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# Gotta Go? Gotta Go?

Don't Let Your Overactive Bladder "Run" Your Life

Eric Seaman, MD, FACS, Margaret F. Fay, PhD, RN, CCRC

**S**udden urges to urinate or wetting accidents may reflect a medical condition known as overactive bladder. At least 23 million Americans have bladder control problems and the incidence increases steadily with age. In the past, many people were too embarrassed to discuss these symptoms while others considered it to be a "normal part of aging."

Today, there is a better appreciation of the tremendous social and psychological burden of bladder control problems. Some people fear leaving home because of uncontrollable leakage episodes or having to wear bulky protective pads all the time. The loss of self-esteem, decreased independence and limitations on activities of daily living can be overwhelming. The chronic wetness can also lead to irritating rashes, and unpleasant odors. Fortunately, new treatments are now available for overactive bladder symptoms and ongoing clinical research continues to offer new hope to patients.

Among American women between the ages of 15 and 64, the prevalence of urinary incontinence ranges from 10% to 25%. Among non-institutionalized women aged 65 and over, the prevalence is even higher, between 15% and 35%.<sup>1,2</sup>

Americans spend more than \$15 billion annually to manage this condition. There are other costs as well; skin breakdown and infection resulting from rashes and pressure ulcers, urinary tract infections, anxiety, depression, low self-esteem, and social isolation. By staying informed about various treatment options, patients can improve their symptoms and even overcome urinary incontinence.

For those affected there is a tremendous social, psychological and financial burden. A loss of self esteem, decreased independence, limitations on daily living activities, restricted sexual activity and the added cost of garment protectors. Fortunately, today we realize that incontinence is not "part of the normal aging process"; it can affect anyone, at any age ... and it can be managed..

Incontinence is a medical condition that affects a person's ability to urinate on demand. With few exceptions, most symptoms are either related to the bladder itself or to changes in or around the tube-like structure (urethra) that drains urine from the bladder. When these structures are weakened or damaged, leakage of urine occurs.

## Intraabdominal Pressure and Pelvic Floor Relaxation

Although urinary incontinence can develop for a number of reasons, pelvic floor relaxation is one of its primary causes in women. The pelvic floor muscles, which include the pubococcygeus and iliococcygeus muscles, support the pelvic organs and structures which include the bladder, urethra, small intestine, rectum, uterus, and vagina.

Stretching, such as that which occurs during vaginal delivery, can damage the pelvic floor muscles and surrounding ligaments and nerves, resulting in urethral and bladder neck displacement causing incontinence. Vaginal delivery is one of the most common risk factors for urinary incontinence.

The muscles and fascia supporting the pelvic organs are normally under a constant gravitational pull, which exerts intraabdominal pressure. Obesity raises this pressure as excess soft tissue in the abdomen pushes down on the bladder and pelvic floor. Heavy lifting, coughing, or straining during bowel movements can have similar effects. When the pressure is prolonged, the muscles and fascia stretch and become damaged,

*continued on page 2*



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# EDITORIAL

## BLADDER OVERACTIVITY

It is estimated that 20,000,000 to 25,000,000 Americans have urinary frequency with an urgent need to urinate, some even experience urinary incontinence. This condition, termed overactive bladder (OAB), may lead to complications such as recurrent urinary tract infections or skin breakdown. Elderly patients may have a tendency to fall or sustain bone fractures while in a hurry to get to the bathroom or they may experience depression from social seclusion.

OAB affects both genders and is more prevalent, but not limited to the older population. Therefore, this condition has a profound impact on the affected individuals with regard to the quality of their life and their ability to socialize or to function at work.

Unfortunately, due to insufficient education, social stigma and embarrassment, patients often do not discuss their bladder problems with their physicians nor do many physicians ask their patients about the voiding symptoms.

In addition, bladder problems pose a tremendous financial burden to both the afflicted patient and to society with estimated annual costs of over \$25 billion.

The current treatments for OAB range from pelvic floor (Kegel) exercises, biofeedback therapy to effective medications like Detrol™ or Ditropan™ that can eradicate OAB in the majority of patients.

The Editorial Board wishes to express the opinion that the urological community should take the leading role not only in the research and treatment that is related to OAB, but also in disseminating the information and the education that is connected to the problem.

*Yitzhak Berger, MD*  
*Eric Seaman, MD*

## Overactive Bladder

*Continued from page 1*

resulting in a weakening of support to pelvic organs and structures.<sup>3</sup>

Weak pelvic floor muscles can lead to prolapse or herniation of one or more of the pelvic organs, which then bulge into the vagina. Pelvic floor relaxation may also be the cause of stress incontinence, an involuntary loss of urine resulting from physical activities such as coughing, walking, or changing positions in a way that raises intraabdominal pressure.

### Clinical Sites

For more information on Clinical Trials please contact the Linked Urology Research Network Medical Directors or Study Nurses listed below:

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## Etiology of Overactive Bladder

- Idiopathic • Behavioral • Obstruction
- Aging-related • Pelvic floor/urethral
- Intravesical • Myogenic • Neurogenic

Medications can control bladder muscle contractions, improving bladder function, and can relieve symptoms. If infection is present, antibacterial drugs may also be used.



exercises, may also be recommended.

Your doctor may recommend intermittent self-catheterization to drain out the urine. Surgery may be required when the cause is a narrowed urethra, a nerve problem, vaginal prolapse, or an enlarged prostate.

Even if you have failed previous treatments with other medicines or suffered from intolerable side effects, new drug formulations and delivery systems have been developed specifically to address these issues.

### Overactive Bladder Symptoms

- Urgency, Frequency, Nocturia
- Urge Incontinence
- Unconscious Incontinence
- Flooding Incontinence

Talk to your urologist about your condition. You may be eligible to participate in one of the LURN clinical studies. These studies offer patients new medicines and other cutting edge technologies that may not be available to the general public for many years.

So if you have symptoms of an overactive bladder, don't suffer in silence. Talk to your urologist today!

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# LURN: The Power of One

Over the past decade the \$337 billion global pharmaceutical market has changed dramatically. Perched on the edge of a highly charged era of drug discovery, the industry has witnessed dramatic breakthroughs in proteomics, combinatorial chemistry and molecular genetics.

Such discoveries have led to an unprecedented number of new drug delivery methods – tri-layer tablets, time release capsules, novel drug delivery technologies that slowly release antibiotics, hormones, insulin and other molecules over days, weeks or months.

For novel devices and medications to reach the marketplace, they must first be shown safe and effective, to perform as intended before being granted market approval. For sponsors, the daunting task of proving product viability to the FDA is dependent upon successful clinical trial conduct.

As a result, sponsors seek sites that can provide rapid enrollment, appropriately selected patients, clean data, site cooperation, and most importantly – experienced clinical investigators familiar with and adherent to ICH, FDA, GCP, and HIPAA guidelines and regulations!

## The Linked Urology Research Network (LURN)

In November 1999, a *network of successful private urology practices* joined forces, creating the first nationwide network of board certified urologists who focused on a single market segment. With a strong interest in providing their patients access to leading edge technology, pharmaceuticals and medical devices – options patients would otherwise not have were they not enrolled in a research study, these *enrollment leaders* formed a network of urology centers of research excellence.

With *diverse geographic locations* including (1) Anchorage, Alaska, (2) Atlanta, Georgia, (3) Dallas-Ft. Worth, Texas, (4) Daytona Beach, Florida, (5) Kansas City, Missouri, (6) Myrtle Beach, South Carolina, and (7) Northern New Jersey, sponsors have access to 101 urologists, 21 fellowship trained physicians, and 7 pediatric urologists. Some sites also

staff oncology certified nurses.

LURN physicians also serve on medical advisory boards of Fortune 500 companies, they actively participate in market research panels and serve as content experts for educational programs or as members of a speakers bureau.

LURN uro-oncologists were among the first urologists in the nation to provide their prostate cancer patients with access to in-house chemotherapy trials and new pain management therapies for bone metastasis.

## Why Sponsors Choose LURN

LURN's "*power of one*" means streamlined, automated business solution for studies carried out in the field of adult or pediatric urology. *With only one contract, one budget, one regulatory processing center, one set of Standard Operating Procedures, one sales, marketing, legal and project coordination center*, LURN delivers one of the country's largest urology healthcare networks, ensuring large scale patient recruitment.

By centralizing all non-clinical responsibilities, the clinical staff is able to focus on study enrollment and conduct. LURN investigators are successful private practitioners. They are leading study enrollers with a strong commitment to patient care and safety.

LURN people make it happen ... with more than one hundred eighty years of combined research experience in medicine, nursing, science, biology, microbiology, regulatory affairs and chemistry, LURN physicians deliver what CROs and SMOs cannot ... *access to a large number of patients with whom they have an established relationship.*

That is why LURN is able to greatly increase enrollment opportunities for every study it undertakes. And, our physician commitment to patient safety and quality of care is unmatched in the urology research marketplace.



To learn more about how you can take advantage of the benefits offered by the Linked Urology Research Network contact us. We will be happy to discuss your clinical trial needs.

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# Interstitial Cystitis: (IC)

## What is it? What can be Done?

Yitzhak Berger, MD, FACS

### SYMPTOMS

In 1878 Skene coined the term interstitial cystitis (IC) to a syndrome of irritative bladder symptoms that mostly affects women. Many decades later and despite numerous clinical and laboratory investigations, this condition still remains an enigma.

Patients with IC commonly complain of urinary frequency and urgency along with bladder pressure or pain that extends at times to the suprapubic area, the entire pelvic area and to the lower back. The resemblance of these symptoms to the clinical presentation of urinary tract infections (UTIs) has often led to the misdiagnosis of IC as UTI.

Additional IC symptoms include sensation of a "bloated" lower abdominal region, dyspareunia, hematuria and a non-specific discomfort in the genital and perineal areas. The symptoms are commonly chronic, can be very debilitating and are characterized by periods of exacerbations and easing up in their severity. Many women describe intensification of IC symptoms approximately one week before their menstruation while others describe no cyclical pattern.

### ETIOLOGY

The cause of IC still remains unclear and various theories so far have not been substantiated. In the past infectious, toxic and autoimmune causes were entertained as well as defects within the internal lining of the bladder. The latter theory, championed by Dr. Lowell Parson from San Diego, describes a possible abnormality or deficiency within the glycosaminoglycans (GAG) layer of the bladder.

The abnormality within the GAG layer underneath the transitional epithelium may lead to local inflammation and exposure of terminal nerve endings at the bladder wall to acid urine, hence the term "the urinary leakage" theory. Other authors hypothesized the possibility that IC is caused by a general "pelvic floor disorder" with aberrant firing of electro-neurological stimuli where the bladder is only one of the affected organs. This theory provides an explanation for the extra-vesical symptoms such as the bloated lower abdomen and the irritable bowel syndrome (IBS) that have been reported by many IC patients.

Approximately 5-10% of patients have associated systemic or autoimmune conditions such as Systemic Lupus Erythematosus (SLE), Sjorgen's Syndrome, Fibromyalgia and Chronic Fatigue Syndrome (CFS).

### DIAGNOSIS

The diagnostic process in IC is exclusionary

and other conditions such as bacterial, non-infectious or tuberculous cystitis, bladder cancer or carcinoma in situ (CIS), overactive bladder (OAB) or other bladder dysfunction, vaginitis and urethral diverticulum need to be ruled out first. So far, no unequivocal laboratory test exists to confirm the diagnosis of IC.

Therefore the diagnostic process of IC includes a routine history, meticulous physical examination and preliminary laboratory tests such as urine for cultures, TB and cytology, cystoscopy and urodynamic studies.

For decades cystoscopy under general anesthesia with hydrodistention of the bladder has been the preferred diagnostic modality and the subsequent intra-vesical findings of hyperemic changes, glomerulations (pinpoint submucosal hemorrhages) and bladder ulcerations (Hunner's ulcers) were considered pathognomonic for IC.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the National Institute of Health (NIH) established in 1987 the clinical criteria for the diagnosis of IC. These criteria are mostly utilized in research projects and almost never in the clinical decisions of individual physicians.

A urodynamic evaluation is advisable when bladder dysfunction is suspected (high post void residual, questionable over active bladder (OAB) or associated neurological history) and the findings of sensory urge (early onset of a strong urge to urinate with or without pain but without documentation of involuntary bladder contractions) are consistent with IC.

### EPIDEMIOLOGY

Traditionally, IC has been under diagnosed, but with an increased awareness and education more IC patients are being identified and thus it seems that recently the prevalence of this condition is on a rise. It has been estimated that approximately 10 out of 100,000 women have IC with an annual incidence of one to two new cases per 100,000.

While the majority of the cases are women in their early 20's up to the 50's or 60's, many teenage females and even children with IC are now recognized as well. Approximately 10% of cases are men with similar bladder symptoms with additional symptoms similar to prostatitis and epididymitis.

### GENERAL MANAGEMENT

A great part of the management of a patient with IC should include a detailed education about this condition and a reassurance that his/her symptoms are primarily physical, albeit with potential psychological side effects. The



patient has to realize that IC, even under the most debilitating situations and while having the utmost impact on the quality of his or her life, does not lead to a permanent bladder dysfunction, bladder cancer or an eventual demise.

Finally the various treatment options should be detailed, including the expectations and the potential side effects of each therapy. Any treating physician and health care provider who is involved in managing IC patients should have the clear understanding of the challenging, time consuming and often frustrating task they are taking.

Therefore it is advisable that only committed physicians who dedicate a significant part of their practice to care for IC patients should manage these cases and they should have an organized and supportive staff in their offices. A multi-specialty approach (involving Urology, Gynecology, rheumatology, pain clinic and psychological services) is probably the most effective management approach to care.

### TREATMENT

The traditional treatment options for IC include various oral medications, intravesical therapy (both pharma-cological and cystoscopic) and open surgery. The patient should be instructed about potential dietary alterations that may prevent the onset of IC symptoms.

If the patient pays attention to the association between an increasing severity of IC symptoms and ingesting alcohol, caffeine and carbonated drinks, spicy, acid food or diet rich with potassium (tomato based) they should consider modifying their dietary intake appropriately. Relief tablets to be taken with acidic food have been shown to reduce IC symptoms.

## ORAL MEDICATIONS

Tricyclic antidepressants - Elavil (Amitriptyline) have been reported to reduce IC symptoms at dosages of 25 to 50 mg, once a day. Its central pain control, anti-histaminic effect and indirect anti-cholinergic properties have a positive impact on IC symptom reduction. Other medications include Tofranil (Imipramine) and the Pamelor (Nortriptyline).

Antispasmodics, such as Detrol and Ditropan, have only a sporadic role in the management of IC patients.

Elmiron (sodium pentosan polysulfate) - was approved in 1996 by the FDA as the only IC specific oral medication. It is hypothesized that Elmiron acts as a synthetic polysaccharide thus enhancing the GAG layer ability to prevent sub epithelial leakage of urine substances.

The recommended dosage of Elmiron is 100 mg, three times a day for 3-6 months. The potential side effects are: upper gastro-intestinal irritation (may be reversed with decapsulation of the actual medication), migraine headaches and mild hair loss, all of which are reversible when the medication is discontinued.

## BLADDER INSTILLATIONS

Cystoscopy under anesthesia with hydrodistention of the bladder has been utilized in management of IC symptoms since the 1940s. In this procedure, the bladder is distended under gravity with the infusion bag situated approximately 80 cm above the symphysis pubis.

The fluid is run into the bladder under gravity until the intravesical pressure stops it spontaneously. The bladder is then maintained distended for three to five minutes and once it is drained, a second look is recommended to observe for the appearance of "glomerulations" and ulcerations in the bladder lining.

Some people repeat the hydro-distention in the same manner and the need for a concomitant bladder biopsy remains controversial, though it has been practiced by many physicians.

The exact reason why patients respond to this modality still remains unclear, but approximately 50% of the patients report dramatic improvement, though it may take up to three or four weeks before it becomes noticeable.

Pharmacological instillation into the bladder of DMSO (dimethyl sulfoxide) was approved by the FDA for the treatment of IC in 1978. The DMSO is instilled via a catheter into the bladder once a week for six to eight treatments. At each treatment the patient attempts to hold it within the bladder for between 15 to 30 minutes.

The patient needs to be alerted that the first two or three treatments may be associated with an exacerbation of their symptoms due to the over-discharge of histamine. A garlic like body odor and taste is a common side effect lasting from four to six hours following treatment.

At times DMSO is mixed with heparin, stearates, local anesthetics and bicarbonate (the

so called cocktail DMSO) to alleviate the discomfort that is associated with this treatment.

Other intravesical agents that are currently being investigated for the treatment of IC are TICE, BCG (bacillus Calmette-Guerin) and Cystistat (hyaluronic acid). Recent reports of the efficacy of BCG in the treatment of IC have been at best mixed and long term results are awaiting the completion of multi-center clinical trials. The Canadian experience with Cystistat has been quite promising and clinical trials in America are currently underway.

## SURGICAL TREATMENTS

In the past surgical treatment for IC included augmentation cystoplasty and urinary diversion with or without cystectomy. If these modalities are offered, it should be to end-stage highly motivated patients. The patient should be informed of the consequences of the surgery and that there is no guarantee that the symptoms will be resolved.

Recent experience with implants of sacral nerve stimulation (Interstim™ by Medtronic in

Minnesota) has been quite favorable. This device was approved by the FDA for the treatment of intractable urge incontinence.

Later on it was also approved for patients with symptoms of urinary frequency, urgency and pain.

In our practice our experience with the Interstim implant in patients with IC has been quite favorable but we also reserve it for patients who failed all the above mentioned traditional treatments.

In this procedure, an initial test stimulation is performed by threading a wire into S2 or S3 percutaneously. The wire is then connected to an external stimulator and the patient's symptoms are monitored for seven to ten days.

If at least 50% improvement is recorded, a permanent implant is then placed surgically including a stimulator. In our experience we were surprised to find out that not only the symptoms of frequency and urgency improved, but on many occasions the pelvic pain had dramatically diminished, though not necessarily always disappeared.

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## What are Clinical Trials?

Clinical trials are studies conducted to evaluate the safety and effectiveness of new medications or devices not yet available to the public. Trials adhere to the strict regulatory guidelines set by the Food & Drug Administration (FDA). *Patient enrollment is voluntary.*

There are four main types of trials: Phase I, II, III and IV.

- *Phase I trials help establish dose or procedure guidelines and a safety profile of the new drug or device.*
- *Phase II-III trials involve 100 - 5,000 volunteers and further identify a drug or device's effectiveness and side effects.*
- *Phase IV trials help evaluate the effectiveness of the drug or device for a new indication.*

## Why do People Enroll in a Clinical Trial?

People enroll in a clinical trial for many reasons. Many people are interested in receiving the latest, most advanced medications long before they're made available to the public. Others consider participation in a study a viable medical option to their current treatment, which may not be sufficiently effective.

## What Can I Expect When I Enroll in a Study?

Your participation in a study only begins after a medical evaluation and diagnosis is made. You will receive a study related physical exam, close medical monitoring, laboratory tests, x-rays, etc., *often at no cost to you.*

You will receive a full disclosure of the risks and benefits. You will have the opportunity to ask questions and discuss all aspects of your trial participation with medical staff, before signing the consent form.

During the trial, you will be scheduled for regular follow-up visits. At this time you'll meet with medical personnel who will monitor and evaluate your progress. You will not be expected to continue in the trial if you experience adverse side effects.

Remember, your participation in the trial is always voluntary and you may withdraw your consent at any time without compromising your care.

## What about my Regular Physician?

We encourage you to speak to your physician about your interest in a clinical research program. It is not the intent of LURN physicians to replace your current health care provider, but to work with them to enhance all your health care options. At your request, your records can either be shared with your physician or remain confidential.

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# Biofeedback and Electrical Stimulation: A Noninvasive Treatment Modality for Urinary Incontinence

By Brian V. Guz, MD, and Robin J. Rye, MSN, RNC, CUNP

Urinary incontinence (UI) is a condition estimated to affect 25 million Americans. Of this number, approximately 5% are men less than 64 years old, and 15% are men over 64; the remaining 80% are female. This group includes athletes, postpartum women, and those suffering from chronic illness, birth defects, or a physical trauma due to surgery or spinal cord injury. At least half of nursing home residents are incontinent, and many young people are also affected by urinary incontinence.

Because of the social stigma of UI, many sufferers do not report the problem to a health care provider. Because they need to be educated in this area, many physicians fail to properly pursue investigation of UI when it is reported. As a result, the medical problem is vastly under-diagnosed and under-reported.

The prevalence of UI, its toll on physical and psychological health, and the discrepancies in diagnostic and treatment protocols are challenges to health care providers to become cognizant about involuntary urine loss and to develop a standard of care to effectively manage this medical problem. Many experts agree that a multifactorial approach is required.

## PATIENT SELECTION

Biofeedback and electrical stimulation are noninvasive treatment protocols. The effective implementation of pelvic physiotherapy for the treatment of UI requires a motivated patient. Candidates for the modality include individuals diagnosed with mild to moderate stress urinary incontinence, detrusor instability or urge urinary incontinence, as well as chronic pelvic pain associated with vulvodynia and/or interstitial cystitis.

Biofeedback and electrical stimulation have been shown to restore continence after radical prostatectomy for men with prostate cancer. Following radiation treatment, patients may also benefit from pelvic physiotherapy in reducing the symptoms associated with radiation cystitis.

## BEHAVIOR THERAPY

Early studies have documented a 90% reduction in women with involuntary urine loss after treatment with pelvic muscle exercises. Once the etiology of UI is established, secondary to genuine stress incontinence, detrusor instability, overflow, or functional and/or mixed incontinence, a course of action may be implemented.

Simple dietary changes may ameliorate the

symptoms of urge or mixed incontinence. Spicy foods, alcohol, caffeine, fruit juices, and carbonated beverages are well known bladder irritants.

Bladder retraining drills are a successful course of action for clients suffering from urge incontinence. Pelvic muscle exercises in conjunction with electrical stimulation of the pelvic floor have proven to be efficacious treatment modalities for stress and urge incontinence.

## BIOFEEDBACK THERAPY

The goal of biofeedback is to contract the levator ani to increase muscle strength and endurance, thereby increasing urethral resistance and restoring continence. Arnold Kegel described the first use of biofeedback for pelvic muscle training in the 1940s. He developed a device known as a perineometer, which consisted of a pneumatic chamber that measured intravaginal pressure. Kegel reported a 90% improvement rate among 455 women who were trained with this method. If used correctly, a surgical procedure could be eliminated.

Today, the basic biofeedback protocol for rehabilitating the muscles of the pelvic floor is by means of Kegel exercises reinforced with precise information provided via electromyographic (EMG) sensor connected to a unique computer system (Figure 1).

The computer program instructs the patient to perform pelvic muscle exercises. As the patient exercises, the computer monitors the information passed back by the EMG sensor and displays this data to the patient on the TV screen as it happens, thus ensuring that the patient is exercising the correct muscles. Positive results from pelvic physiotherapy biofeedback are best achieved with a close patient/clinician interaction.

## ELECTRICAL STIMULATION

Pelvic floor electrical stimulation has been used for treatment of genuine stress incontinence with good results for 25 years. It has also been used for the control of micturition and continence since 1964.

Electrical stimulation induces a reflex contraction of the para- and periurethral muscles with the purpose of strengthening the levator ani and periurethral skeletal muscles to increase sphincter tone.

Another important use is for inhibition of detrusor instability. This is achieved with self-



Figure 1: CIRCON® ORION® Platinum Multi-Modality Biofeedback System

placed rectal or vaginal probes containing electrodes that are placed without direct neural stimulation.

Electrical stimulation has been used with variable success in treating incontinence. In each of the conditions, attempts have been made to alter lower urinary tract function by stimulation of the sacral autonomic nerves or somatic nerves. Low frequency stimulation (12 Hz) has been recommended for detrusor instability and high frequencies (50-100 Hz) have been recommended for stress incontinence.

Overflow incontinence and pelvic pain have been successfully treated at the high frequency (100 Hz) setting. Two strategies have been employed to treat mixed and stress/urge incontinence: 1) a compromise setting of approximately 20 Hz; or 2) delivery of both low and high frequencies alternatively.

## CONCLUSION

The benefit of physiotherapy is to assist patients by augmenting physiological self-regulation within a natural environment. Pelvic physiotherapy, including biofeedback and functional electrical stimulation, has proven to be an effective noninvasive treatment modality for urinary incontinence. Continence is a learned behavior, and with re-education it may be successfully regained.

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# LURN OAB and Bladder Research Studies

A number of novel therapeutic drugs and medical devices have been developed that specifically address the problem of overactive bladder symptoms in men and women. The following are examples of LURN clinical trials now open to our patients who qualify for study participation. For more information about a trial or to refer a patient, contact the LURN medical director or study nurses listed on page 2 of this newsletter.

- Urinary Retention . . . . . • Men with acute urinary retention and BPH.
- Stress Incontinence . . . . . • Drug Study comparing 2 popular drugs for female stress incontinence.
- . . . . . • New Drug Study evaluating effects on stress and urge incontinence in women.
- UTI Infection . . . . . • Antibiotic drug for chronic urinary tract infections.
- . . . . . • Once daily dose study of FDA approved antibiotic.
- Interstitial Cystitis . . . . . • Intravesicle instillation of a new drug to help reduce inflammation, pain and discomfort.
- BPH - Men Urinary Retention . . • Urethral stent for acute urinary retention in men with BPH.
- Nocturia Male/Female. . . . . • Testing new drug that reduces the number of nighttime urinating or leaking episodes.
- 950-CL-020 . . . . .
- Overactive Bladder . . . . . • Transvaginal ring containing a medication.
- Acute Urinary Retention. . . . . • Study using FDA approved drug for men with enlarged prostate to reduce symptoms of urinary retention.
- Painful Urination. . . . . • Men with BPH new study drug to reduce symptoms.
- Bladder Cancer . . . . . • Point of care laboratory test for screening and monitoring of possible reoccurrences
- . . . . . • Intrabladder instillation of a new drug for bladder cancer.
- OAB. . . . . • New muscerinic antagonist.

*Thank you*

Through their generosity and ongoing commitment to excellence in patient care, the following organizations have supported the LURN mission to increase patient awareness to disease prevention, management alternatives and clinical trials for urology patients. We thank them for this support.

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