent renal

complications, while therapeutic options can provide social continence.

The schematic below illustrates the complexity of the nerve supply of the lower urinary tract.



The voiding cystourethrogram above shows the bladder of a patient with neurologic disease causing detrusor sphincter dyssynergia leading over time to significant thickening of the bladder wall, changes in bladder compliance, and the formation of multiple diverticulae.

Female stress incontinence and pelvic prolapse

There are a variety of ways to treat female incontinence with or without pelvic prolapse. New medications are on the horizon and minimally invasive treatments are currently available. We are proficient in the use of periurethral bulkening agents (collagen and duraspHERE), various sling procedures,

Vaginal prolapse can be repaired vaginally or abdominally depending upon the particular circumstances.

artificial urinary sphincters and bladder neck suspension procedures. Currently, the prolene mesh slings, such as TVT and SPARC, are the preferred approach, but new obturator slings, that utilize a similar mesh but are placed in a different location, may have advantages for select patients.

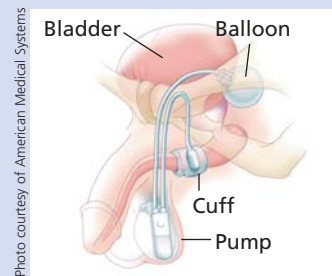
Significant prolapse in the form of cystocele, rectocele, enterocele or uterine prolapse can be repaired either vaginally or abdominally. Dr. Das prefers the abdominal approach, and Dr. Chapin the vaginal approach. Women with significant vaginal prolapse benefit from a multidisciplinary approach to patient care.

Male stress incontinence

Stress incontinence in men often occurs after prostatic surgery, especially radical prostatectomy. The incidence of significant incontinence is approximately 2 to 5 percent. Some patients also have components of bladder instability or poor compliance, which further complicates treatment. It's important that these types of patients undergo formal

urodynamic testing before considering invasive therapy. Periurethral bulkening agents, such as collagen, have not provided optimal long-term results. Male slings are increasingly being used in select patients, but the majority of patients with significant stress incontinence will benefit from an artificial urinary sphincter. Dr. Das has experience with male slings and has

also performed over 100 artificial urinary sphincter procedures with excellent long-term results.



Left: Schematic of AMS 800™ Urinary Control System.

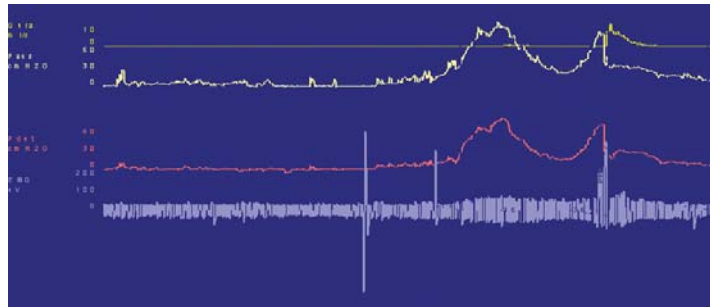
Video-urodynamics

A urodynamic study is used to evaluate the lower urinary tract (bladder and urethra). It provides information on how the bladder and urethra are working as a unit, and if there is blockage from the neck of the bladder, prostate or sphincter muscle.

This type of study is the most accurate means of diagnosing lower urinary tract problems, such as urinary incontinence, incomplete emptying or complete retention. Study results enable the physician to detect a patient's type of urinary

problem and plan the most appropriate course of treatment. Patients are conscious during the study to reproduce the symptoms of incontinence. Small catheters are placed in the bladder and rectum to measure pressures,

and patches or fine needles measure muscle activity. Simultaneous X-ray images are obtained as the bladder is filled and during voiding.



*Top: UDS showing detrusor overactivity causing urge incontinence.
Left: State-of-the-art urodynamic system with video capability.*

Sacral neuromodulation (Interstim)

Sacral neuromodulation, a minimally invasive treatment option, is indicated for the treatment of urge incontinence, frequency/urgency syndromes, and non-obstructive urinary retention. The technique is thought to improve nerve function related to voiding although the exact mechanism is not well understood. Dr. Das participated in the original trials that led to the approval of this

technique and has a vast experience in treating patients with sacral neuromodulation.

The initial trial can be performed under local anesthesia in the office setting, while the final implantation of the lead and neurostimulator are performed in the operating room under sedation or under general anesthesia depending on patient preference.



Generally, more conservative options such as biofeedback/pelvic floor training and/or medications are tried prior to proceeding with sacral neuromodulation.

Biofeedback and pelvic floor rehabilitation

The conservative treatment for many forms of incontinence incorporates bladder training, such as Kegel exercises and biofeedback. For many patients, Kegel exercises alone don't strengthen the pelvic floor muscles sufficiently. They usually have

better results with appropriate biofeedback or vaginal electrical stimulation, which involves placing a small sensor in the vagina or rectum and patches on the abdomen. When the patient squeezes his or her pelvic floor or abdominal muscles, the sensor

shows the degree and location of the contraction on a monitor to provide feedback to the patient. A trained nurse helps the patient isolate the pelvic floor muscles to improve incontinence symptoms.

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PATIENT CARE

RESEARCH

EDUCATION

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The Center provides state of the art care for patients with urological problems related to neurologic disease such as multiple sclerosis, stroke, spina bifida and spinal cord injury. The Center also provides the most advanced modalities for the diagnosis and treatment of urinary incontinence in both men and women along with complete treatment of pelvic prolapse in women and urethral reconstruction in men. The Center combines the expertise of specially trained urologists, gynecologists, colo-rectal surgeons, and trained nurses to provide the best available multidisciplinary care. All the physicians working at the Center hold academic appointments at Harvard Medical School.

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