

Stress incontinence

Definition

Stress incontinence is an involuntary loss of urine that occurs during physical activity, such as coughing, sneezing, laughing, or exercise.

Alternative Names

Incontinence - stress

Causes

The ability to hold urine and maintain continence depends on the normal function of the lower urinary tract, the kidneys, and the nervous system. Additionally, the person must have the ability to recognize and appropriately respond to the urge to urinate.

Stress incontinence is a bladder storage problem in which the strength of the muscles (urethral sphincter) that help control urination is reduced. The sphincter is not able to prevent urine flow when there is increased pressure from the abdomen.

Stress incontinence may occur as a result of weakened pelvic muscles that support the bladder and urethra or because of malfunction of the urethral sphincter. The weakness may be caused by prior injury to the urethral area, neurological injury, some medications, or after surgery of the prostate or pelvic area.

Stress urinary incontinence is the most common type of urinary incontinence in women. Studies have shown about 50% of all women have occasional urinary incontinence, and as many as 10% have frequent incontinence. Nearly 20% of women over age 75 experience daily urinary incontinence.

Stress incontinence is often seen in women who have had multiple pregnancies and vaginal childbirths, whose bladder, urethra, or rectal wall stick out into the vaginal space (pelvic prolapse).

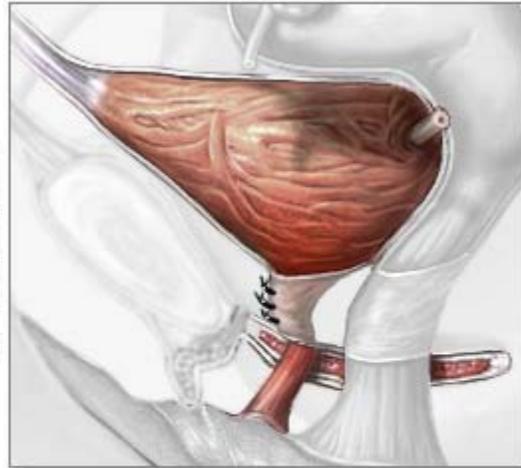
Risk factors for stress incontinence include:

- Being female
- Getting older
- Childbirth
- Smoking
- Obesity
- Chronic coughing (such as chronic bronchitis and asthma)

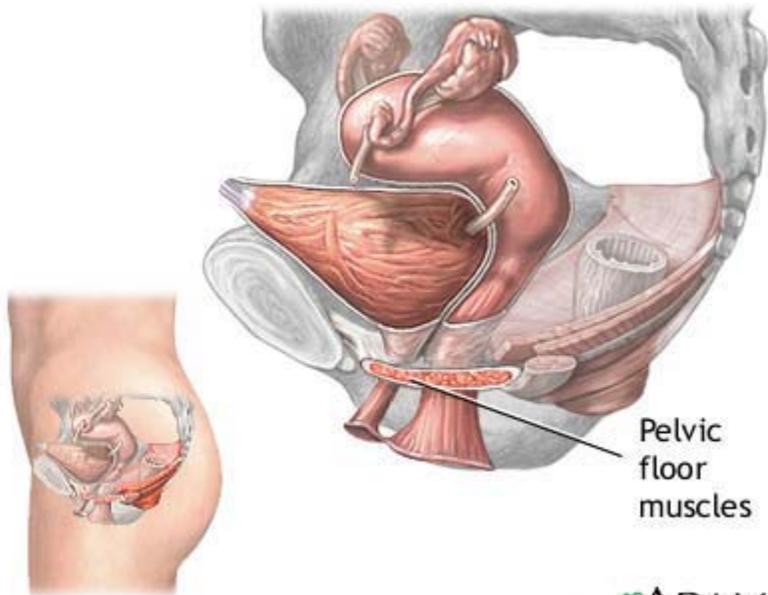
Symptoms

Involuntary loss of urine is the main symptom. It may occur when:

Bladder neck is elevated by stitching it and the urethra to anterior pubic bone



ADAM.



ADAM.

- Coughing
- Sneezing
- Standing
- Exercising
- During other physical activity

Exams and Tests

The health care provider will perform a physical exam, including a rectal exam, a genital exam in men, and a pelvic exam in women. In some women, a pelvic examination may reveal that the bladder or urethra is bulging into the vaginal space.

Tests may include:

- Post-void residual (PVR) to measure amount of urine left after urination
- Urinalysis or urine culture to rule out urinary tract infection
- Urinary stress test (the patient is asked to stand with a full bladder, and then cough)
- Pad test (after placement of a pre-weighed sanitary pad, the patient is asked to exercise -- following exercise, the pad is re-weighed to determine the amount of urine loss)
- A pelvic or abdominal ultrasound
- X-rays with contrast dye of the kidneys and bladder
- Cystoscopy (inspection of the inside of the bladder)
- Urodynamic studies (tests to measure pressure and urine flow)
- Rarely, an EMG (electromyogram) is performed to study muscle activity in the urethra or pelvic floor

Other tests may include the measurement of the change in the angle of the urethra when at rest and when straining (Q-tip test). An angle change of greater than 30 degrees often means there is significant weakness of the muscles and tissues that support the bladder.

Treatment

Treatment depends on the severity of the symptoms and how much they interfere with the person's everyday life.

The doctor may also ask that you stop smoking (if you smoke) and to avoid caffeinated beverages (such as soda) and alcohol. Patients may be asked to keep a urinary diary, recording how many times you urinate during the day and night, and how often urinary leaking occurs.

There are four major categories of treatment for stress incontinence:

- Behavioral changes
- Pelvic floor muscle training
- Medication
- Surgery

Behavioral changes involve decreasing how many fluids you drink, if you drink an excessive amount during the day. (You should not decrease your fluid intake if you drink normal amounts of fluids.) Urinating more frequently may help some patients decrease the amount of urine that they leak. Constipation can make urinary incontinence worse, so dietary or medical treatments to help keep regular bowel habits are recommended. Weight loss has been shown to help decrease symptoms in those who are overweight. Some people with severe stress incontinence may change their activity level to avoid movements such as jumping or running, which can cause greater leakage of urine.

Pelvic muscle training exercises (called Kegel exercises) may help control the leakage of urine. These exercises improve the strength and function of the urethral sphincter. Some women may use a device called a vaginal cone along with pelvic exercises. The cone is placed into the vagina, and the woman tries to contract the pelvic floor muscles in an effort to hold it in place. The device may be worn for up to 15 minutes. This procedure should be done two times a day. Within 4 to 6 weeks, about 70% of women have had some improvement in their symptoms.

Biofeedback and electrical stimulation may be helpful for those who have trouble doing pelvic muscle training exercises. These two methods help a patient identify the correct muscle group to work. Biofeedback is method that helps a person learn how to control certain involuntary body responses. About 75% of patients who have used biofeedback for stress incontinence have said their symptoms got better; 15% were cured.

Electrical stimulation therapy uses low-voltage electric current to stimulate and contract the correct group of muscles. The current is delivered using an anal or vaginal probe. The electrical stimulation therapy may be done at the doctor's office or at home. Treatment sessions usually last 20 minutes and may be done every 1 to 4 days. Newer techniques are being investigated, including one that uses a specially designed electromagnetic chair that causes the pelvic floor muscles to contract when the patient is seated.

Medicines tend to work better in patients with mild-to-moderate stress incontinence. They include:

- Antimuscarinic drugs block bladder contractions. Many doctors prescribe these types of drugs first.
- Alpha-adrenergic agonist drugs such as phenylpropanolamine and pseudoephedrine (common components of over-the-counter cold medications) help increase sphincter strength and improve symptoms in about 50% of patients.
- Imipramine, a tricyclic antidepressant, works in a similar way to alpha-adrenergic drugs.

Estrogen therapy can be used to improve urinary frequency, urgency and burning in postmenopausal women, and the tone and blood supply of the urethral sphincter muscles. However, whether estrogen treatment improves stress incontinence is controversial. Women with a history of breast or uterine cancer should usually not use estrogen therapy for the treatment of stress urinary incontinence.

Surgical treatment is only recommended after the exact cause of the urinary incontinence has been determined. Different types of surgeries are outlined below.

COLLAGEN INJECTION

A minor surgical procedure called collagen periurethral injection may be recommended for treatment of male and female stress incontinence caused by urethral sphincter dysfunction. The collagen makes the area around the urethra thicker, which helps control the urine leakage. This procedure is done in an outpatient setting, with a local or spinal anesthesia. The procedure may need to be repeated after a few months to achieve bladder control. Women treated with collagen injection therapy reported higher success rates than men. Potential complications include infection, urine retention, and temporary erectile dysfunction in men. Some people may have a potentially serious allergic reaction to collagen. Any potential candidate for collagen injection must have an allergy skin test prior to treatment.

ANTERIOR VAGINAL REPAIR OR PARAVAGINAL REPAIR

These vaginal procedures are often done in women when the bladder is bulging into the vagina. (Such a condition is called a cystocele). An anterior vaginal repair is done through a cut in the vagina, and a paravaginal repair may be done through a cut in the vagina or abdomen.

In an anterior repair, the supportive tissue between the vagina and bladder is folded and stitched together so the bladder and urethra are in proper position.

In a paravaginal repair, the supportive tissue between the vagina and bladder is stitched to the tissue covering the pelvic floor muscles, so the bladder and urethra are supported.

Studies have shown that the cure rate for stress urinary incontinence from these procedures is about 40-65%. Often, these procedures are done along with another procedure for stress incontinence such as a retropubic suspension.

NEEDLE BLADDER NECK SUSPENSION

Needle bladder neck procedures use special needles to make a minor cut in the abdomen and vagina. The various procedures (Modified Pereyra and Stamey procedure) differ based on the structures that are used to anchor and support the bladder. This type of surgery is only done on women. Women treated with needle bladder neck procedures have a 40-80% cure rate. Because the success rate tends to be lower than other surgeries, they are not being done as often as they used to be. Possible complications include urinary tract infection, inability to urinate, wound infection, fistula (rarely), and urge incontinence.

RETROPUBIC SUSPENSION

Retropubic suspension is used to describe a group of surgical procedures done to lift the bladder and urethra. These procedures are done through a cut in the abdomen. The procedures (Burch colposuspension and Marshall-Marchetti-Krantz -- MMK) differ based on the structures that are used to anchor and support the bladder.

Women treated with these procedures have a 75-90% cure rate. Possible complications include urinary tract infection, inability to urinate, wound infection, fistula (rarely), and new onset of urge incontinence.

SLING PROCEDURE

Most doctors who treat incontinence recommend a sling operation as the first choice for the treatment of uncomplicated stress incontinence in women. This procedure is rarely done in men.

A sling is formed by taking a piece of the abdominal tissue (fascia) or synthetic material. The man-made sling pushes on the urethral sphincter, thus preventing leakage of urine during stressful movements.

These procedures require a small cut in the abdomen and vagina. Many different types of the sling procedure have been developed, including a transvaginal tape procedure which uses smaller cuts and can be done as an outpatient surgery.

Eighty to 90% of people who have had sling procedures to correct their stress incontinence are cured. Possible complications include infection, erosion of the sling, non-healing vaginal wall, fistula or abscess formation, urgency, urge incontinence, and urinary retention.

ARTIFICIAL URINARY SPHINCTER

Artificial urinary sphincter is a surgical device used to treat stress incontinence in men. Artificial urinary sphincters are rarely used in women. Most experts tell their patients to try other treatments first. Possible complications include infection and urethral erosion, which requires removal of the device. The patient may need to modify some activities (such as bicycle riding) to accommodate the device.

Outlook (Prognosis)

Behavioral changes, pelvic floor exercise therapy, and medical management of stress incontinence usually improve symptoms rather than cure the disorder. Surgery may have a 75 - 95% cure rate when patients are carefully selected.

Treatment does not work as well in people with previous surgical failures, other genital or urinary problems, or systemic conditions that may prevent healing or make surgery more difficult.

Possible Complications

Physical complications such as vaginal discharge, vulvar irritation, and pain during intercourse are relatively rare and mild. Unpleasant odors may occur.

The condition may affect or disrupt social activities, careers, and relationships.

When to Contact a Medical Professional

Call for an appointment with your health care provider if symptoms of stress incontinence occur and are bothersome.

Prevention

Performing Kegel exercises (tightening muscles of the pelvic floor as if trying to stop urine stream) may help prevent the development of symptoms. Performing Kegel exercises during and after pregnancy can decrease the risk of developing stress urinary incontinence after childbirth.

Notes:



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