

TYPES OF URINARY LEAKAGE

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What is Urinary Incontinence?

Urinary incontinence is the medical term for leakage of urine at inappropriate times. This can be very bothersome. Although it is not life threatening, bladder leakage may affect a woman's emotional, social, and physical well-being. While you may feel alone your struggle with bladder leakage, it is a very common problem. Bladder problems become more frequent as we age, and about 1 in 3 women in their fifties struggle with urinary leakage.

What treatments are there for Urinary Incontinence?

Thankfully there are treatments for bladder leakage. These treatments do NOT include the use of panty-liners, pads, or adult diapers. Depending on the type of urinary incontinence you have, recommended treatments may include the following:

- ✦ Changing how much you drink
- ✦ Avoiding certain foods
- ✦ Pelvic floor muscle training (with or without physical therapy)
- ✦ Using a pessary, a device placed inside the vagina
- ✦ Medications
- ✦ Office procedures
- ✦ Surgery

Is all urinary incontinence the same?

While any type of urinary leakage can be bothersome, all urinary leakage is not the same! Your doctor will talk to you about your symptoms and may consider doing further tests to figure out what type of leakage you have. This testing may involve filling out a diary about your bladder symptoms. Your doctor may order testing called urodynamics in order to figure out what type of urinary leakage you have. Urodynamics is a test where your bladder is filled with liquid through a catheter. It measures how much liquid your bladder holds and how well it fills and empties.

What types of Urinary Incontinence are there?

The main types of urinary incontinence are “stress urinary incontinence” and “urgency urinary incontinence.” These two types of urinary leakage have different causes. Because of this, they have different treatments.

What is Stress Urinary Incontinence?

Stress urinary incontinence is urinary leakage that happens when there is an increase in abdominal pressure. This may include coughing, sneezing, laughing, or exercise. This type of leakage is a structural problem.

The bladder and the urethra (which is the tube that carries urine to the outside world) are supported by their surrounding tissue. These support structures include muscles in the vagina and pelvic floor. When these tissues become weak, urine may escape and lead to urinary incontinence. This may happen for many reasons - age, childbirth, and family history are all risk factors for this happening to you.

Because stress urinary incontinence is an anatomic issue, the treatments are focused on trying to help the anatomy as well.

Treatments for Stress Urinary Incontinence

Lifestyle modifications can be helpful for stress urinary incontinence. These tips may include the following:

- ✦ Decreasing what you drink. If you make less urine, there is less to leak.
- ✦ Emptying your bladder more frequently. If you have an empty bladder, you can't leak urine.
- ✦ Weight loss

There are some other nonsurgical treatments of stress urinary incontinence.

- ✦ Strengthening of pelvic floor muscles
 - This can be achieved with exercises at home or adding appointments with a pelvic floor physical therapist. These therapists are specially trained to work with women and pelvic floor issues.
- ✦ Vaginally inserted devices
 - A reusable vaginal insert called a pessary may be fitted and inserted by your provider. This helps to support the bladder and urethra to prevent leakage.
 - There are also disposable vaginal inserts that may act in the same way.

Surgery is another option for treatment for stress urinary incontinence.

- ✦ Bladder sling

- The bladder sling, also called a tension free vaginal tape, is the most common surgery performed for stress urinary incontinence. This procedure may be performed as a “same day surgery” meaning that you can go home the day of surgery. This procedure inserts a permanent lightweight material or “mesh” to support under the urethra.
- ✦ Fascial sling
 - This procedure is performed less frequently, but your doctor may discuss this with you based on your history. This acts like the bladder sling, but it uses your own tissues. Because it uses your own tissues, this is a bigger surgery than the typical artificial sling.
- ✦ Urethral bulking
 - Another procedure that can be performed for bladder leakage is called “urethral bulking.” This procedure can be done in the office or in the operating room depending on you and your doctor’s preferences. This procedure involves a cystoscopy. Cystoscopy is a procedure where a camera inserted into your bladder. Through this camera, your doctor can then inject substances that help “bulk” or “plump up” the urethra so urine does not escape when you cough or sneeze.
- ✦ There are also abdominal procedures that may be offered to you for treatment of leakage if you need surgery for other problems including pelvic organ prolapse.

What is Urgency Urinary Incontinence?

Urgency urinary incontinence is the term for bladder leakage happening at the same time as an urge, a strong desire to empty your bladder. Some people have frequent, bothersome urges without actually leaking. The term describing both of these conditions, bothersome urinary urgency with and without leakage, is called “overactive bladder” and the treatments are the same. Unlike stress urinary incontinence, urgency urinary incontinence is not a structural issue of the tissues around the bladder and urethra. Instead, the problem is the bladder itself! The bladder is squeezing at inappropriate times. Because of this different cause, the treatments are not all the same as for stress urinary incontinence.



Treatment for urgency urinary incontinence can be progressive. This means that you and your doctor may go through multiple levels of treatment plans until your symptoms are

better. It is important not to get frustrated but instead to understand that this is an important process of treating urgency urinary incontinence or overactive bladder.

First-line treatments

Lifestyle modifications can be helpful for urgency urinary incontinence. Some of these are similar to stress urinary incontinence.

- ✦ Decreasing fluid intake
 - If you make less urine, there is less to leak!
 - Unless told by your doctor, there is no reason to drink 8 glasses of water per day.
 - Drink only when you're thirsty.
- ✦ Avoid food and drink that irritates the bladder
 - This includes caffeine, carbonated beverages, spicy food, artificial sugars like aspartame, food dye, and chocolate.
 - It may be helpful to track your food intake to see if there is a specific food or drink that is very bothersome to your bladder.
- ✦ Bladder training or timed voiding
 - You may be emptying your bladder either too often or not enough!
 - We recommend trying to empty your bladder every 2-3 hours during the day.
- ✦ Weight loss
 - Losing weight may help overactive bladder, just like it can help stress urinary incontinence.

Physical therapy or pelvic floor muscle training can also be helpful for urgency urinary incontinence.

- ✦ “Freeze and squeeze” – if you get a strong urge to go, stop what you are doing and focus on holding your urine.
- ✦ Physical therapists may help you learn how to use these muscles and make them stronger.

Second-line treatments

Medications are the second line therapy for urgency urinary incontinence. The majority of these types of medications are called “anti-cholinergics” which is a specific family of medications. While they can be helpful because they help relax the bladder, they may cause some bothersome side effects. These side effects include dry mouth, dry eye, constipation and confusion. Anti-cholinergics may or not be



recommended for you based on other medical problems that you may have. This is a list of some medications that are in this family:

- 🌱 Darifenacin [Enablex]
- 🌱 Fesoterodine [Toviaz]
- 🌱 Oxybutynin [Ditropan]
- 🌱 Solifenacin [Vesicare]
- 🌱 Tolterodine [Detrol]
- 🌱 Trospium [Sanctura]

Many of these medications come in immediate-release (short-acting) and extended-release (longer-acting) formulations. If you have side effects from these medications, your doctor may try another medication on this list.

There is one medication prescribed for urgency urinary incontinence that is NOT an anti-cholinergic. While it still relaxes the bladder, it works in a different way and so does not have the same side effects of dry mouth, dry eyes, and constipation. This medication is called Mirabegron [Myrbetriq]. However, as this medication may have an effect on blood pressures, your doctor may not prescribe this to you if you have hypertension that is not controlled.

Third-line treatments

If you have proceeded through first line (muscle strengthening, lifestyle modification) and second line (medication) therapy and are still bothered by your bladder symptoms, you should be sent to a specialist. This may be a urologist or a urogynecologist who specializes in treatment of pelvic floor problems like urgency urinary incontinence. At this time, they may be able to offer third line treatments for your bladder. Before proceeding with these treatments, though, they may need you to do some extra testing including looking in your bladder (cystoscopy) and urodynamics (a test that measures how well your bladder fills and empties). There are three options for third-line treatments: sacral neuromodulation, posterior tibial nerve stimulation, and injections into the bladder.

Sacral neuromodulation (SNM)

Sacral neuromodulation is a procedure that uses electrical signals to help relax your bladder. A device that acts like a pacemaker sends signals through the spinal cord to your bladder. This device is placed through small incision on your back and buttocks. This procedure is usually a two-step process. The first step is a test phase to see if the stimulation helps your bladder, and the second is the implant of the battery.

Posterior Tibial Nerve Stimulation (PTNS)

If you think that having an implant does not seem like a good idea, there is a procedure that can be done in the office that also uses electric signals to try and relax your bladder. This is called posterior tibial nerve stimulation treatment. This uses a needle similar to an acupuncture-type needle. This needle is placed by your ankle and gets connected to a stimulator. This sends a signal up the nerve in your ankle to the nerves that go to your bladder. You receive this treatment every week for 12 weeks. If it works for you, your doctor will likely recommend that you return to the office every 1-3 months for maintenance, like a “touch-up” therapy.

Onabotulinum toxin (Botox) injection

Another option is also performed in the office. This is injection of onabotulinumtoxin A (Botox) into the muscle of the bladder. Just like Botox is injected into the facial muscles to relax wrinkles, it also helps relax the bladder. This is injected through cystoscopy, a camera that goes into the bladder. Many women need this to be repeated about every 6 months to a year.

All of these third-line therapies have their risks and side effects. Your doctor will discuss these with you so you can help decide what is right for you.

Take Home Points:

- ✦ Bladder leakage, or urinary incontinence, has two main types – stress urinary incontinence and urgency urinary incontinence. These two types have different causes.
- ✦ Stress urinary incontinence is a structural issue and treatments include lifestyle changes, pelvic floor strengthening, vaginally inserted devices like pessaries, and surgery.
- ✦ Urgency urinary incontinence is caused by a bladder that squeezes at inappropriate times. This type of leakage is treated with lifestyle changes, pelvic floor strengthening, medications, or procedures.
- ✦ Your doctor may recommend testing or tracking your symptoms to find out what type of urinary incontinence you have.
- ✦ Treatments for bladder leakage may proceed through multiple steps so it is important to keep talking with your doctor if your symptoms are not significantly improved.

About the Author:



Emily RW Davidson, MD completed her undergraduate degree in Biology at Indiana University in Bloomington and her medical degree at the University of Chicago Pritzker School of Medicine. She completed her Obstetrics and Gynecology residency at the University of North Carolina at Chapel Hill. She is currently in her third year of fellowship in Female Pelvic Medicine and Reconstructive Surgery at the Cleveland Clinic in Cleveland, Ohio.

Dr. Davidson has no disclosures.