

Urinary Incontinence



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Urinary incontinence is uncontrolled urine loss. Under normal conditions, the bladder stores urine until it is voluntarily released. This involves a complex interaction between the brain, spinal cord and bladder. Anything that interferes with this interaction can make a person incontinent.

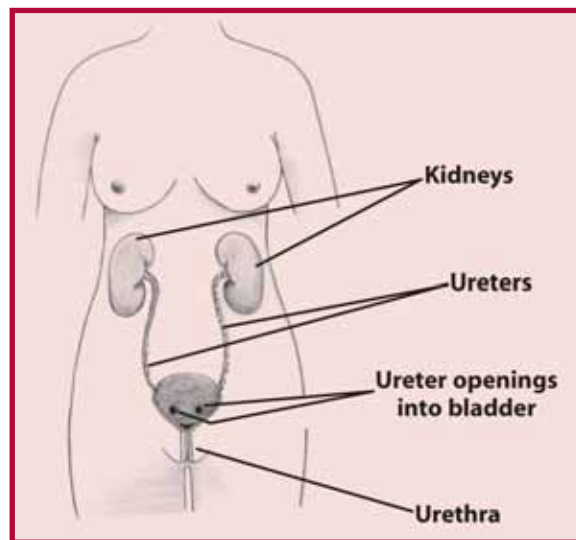
The condition is much more common than most people think. In fact, more than 17 million Americans have urinary incontinence. And 80 percent of them are women. But urinary incontinence is not a normal process of aging and can occur in women of all ages.

Although not a life-threatening problem, urinary incontinence does have negative social implications. You may lose your self-esteem and experience depression, anxiety and feelings of helplessness. You may be obsessed by fear of urine loss, concerned about urine odor and worried about being excluded socially. You may feel you are no longer attractive and even lose your sense of sexuality. Feeling alone and isolated, some women may distance themselves from their spouses, family members and relatives. Some individuals may restrict or avoid any excursions outside the home, social interaction with friends and family, and sexual activity.

If you have bladder-control problems, the first step is to see your physician. In most cases, incontinence can be corrected or improved to the point that it is no longer a health or social problem. If necessary, your physician may refer you to a specialist with advanced training in the diagnosis and treatment of urinary incontinence.

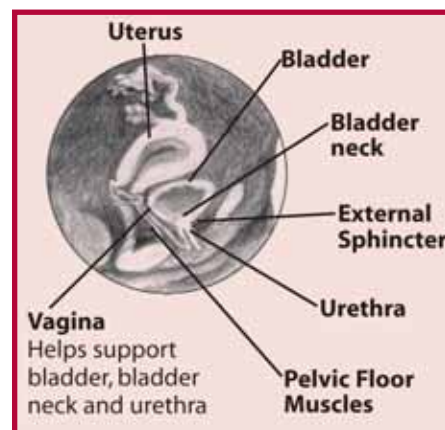
How Your Urinary System Works

Your urinary tract is a system for creating, storing and expelling urine from your body. It consists of the kidneys, ureters, bladder and urethra. The kidneys take water and waste out of the bloodstream and pass them through the ureters to the bladder.

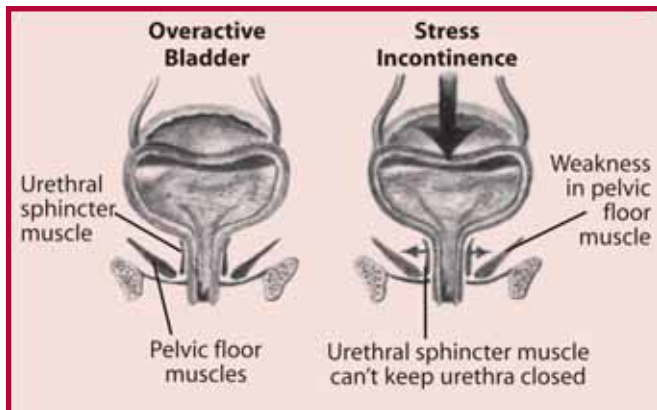


The bladder is a balloon-like container that stores urine. The urine leaves the bladder through a tube called the urethra. The body is able to store urine in the bladder for three reasons. First, the bladder is an elastic organ that will stretch very easily as urine fills it. Second, there is a muscle that surrounds the urethra (like a tie around the bottom of a balloon) called the external or urethral sphincter. The sphincter muscle squeezes the urethra closed. Third, there is another group of muscles called the pelvic floor. This group of muscles surrounds the urethra and supports the bladder.

By doing this, the urethra and bladder perform their functions of urine storage and release. When it is time to urinate, the brain tells the sphincter and pelvic floor muscles to relax and the bladder muscle to squeeze.



Anything that interferes with these processes can result in involuntary loss of urine. (The illustrations show the locations of these organs and muscles and how they function and interact in order for us to control our bladder.)



Many factors can contribute to incontinence. Medical conditions such as urinary tract infections, diabetes, arthritis, Parkinson's disease, Alzheimer's disease and other chronic illnesses can be a cause. Surgical problems such as birthing procedures, pelvic surgery, hysterectomy and multiple abdominal surgeries can lead to weakening of the pelvic floor muscles. Medications such as cold and hay fever remedies, certain high-blood-pressure medications, pain medications, muscle relaxants and medications for depression and/or anxiety have all been shown to contribute to urinary incontinence in certain situations.

In addition, certain exercises such as high-impact aerobics can result in relaxation and damage to the pelvic floor muscles. In the majority of women, the situations noted above may not be the cause of the incontinence, but may contribute to the loss of urine, and should be discussed with a physician.

Types of Urinary Incontinence

There are five types of urinary incontinence. Stress, Urge and Mixed are the most common. Less common forms are Functional and Total.

• Stress Incontinence

Coughing, sneezing, exercising, lifting and strenuous activity result in urine leakage in people with stress incontinence. Childbirth, certain surgeries and exercises can weaken the pelvic floor and result in stress incontinence. In addition to lack of

estrogen, stimulation that occurs after menopause can contribute to this type of urine leakage.

• Urge Incontinence

In women with urge incontinence, the "overactive" bladder contracts without the person wanting it to. One may feel as if she can't wait to reach the toilet and may lose urine on the way. A lot of people will not have the urge until their "feet hit the floor" and then experience an uncontrolled urge to urinate. This condition can be the result of urinary tract infections, diabetes, Parkinson's disease, Alzheimer's disease, lack of estrogen, prior bladder surgery, medication and injury to the nerves that control the bladder, or it can develop without an apparent cause.

• Mixed Incontinence

These women suffer from both stress and urge incontinence. The cause of the two forms may or may not be related and should be evaluated separately.

• Functional Incontinence

People who are unable or unwilling to use a toilet are functionally incontinent. Severe illness, arthritis and confusion are conditions that prevent a person from using a toilet without assistance and are examples of this type of incontinence.

• Overflow Incontinence

In these women, each time they urinate their bladder never empties, even though they may feel it has. Because they are unable to completely empty their bladder, there are times when it will overflow and the excess urine will spill out like water over a dam. The same disease processes, surgical procedures and medications that can affect the more common types of urinary incontinence can result in overflow incontinence.

Diagnosis

By paying attention to the particular activities, situations and conditions that seem to bring on or cause you to have difficulty controlling your bladder, you will be able to decide which type of incontinence you have. With your input, your physician can then make an accurate diagnosis. In addition, a very helpful tool to diagnosis is a "voiding diary." The more thorough and accurate you are in

completing the diary, the more it helps your physician. A voiding diary also allows you to gain insight into certain events that may lead to the loss of urine. (See the Voiding Diary in Appendix A.)

The accurate diagnosis of the type of urinary incontinence you have is the most important and critical step in the decision of which type of treatment is appropriate. If the wrong treatment is recommended, the incontinence will not improve and may worsen. Depending on the type of incontinence and suspected cause, some or all of the following tests may be recommended: urinalysis, residual urine measurement, cystoscopy, stress test and urodynamic testing.

Urinalysis

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

Residual Urine Measurement

This test is performed to see whether you empty your bladder after urinating. This is accomplished by either inserting a small soft tube into the bladder after you have urinated to drain the remaining urine or by using ultrasound imaging.

Cytoscopy

A thin, flexible telescope is inserted into the bladder through the urethra. This test allows a physician to see the inside of the bladder and visually check for problems.

Stress Test

This test is usually performed immediately after cystoscopy. The physician will fill your bladder with fluid while performing the cystoscopy. When you say your bladder feels full, the physician will remove the telescope and ask you to cough, stand and do other activities to see if these stresses on the bladder cause leakage.

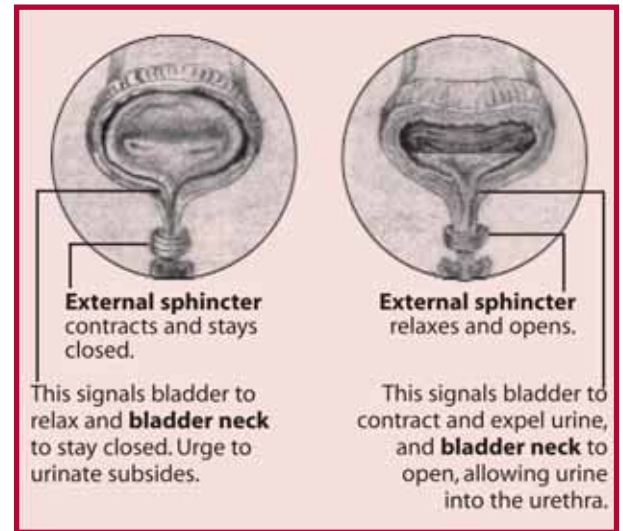
Urodynamic Testing

This is a series of tests that gives your doctor a detailed look at the function of your bladder and urethra. These tests will measure how much fluid your bladder can hold, the strength of your bladder muscle, the pressure and flow of urine out of your bladder, and how well your brain, bladder and urethra communicate. In addition, X-rays will be

taken while these tests are being conducted.

Treatment

Incontinence is treatable in more than 90 percent of all cases if the correct diagnosis is made. With the information obtained from your history, voiding diary and tests, your physician will be able to recommend a treatment that is best for you. Treatments fall into four different categories: behavioral therapy, medication, surgery and other options.



Behavioral Therapy

Some healthcare personnel have special training in behavioral therapy. They teach special exercises and training programs that are effective in improving bladder control. Exercises to strengthen the sphincter and pelvic floor (Kegel exercises) must be done correctly and faithfully to regain and maintain continence. Bladder retraining (gradually prolonging the time between visits to the toilet), along with reasonable fluid intake, can also help. Eliminating certain foods or liquids that may irritate the bladder muscle (caffeine, alcohol, spicy foods, etc.) may decrease symptoms. Most categories of incontinence have been shown to improve significantly with the help of these well-trained therapists. Your physician will be able to refer you to the appropriate therapist. (See specific instructions on performing Kegel exercises in Appendix B and a list of bladder irritants in Appendix C.)

Medication

In the past 10 years, numerous medications have been developed that have significantly improved the treatment of urinary incontinence. These medications can eliminate or decrease the loss of urine in some patients who have one or more of the following types of incontinence: urge incontinence, stress incontinence, incontinence secondary to not emptying the bladder, and certain types of incontinence resulting from neurologic conditions.

All medications used to treat urge incontinence due to an overactive bladder work by relaxing the bladder muscle and making it less sensitive. Examples of medications in this group are: Tolterodine (Detrol), Oxybutynin (Ditropan), Flavozate (Urispas), Hyoscyamine (Levsin, Lesinex, Cystospas), Dicylomine (Bentyl), Propantheline (Pro-Banthine) and Imipramine (Tofranil, Elavil). There are potential side effects such as dry mouth, blurred vision, constipation and confusion. In the majority of patients, the side effects are minimal and do not result in discontinuation of the drug.

For years, medications such as Entex, Sudafed and Ephedrine were used for stress incontinence. Their success was quite low; in addition, there were significant side effects. The most common medication prescribed now for this type of incontinence is Estrogen. This is most effective in postmenopausal women. Estrogen helps keep the urethra healthy by maintaining its blood supply. A healthy, supple urethra is much less likely to contribute to urinary incontinence. In the near future, a new medication (Dulozetine) will be available. This drug causes the sphincter muscle around the urethra to squeeze tighter. The research results on this new medication are very promising.

For people who have incontinence because they do not empty their bladder, Flomax, Uroxitrol, Hytrin and Cardura all cause the sphincter muscle to relax a little and make it easier for the patient's bladder to expel all the urine. Side effects such as dizziness, lethargy, "stuffy" nose and a nagging cough can occur.

Certain neurologic conditions, such as multiple sclerosis and spinal cord injuries, can result in incontinence. Recently, the drug Botox has been shown to give significant improvement in some of these patients.

Surgery

Surgery is an excellent option for patients who have failed biofeedback and/or medication or are considered not to be candidates for one of those treatments.

Surgery for Stress Incontinence

Surgery for stress incontinence can be approached either through the lower abdomen or through the vagina or by injecting a liquid "bulking agent" around the urethra.

Surgery approached through an incision in the lower abdomen has been performed for many years. It is an excellent procedure to correct stress incontinence, but the convalescence is quite long, requiring 6-8 weeks of limited activity. In the past 10 years, more and more of this type of procedure has been performed with a laparoscope, which has lessened the postoperative recovery time. The two most common are the MMK procedure and the Burch procedure. Both of these are commonly known as a "Bladder Tack."

Surgery approached through the vagina is known as "Sling Surgery." Through a vaginal incision, a strip of tissue is placed either above or beside the urethra. The "sling" provides support for the urethra and sphincter muscle in addition to adding compression to the urethra. The sling has the advantage of being performed on an outpatient basis with less postoperative convalescence time. It is the most frequently performed surgery for stress incontinence today. The most common types of sling surgery are the Pubo-vaginal sling, the TVT sling, the SPARC sling and the Transobturator sling.

Both the "Bladder Tack" and the "Sling Surgery" procedures have excellent results, with 85 percent of the patients being dry at 5 to 10 years.

Surgery using "Bulking agents" does not require an incision. A thick liquid compound is injected around the urethra to compress and close the urethral channel. The advantage of the "Bulking Surgery" is that there is only a 24-hour period of time after surgery where the activity is limited, and there is no incision. The disadvantage is that these generally only last from one month to one year. Two different compounds are commonly used today: Collagen and Durasphere.

For patients who have failed medication and biofeedback, there is an excellent surgical procedure known as Sacral Nerve Stimulation or "Interstim

Therapy for Urinary Control.” This is a minimally invasive surgical procedure where a pacemaker is surgically implanted over the hip and used to reprogram the nerves that control the bladder in order to prevent urge incontinence. It has been shown to correct or significantly improve urge incontinence in 70 percent to 80 percent of the patients who have failed other treatments.

Other Options

Approximately 15 percent of women either do not respond to the options discussed or are not candidates for surgery due to health reasons. Although not the optimum choice, significant improvements have been made in absorbent products, and these are available at any full-service pharmacy.

Another option is a device known as a “pessary.” This is a flexible silicone device worn in the vagina and designed to compress and stabilize the urethra. These are fitted and inserted by your physician. They are generally worn for four weeks at a time and then removed and reinserted by your physician or nurse. Pessaries are indicated for stress incontinence and a condition known as “pelvic prolapse.”

Helping Yourself

There are several things you can do to either prevent urinary incontinence from occurring or improve the condition should it develop. Paying attention to your diet can help. Eat high-fiber and high-carbohydrate foods and make sure you drink plenty of water (six to eight 8-ounce glasses of water a day is recommended). Many people with incontinence make the mistake of trying to cut back on fluid intake, thinking it will relieve their incontinence. Reducing fluid intake can lead to constipation, which can contribute to incontinence problems. In addition, concentrated urine can irritate the bladder. The most common irritants are grapefruit and other citrus juices, caffeinated beverages (coffee, tea and sodas), tomatoes, milk products, artificial sweeteners, spicy foods and alcohol.

You should watch your weight. Overweight people are at a much greater risk of developing urinary incontinence. If your incontinence is only minimal, it may resolve with weight loss.

Medicine has made great progress in the understanding and treatment of urinary

incontinence in the past 10 years. No matter how serious the problem, incontinence is a medical condition that can be treated.

If you would like more detailed information on the topics discussed, please call (501) 219-8900 or e-mail your request with mailing address to jbrizzolara@arkansasurology.com. Dr. Brizzolara can be contacted by e-mail with specific questions.

Dr. John Brizzolara is the author of this booklet. He has been practicing urology for more than 20 years. He has special interests and training in the diagnosis and treatment of urinary incontinence and voiding disorders.



Appendix A

See next page for Voiding Diary.

Appendix B

Kegel Exercises: Technique of Performing Pelvic Floor Exercises Properly

Identification of pelvic floor muscles:

Sit on the toilet and start to urinate. Try to stop the flow of urine in midstream by contracting your pelvic floor muscles. These are the same muscles used to keep from passing gas from the rectum. If you are having difficulty locating the correct set of muscles, insert a clean finger into the vagina and try to squeeze the finger with the vaginal muscles. If your finger feels the squeeze, you are exercising the correct muscles.

Method of performing Kegel exercises:

Contract the pelvic floor muscles (vagina and rectum) for three seconds. Relax for three seconds. Repeat this sequence five times. Five contractions equal one set of exercises. Do not tighten your abdominal, leg or buttocks muscles when doing these exercises. Gradually increase the number of sets over a one-month period of time so you can do five to 10 sets of exercises while you are awake.

VOIDING DIARY

This daily diary will allow you to accurately record your fluid intake (how much you drink) and your bladder activity each day. It will help your healthcare professional decide whether you have an overactive bladder. Keep the diary nearby, and fill it out as

completely as possible. If your healthcare professional prescribes treatment for overactive bladder, the diary can also be used to help measure your progress. Be sure to bring this diary with you on your next scheduled office visit.

Date: / /

Number of pads used today:

TIME		FLUIDS		URINATION						ACCIDENTS							
	What did you drink?	How much?	How many times?	How much each time? (S=small, M=moderate, L=large)		Did you have to rush to the bathroom?		Did you hurt yourself or fall down rushing to bathroom?		What activity did it interrupt?	Did you have any accidents this time? (Sudden loss of urine)		How much urine did you leak? (S=small, M=moderate, L=large)	What were you doing at the time? (Exercising, sleeping, relaxing, etc.)			
Sample:	water	8 oz.	1	S	<input checked="" type="radio"/> M	L	<input checked="" type="radio"/> Yes	No	<input checked="" type="radio"/> Yes	No	shopping	<input checked="" type="radio"/> Yes	No	<input checked="" type="radio"/> S	M	L	sleeping
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
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				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	
				S	M	L	Yes	No	Yes	No		Yes	No	S	M	L	

Notes:

When to perform the exercises:

Try to do the exercises at the same time every day. The first set should be performed when you first wake up in the morning and are lying in bed. Subsequent sets can be performed while standing, sitting or driving. If you establish a routine, you are more likely to continue with the program. Most people will begin to see improvement in about a month.

Appendix C

Bladder Irritants:

Alcohol	Spicy Foods
Chocolate	Caffeine
Citrus Fruits	Apple Juice
Cranberry Juice	Orange Juice
Tomatoes	Carbonated Drinks
Strawberries	Apples
Grapefruit Juice	Apricots
Bananas	Avocados
Cantaloupes	Peaches
Plums	Nectarines
Grapes	

Ingredients in these foods may worsen symptoms: Nutrasweet (Aspartame), saccharine, foods with artificial colors, monosodium glutamate (MSG), citric acid, cheeses (except for American, cottage, cream or ricotta)

Sour Cream	Yogurt
Chicken Liver	Smoked Meats
Vinegar	Nuts
Onions	Pickled Foods
Mayonnaise	Salad Dressings
Raisins	Prunes

For further information about overactive bladder, contact:

Bladder Health Council
c/o American Foundation for Urologic Disease
1128 North Charles Street
Baltimore, MD 21201
1-877-OVERACT Patient Information
(410) 468-1800 Headquarters
www.afud.org

National Women's Health Resource Center
120 Albany Street, Suite 820
New Brunswick, NJ 08901
1-877-98WHRC Patient Information
www.healthywomen.org

National Association for Continence
P.O. Box 8310
Spartanburg, SC 29305
1-800-BLADDER Patient Information
(864) 579-7900 Headquarters
www.nafc.org

The Simon Foundation for Continence
P.O. Box 835-F
Wilmette, IL 60091
1-800-23SIMON Patient Information
www.simonfoundation.org