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BE IN CONTROL!



## *Bladder Control Is No Accident*

You do not have to be a control freak to want control over your bladder. Have you ever felt your bladder has more control over your lifestyle than you do? Does your bladder dictate when you have to go, where you have to go and how often you have to go? Has the fear of leaking kept you from going to the park with your children or limited your activities in general. If you are dealing with loss of bladder control, or “incontinence,” you know the inconvenience and the pain of this common problem.

This booklet briefly describes basic pelvic anatomy and function, as well as differentiates the diverse types of incontinence. With this information, you will learn what you can do to better your bladder and yourself. Incontinence can usually be cured, treated or adequately managed so that bladder control problems need not interfere with a healthy, productive and active lifestyle.

## *What Is Urinary Incontinence?*

Urinary incontinence (UI), also known as loss of bladder control, is unwanted urine loss. While perhaps considering it bothersome, many women will tolerate this life-altering condition for years, too embarrassed to ask for help and unaware of available treatments. Remember, incontinence is not a disease.

## *Who is Affected?*

Millions of people, mostly women, suffer from incontinence. Although more common in women over 60, incontinence affects all ages, both sexes and people of every social and economic level.

## *Facts:*

- Upwards of 20 million women suffer from UI.
- Incontinence is a top reason people enter a nursing home and costs the health care system several billion dollars each year.
- 1 in 3 new moms experience chronic lack of bladder control.
- UI impacts quality of life more adversely than hypertension, diabetes and just about any other medical condition except perhaps clinical depression.<sup>1</sup>
- UI is treatable through a combination of common, behavioral therapies and generally does not require surgery.

## *Possible Causes and Contributing Factors:*

- Pregnancy and childbirth
- Obesity
- Menopause
- Diabetes
- Constipation
- Certain medications
- Pelvic surgery
- Diseases and disorders involving the nervous system

<sup>1</sup>Appell RA (1999). Pathophysiology of urge incontinence. Contemporary Urology March: 1-6.

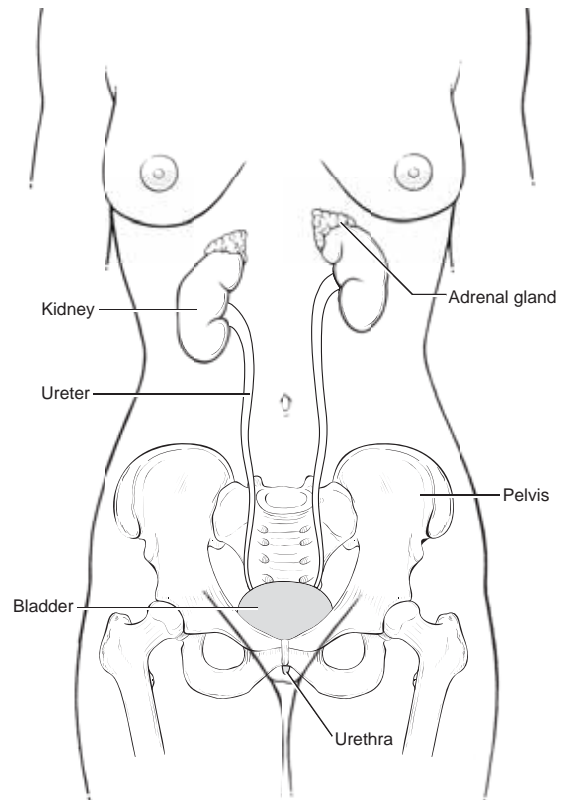
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## The Bladder Basics

The urinary tract consists of the upper portion, two kidneys that filter waste from the blood and two ureters that carry urine to the bladder. The lower portion consists of the bladder and urethra. The bladder is a hollow, balloon-shaped organ made of a thin layer of muscle around a smooth inner lining. It is located behind the pubic bone, which you can feel running across the lower part of your abdomen. The function of the bladder is to store urine, one of the body's liquid waste products. Normally, one to two quarts of urine are produced every day by the kidneys as they remove waste and water from the blood. The urine travels to the bladder from the kidneys down to two narrow tubes, called the ureters.

As it fills, the bladder stretches. It can hold between 10 to 20 ounces of urine, roughly the amount of liquid in a can of soda. When your bladder is about half full, you usually begin to feel the need to empty it by urinating. Urination is controlled by the urethral sphincter, a circular muscle located at the bottom of the bladder. The sphincter is usually closed—like a tie around the bottom of a balloon—so you do not leak urine. When you relax your sphincter, it opens. At the same time, the muscle of the bladder wall contracts (squeezes) and forces the urine out of the bladder. When you are finished urinating, the sphincter closes, and the bladder itself stops squeezing and relaxes.

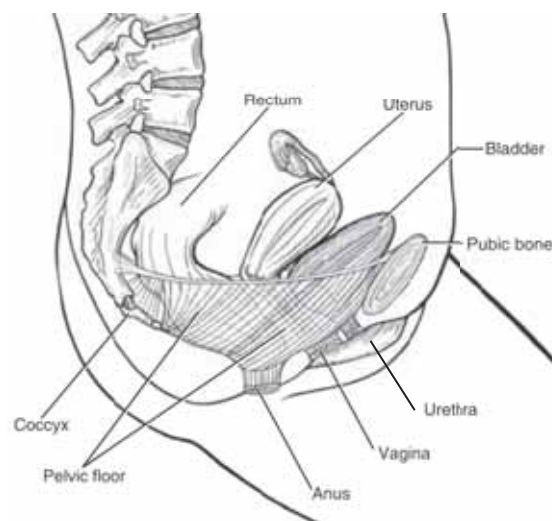
Urine from the bladder travels out of the body through a small tube called the urethra. The urethra empties from a separate opening in front of the vagina.



## The Pelvic Floor

Women have a series of muscles and ligaments in the pelvic floor which support the bladder, urethra and the other pelvic organs. These muscles are influenced by strengthening exercises, estrogen levels and physical stress from childbirth, surgery and/or obesity. A healthy, functioning pelvic floor does four important things:

1. Stabilizes the spine and pelvis
2. Supports abdominal and pelvic organ function
3. Is essential in sexual involvement and pleasure
4. Ensures continence



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## Understanding UI

UI is usually indicative of an overactive bladder or a weak sphincter muscle. Other reasons can include: urinary tract or vaginal infections, pregnancy, childbirth, obesity, menopause and medications. In some cases, neurological disorders (like MS and Parkinson's disease) can trigger UI.

*Urgency incontinence*, also referred to as overactive bladder (OAB), occurs when the bladder contracts without warning. A feeling as if you can't wait to reach a toilet and may leak urine on the way. Reasons behind an overactive bladder can include an infection that irritates the bladder lining or faulty signals from the nerves that normally control the bladder. Risk factors include aging, blockage of urine flow, inconsistent emptying of the bladder and may include a diet high in bladder irritants (e.g., coffee, tea, cola, chocolate and acidic fruit juices).

*Stress incontinence, (SUI)* occurs during increased physical effort or activity such as coughing, sneezing, laughing, lifting, exercising, straining, getting out of a chair, bending over or even walking. SUI may be due to weakened or damaged pelvic floor muscles, a weak or damaged sphincter, and/or an abnormal urethra. The major risk factor for stress incontinence is pelvic floor damage during pregnancy and childbirth.

*Mixed incontinence* is a combination of urge and stress incontinence.

*Overflow incontinence* occurs when the bladder does not empty properly and the amount of urine produced exceeds the capacity of the bladder. It is characterized by frequent urination and dribbling and occurs when bladder weakness or a blockage prevents normal emptying. Bladder weakness is common in women with diabetes, heavy alcohol use, decreased nerve function, or with women who have a "dropped" (prolapsed) bladder or uterus. Fortunately, there is help if you leak! Urologists, urogynecologists and pelvic floor physical therapists specialize in treating disorders of the urinary system and pelvic floor. The treatments most commonly recommended are pelvic floor muscle exercises, medications, bladder training and other techniques that help promote bladder control. T Surgery is generally successful for SUI but is not necessary for all patients. Exercise and changes to your diet and daily habits can make a meaningful difference in bladder control.

## Bladder Prolapse

The bladder is held in position by a "hammock" of supportive pelvic floor muscles and ligaments. When these muscles and tissues are stretched and/or weakened, the back of the bladder can sag through this layer of muscles and ligaments and into the vagina, resulting in bladder prolapse, also referred to as a cystocele. In severe cases, the sagging bladder will appear at the vagina's opening and can even protrude (drop) through it. Bladder prolapse is rarely a life-threatening condition and can usually be corrected.

Prolapse can develop for a variety of reasons, but the most significant factor is stress on this supportive "hammock" during childbirth. Women who have multiple pregnancies or deliver vaginally are at higher risk. Other factors that can lead to prolapse include: heavy lifting, chronic coughing, constipation (frequently straining to pass stool), obesity, menopause (when estrogen levels start to drop) and previous pelvic surgery. In rare cases, it can be present at birth (congenital).

Symptoms associated with prolapse include: frequent urination or the urgent need to urinate; stress incontinence; lack of bladder relief immediately after urination; frequent urinary tract infections; discomfort or pain in the vagina, pelvis, lower abdomen, groin or lower back; heaviness or pressure in the vaginal area; painful intercourse; or tissue protruding from the vagina that may be tender and/or bleeding. Mild cases of prolapse may not cause any symptoms.

Prolapse can usually be detected with a pelvic examination. However, a voiding cystourethrogram may be required. This test involves a series of X-ray pictures that are taken during urination which will show the shape of the bladder and will help identify obstructions blocking the normal flow of urine. Other X-rays and tests may also be required to find or rule out problems in other parts of the urinary system, including urodynamics, cystoscopy and fluoroscopy.

For mild prolapse cases, pelvic floor exercises may be sufficient. Advanced treatment can include estrogen replacement therapy, electrical stimulation, biofeedback and a pessary (vaginal support device) to provide better support for the organs.

If prolapse is left untreated, the condition may get worse.

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## *What tests help to characterize the different types of incontinence?*

The first step is to locate a urologist or urogynecologist (see below for relevant web addresses to find a provider near you). They will want to become familiar with your medical and surgical history, habits and fluid intake and the way in which incontinence affects you.

Be sure to come prepared for your visit with: (1) a list of all the medications you are currently taking, including those you purchase without a prescription; (2) the dates and outcomes of any bladder-related tests or surgical procedures you may have had; and (3) a bladder diary that records information about your urination patterns, urine volume, incontinence episodes, presence of urgency and fluid intake for at least a three-day time period.

Depending upon the type and suspected causes of your particular incontinence, some of the following tests may be performed to help your health care provider choose a treatment that is right for you.

### *Urinalysis*

You will be asked to collect a sample of your urine, which will be examined for the presence of infection, bacteria, blood or other abnormalities.

### *Post-void residual measurement*

This test may be performed to see whether any urine remains after you have attempted to empty your bladder completely. No more than one or two ounces should remain after urinating (voiding). Measurements may be made by inserting a small, soft tube, called a catheter, into the bladder to drain the remaining urine or by using sound waves, called ultrasound, to look at the bladder. When these special sound waves are directed at an organ, such as the bladder, shadow-like images are produced. These images can determine the amount of urine present in the bladder.

### *Stress test*

While your bladder is full, you may be asked to cough, stand and do other activities to find out whether these stresses on the bladder cause leakage.

### *Urodynamic testing*

Urodynamic tests examine bladder and sphincter muscle function. Using several such tests, your health care provider can find out whether you have normal bladder sensations and capacity and whether your bladder fills and empties in a normal manner. An X-ray test may be used to establish the degree of change in the position of the bladder and urethra during normal urination, coughing or straining.

### *Cystoscopy*

A thin telescope-like instrument, called a cystoscope, is inserted into the bladder through the urethra. This test allows a view of the inside of the bladder and visually checks for problems and rules out cancer and stones.

### *Ultrasound*

This technique can be used to determine the size and shape of the kidneys and bladder, as well as assess the capacity of key muscles, such as the pelvic floor, to contract and relax appropriately.

If your health care provider suggests testing, he or she can describe the exact procedures to be followed. They can also explain how the results will help evaluate and determine appropriate treatment for your specific incontinence.

## *Treatments Options for UI*

Many types of treatment are available for incontinence. Your health care provider, a urologist, or a urogynecologist can recommend the treatment that is best for your condition.

### *Fluid and diet management*

Increasing or reducing your daily fluid intake can help. Reducing the amount of caffeine or other dietary irritants (i.e. acidic fruit juices, diet sodas, coffee and tea), while at the same time increasing water intake produces an adequate amount of non-irritating, non-concentrated urine. A recommended water intake is six to eight glasses per day. Reducing or eliminating certain foods (e.g., chocolate, citrus fruits, tomatoes) may also help.

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## *Bladder training*

Using a bladder diary, you record fluid intake, urination times and when/if you have an accident. The diary may be used to set time intervals for urination. If you urinate infrequently you will be told to do “timed urination” (urinating by the clock every two to three hours during waking hours). By achieving regular bladder emptying you should have fewer incontinent episodes. Timed urination may be effective for both OAB and SUI.

## *Bladder retraining*

Bladder retraining is used for patients with frequency. The goal of retraining is to increase the amount of urine that you can hold within your bladder. Keep a diary to determine your urination intervals, then gradually increase your urination interval by 15 to 30 minutes. The goal is to urinate every two to four hours while awake with less urgency and less leaking. You can use strategies like deep breathing and pelvic floor activation at the time of urgency to relax your bladder. This will allow you more time to get to the bathroom.

## *Pelvic floor muscle exercises*

Also known as Kegel exercises, this treatment focuses on strengthening the external sphincter muscle and the pelvic floor muscles. By contracting and relaxing the pelvic floor muscles, you can improve muscle strength. It is common to require help from a health care provider to learn how to properly contract those muscles. The Total Control Program™ DVD is a practical and helpful way to learn how to incorporate pelvic floor exercises throughout your workout and into daily living.

## *Biofeedback and electrical stimulation*

Biofeedback and electrical stimulation can be used to aid you in doing these exercises. During electrical stimulation, a small amount of stimulation from a sensor placed in the vagina or rectum is delivered to the muscles of the pelvic floor. Like any exercise program, you must continue to do the exercises to maintain the benefit. Patients with SUI benefit from pelvic floor muscle exercises by increasing the closure of the urethra and by increasing the strength of the pelvic floor muscles. You can contract the pelvic muscles with certain activities like coughing and prevent stress incontinence. Pelvic floor muscle exercises are effective for urge incontinence, since a contraction of the pelvic floor can interrupt a contraction of the bladder smooth muscle and stop or delay a urinary “accident” or leakage.

## *Drug therapy*

Urgency incontinence is most commonly treated with drugs that have anticholinergic properties. Anticholinergics allow for relaxation of the bladder smooth muscle. Medications can promote much-needed relief, but all have reported side effects. Talk to your doctor for specific recommendations.

Here are some of the brand names of the medicinal therapies available:

- Detrol LA
- Ditropan
- Oxytrol
- Sanctura
- Enablex
- Vesicare

There are currently extended release formulas as well as skin patches designed to mitigate side effects. In order to find the right treatment for you, consult your doctor.

## *Surgical treatment*

In most cases of incontinence, minimally-invasive management (fluid management, bladder training, pelvic floor muscle exercises and medication) is prescribed as an initial step in treatment. The best results are when these treatments are used together. However, if that fails, surgical treatment may be necessary. Surgery is most commonly performed for SUI and in some cases of severe OAB. Consult your doctor to choose the right option for you.

One of the surgical treatments for SUI is the use of urethral injections of bulking agents to improve the function of the sphincter. The injections are done under local anesthesia and can be repeated. Unfortunately, the cure rate is only 20 to 50 percent and may require multiple injections.

In women, surgery for SUI is generally very successful, but choosing the proper procedure is important. Many women with SUI also have other conditions like bladder prolapse, rectocele or uterine prolapse that must be treated at the same time. The procedure of choice will depend on multiple factors, like the need for abdominal surgery for other conditions, the degree of incontinence, the degree of mobility of the urethra and bladder and the surgeon’s personal experience.

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Anterior repair (Kelly plication) is a common option used by gynecologists, but has not given good long-term results. Another option is abdominal surgery (Burch suspension) in which the vaginal tissues are affixed to the pelvic side wall or a Marshall-Marchetti procedure in which the bladder neck area is affixed to the underside of the pelvic bone. The long-term results are good, but the surgery requires longer recuperation time and is generally only used when other abdominal surgeries are also required. The most common and most popular surgery for stress incontinence is the sling procedure—which has more than 80 to 90 percent cure or greater improvement. In this operation, a strip of tissue is applied under the urethra to provide compression and improve urethral closure. The operation is minimally invasive and patients recuperate very quickly. The tissue used to create the sling can be a segment of the patient's abdominal wall, specially treated fascia, skin from a cadaver or a synthetic material.

For urge incontinence, a new and exciting technology is the use of a sacro-neuromodulation therapy to control bladder function. This technology consists of a small electrode that is inserted in the patient's back, close to the nerve that controls bladder function. The electrode is connected to a pulse generator and the electrical impulses control bladder function.

As with any treatment for incontinence, the goal of surgery is to improve your quality of life. In most cases, great improvement of symptoms, even a cure, is possible. Positive, long-term outcomes can almost always be assured with a combination of common sense, proper body mechanics and care. Be sure to ask your physician about things you can do pre and post surgery (like the Total Control™ program) to maximize your surgical results.

### *Absorbent products and devices*

Individuals currently participating in a treatment program or dealing with substantial leakage have many options of absorbent products. The most important factor in picking a pad is whether it was designed to absorb and hold urine. Incontinence pads come in varying thickness and lengths, starting with panty liners. There are also devices for women, called pessaries, placed in the vagina to support the bladder and improve control.

No matter how serious the problem, incontinence is a medical condition that can be treated. Each year, tens of thousands of people find the solution that works best for them. Stand up and take back your bladder health!

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## *Helpful Information*

To find a urologist in your area, visit [http://www.UrologyHealth.org/find\\_urologist/](http://www.UrologyHealth.org/find_urologist/).

To find a urogynecologist in your area, visit [http://www.augs.org/custom/patient\\_directory/](http://www.augs.org/custom/patient_directory/)

You may also wish to contact the following organizations for specific information on:

**American Urology Association Foundation** [www.auafoundation.org](http://www.auafoundation.org)  
1000 Corporate Blvd.  
Linthicum, MD 21090  
1-866-RING AUA (1-866-746-4282)

**Bladder Cancer Advocacy Network** [www.bcan.org](http://www.bcan.org)  
4813 St. Elmo Ave.  
Bethesda, MD 20814  
301-215-9099

**National Association for Continence** [www.nafc.org](http://www.nafc.org)  
P.O. Box 1019  
Charleston, SC 29402-1019  
1-800-BLADDER (1-800-252-3337)

**National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC)** [www.kidney.niddk.nih.gov](http://www.kidney.niddk.nih.gov)  
3 Information Way  
Bethesda, MD 20892-3580  
1-800-891-5390

**The Simon Foundation for Continence** [www.simonfoundation.org](http://www.simonfoundation.org)  
P.O. Box 815  
Wilmette, IL 60091  
1-800-23-SIMON (1-800-237-4666)

**Women's Health Foundation** [www.womenshealthfoundation.org](http://www.womenshealthfoundation.org)  
632 W. Deming Place  
Chicago, IL 60614  
773-305-8201



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## Glossary

### *antibiotics*

medications that kill bacteria or prevent their growth; also called antimicrobial or anti-infective drugs.

### *bladder*

the hollow, balloon-shaped organ in which urine is temporarily stored before being discharged through the urethra.

### *cystitis*

an inflammatory condition of the bladder that is often due to infection.

### *cystoscope*

a pencil thin telescope-like instrument fitted with lenses and a light that allows the doctor to see the interior of the bladder and remove tissue samples.

### *fluoroscopy*

imaging technique that takes a real time "movie" of the body.

### *frequency*

the need to urinate more often than is normal.

### *inflammation*

(also called an inflammatory condition); swelling, redness, and pain resulting from irritation, injury or infection.

### *interstitial cystitis*

also referred to as IC and painful bladder syndrome; a type of bladder inflammation that is not due to bacterial infection; its cause is unknown.

### *kidneys*

two large, bean-shaped structures that remove waste from the blood.

### *overactive bladder*

a condition that causes frequent urgency with urination. Urine leak can occur after urgency.

### *sphincter*

a circular muscle at the bottom of the bladder which normally prevents urine leakage.

### *ureters*

two thin tubes that carry urine downward from the kidneys to the bladder.

### *urethra*

a thin tube that carries urine from the bladder out of the body (in men, it also carries semen, and it exits through the end of the penis).

### *urinary incontinence*

a condition in which a person is unable to hold urine and prevent its leakage.

### *urine*

a liquid, usually yellow in color, which is produced by the kidneys, containing waste and water from the blood.

### *urgency*

the feeling of needing to urinate immediately.

### *urodynamics*

tests that measure the bladder's ability to hold and release urine.

### *Urologist*

a doctor who specializes in male and female urinary tracts and the male reproductive system.

### *Urogynecologist*

a doctor who specializes in female pelvic health and reconstructive surgery