




National Association For Continence

A vertical collage of ten small, square photographs showing diverse individuals and couples of various ages and ethnicities. The photos are arranged in a column on the left side of the page, with a teal-to-purple gradient background behind them.

## Non-Surgical Treatments for Female Stress Urinary Incontinence

Including Instructions for  
Pelvic Muscle Exercises

Promoting Quality  
Continence Care through

Consumer  
Education

Always consult your doctor before trying anything recommended in this or any other publication that speaks to general health issues. NAFC does not endorse any products and services of third parties through this publication or otherwise.

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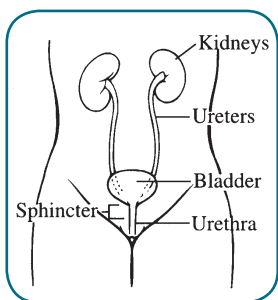
# Non-Surgical Treatments for Female Stress Urinary Incontinence

## Introduction

Stress urinary incontinence (SUI) is a common type of bladder control problem in women. It is characterized by uncontrollable leakage of urine with increased abdominal pressure. SUI is triggered by events such as coughing and laughing. Fortunately, there are both non-surgical and surgical treatment options for women with SUI that can provide meaningful improvement or elimination of symptoms. This brochure will discuss the causes of SUI and focus specifically on the behavioral and non-surgical treatment options for this condition.

In order to understand why SUI occurs, you must first understand the female urinary anatomy. Normally, the bladder has two functions. One is to store urine produced by the kidneys. The second is to contract and push out the urine through the urethra when it is convenient and socially acceptable to empty the bladder. The pelvic organs (the bladder, the vagina, the uterus and the rectum) are supported by a complex “hammock” of pelvic floor muscles and tissues. There is a circular muscle around the urethra, called the sphincter, which keeps the urethra closed during filling. The pelvic floor muscles help to support the sphincter muscle that keeps the bladder closed while it fills with urine.

When the bladder is full, it sends a message to the brain to empty. The bladder squeezes, the pelvic floor relaxes and urine comes out through the urethra. Therefore, the condition of the pelvic floor muscles has a direct effect on bladder control.



Female Urinary Anatomy

SUI occurs when abdominal pressure or “stress” is placed on the weakened urethral sphincter or pelvic floor muscles. Bladder control also depends on stable communication

between the brain and bladder. Therefore, damaged pelvic nerves, from obstetrical trauma for example, can affect the activity of the sphincter and pelvic floor muscles and also cause SUI.

Everyday occurrences, such as coughing, sneezing, exercise, laughing, or lifting can place “stress” on the bladder and may lead to an SUI episode.

## Prevalence

SUI is the most common type of incontinence in women younger than 60 years and accounts for at least half of incontinence in all women. It is estimated that 15 million adult women in the U.S. experience SUI, at least one-third of whom have severe enough symptoms to affect everyday activities and be possible candidates for surgery. This condition often goes undiagnosed because many women believe that it is normal result of childbirth or a natural part of aging. These beliefs are myths. SUI does not have to be accepted as a part of life.

## Types of Bladder Control Problems

There are two common types of urinary incontinence: stress incontinence (SUI) and urge incontinence (UII). It is important to understand the difference between each of these diagnoses because they face different options for

treatment. Urge incontinence (UUI) is most often caused by overactive bladder (OAB). An overactive bladder is one that contracts without warning, leading to symptoms of urinary urgency and frequency. UUI is urine loss as the result of these symptoms. SUI is not accompanied by the sensation of a sudden urge to urinate. The underlying cause for SUI is different from that for UUI. SUI is caused by a weak sphincter muscle and/or pelvic floor.

Some people have both SUI and UUI, known as mixed incontinence. This means that they leak when they cough or sneeze or exert pressure on their abdominal muscles; but they also feel the urgent need to go to the toilet and may not make it in time.

## **The Two Types of SUI**

Specifically, there are two types of SUI: urethral hypermobility and intrinsic sphincteric deficiency (ISD). In the case of urethral hypermobility, the urethra shifts positions with an increase in abdominal pressure, allowing urine to exit the bladder. ISD refers to the inability to effectively seal off the sphincter, the ring of muscles forming the bladder valve that is normally tightened to keep urine in the bladder. While there is no specific test for ISD, it is now generally believed that many women with SUI have at least some degree of ISD. Measurements of pressures taken during urodynamics testing help doctors make the diagnosis.

## **SUI Risk Factors**

Following are risk factors for SUI: pregnancy and childbirth, general loss of pelvic muscle tone (often with aging), hysterectomy, nerve and muscle damage as result of (birth) injury or surgical trauma, obesity, menopause, chronic

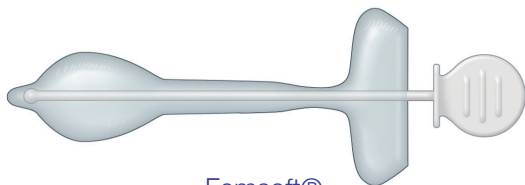
coughing due to smoking and lung disease, anatomical predisposition, and repeated heavy lifting or high impact sports.

## Management Incontinence Absorbents

A wide variety of absorbent products are sold at retail outlets and by mail-order to help manage incontinence. Disposable products are specifically designed to absorb urine and control odor. Fit and proper sizing are particularly important. Some people prefer reusable products, while others use a combination of disposable with reusable. Regardless of your choice, pay attention to skin care by using specially formulated cleaners and creams to protect the skin from irritation, fungus, and bacteria caused by excess moisture.

## Urethral Inserts

An alternative management option is FemSoft®, a female urinary device, that provides immediate control over unwanted urine loss, odor, and



wetness. Available by prescription, FemSoft is clinically proven to keep women dry and odor free. The soft silicone sleeve conforms to your body, creating a comfortable fit. Your clinician will fit you with the correct size and teach you how to use it. This single-use, disposable product is only worn when you need protection from bladder leakage. FemSoft can be used in conjunction with behavioral and non-invasive treatments.

## Behavioral and Non-Invasive Treatments

Physicians generally pursue non-invasive therapeutic interventions before attempting to treat SUI with surgery. This brochure provides you with an overview of some of these interventions.

### Loss of Excess Weight

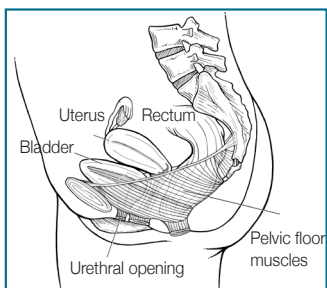
Overweight women have a greater risk of being incontinent than women with an ideal body weight. Studies have shown that significantly overweight women with incontinence who lose excess weight can actually reduce episodes of unwanted urine loss. One study demonstrated that obese women who exercised and lost just 10% of their body weight reduced their leakage by half and maintained these results for six months. To improve continence, consistent moderate exercise each week is recommended.

### Pelvic Muscle Exercises

Pelvic muscle exercises (PMEs), also called pelvic floor muscle or Kegel exercises, are an essential part of the behavioral treatment techniques that help increase bladder control and decrease bladder leakage. These techniques require conscious effort, consistent discipline, and are a lifetime commitment.

PMEs have been shown to improve mild to moderate urge and stress incontinence. When performed correctly, these exercises help strengthen the muscles that support your bladder. Through regular exercise, you can build control and endurance to help improve, regain, and maintain bladder and bowel control.

The muscles of the pelvic floor are located in the base of your pelvis between your pubic bone and tailbone. These muscles have three



Female Pelvic Floor

main functions:  
(1) supporting the abdominal and pelvic contents from below, (2) controlling bowel and bladder function, and (3) enhancing sexual response and

interaction. Like other muscles in the body, if they get weak, they are no longer efficient or effective at performing their job.

## Locate and Recognize the Muscles

The first step in practicing PME is to locate the pelvic floor. The pelvic floor muscles are the ones you use to hold back gas or stop a urine stream. One way to help 'find' these muscles is to squeeze and lift the rectal area as if you were trying to hold back gas. Avoid tightening the buttocks or abdomen, as you want to exercise only the muscles of your pelvic floor.

## Suggested Exercises

While nurse specialists and physical therapists can coach you in pelvic muscle rehabilitation, PMEs can be done on your own and can be performed anywhere, anytime in a variety of positions (sitting, standing, lying down, etc.). In the beginning, it is advisable to do the exercises lying down. You can bend your knees or elevate your legs on a pillow or stool so you are comfortable and your legs are relaxed. Gradually build up, first to sitting, and then to standing. Seek to do a combination of all three positions: lying, sitting, and standing.

To give your pelvic floor a full workout, there are two types of exercises you should perform. The first exercise is called a short contraction,

and it works the fast twitch muscles that quickly shut off the flow of urine to prevent leakage. The muscles are quickly tightened, lifted up, and then released. You should contract as you blow out, or exhale, then continue to breathe normally as you do the exercises.

The second exercise works on the supportive strength of the muscles and is referred to as a long contraction. The slow twitch muscles are gradually tightened, lifted up, and held for several seconds. As first, it may be difficult to hold the contraction for more than 1 or 2 seconds. After practice over a period of weeks, the goal is to hold the contraction for 10 seconds before releasing. Rest ten seconds between each long contraction to avoid overtiring muscles.

Many people try to perform too many exercises and sacrifice quality. It is best to stop and rest if it is too difficult to perform proper contractions. To improve muscle function, PME's must be done regularly. It is advisable to start with three sets of 10 short and 10 long contractions, twice a day. Ultimately, the number of repetitions and sets can progress to three sets of 15 short and 15 long contractions, three times a day for maintenance. Your bladder and bowel control will usually begin to improve in six weeks or less. However, some people take three to six months to see improvement.

As a training aid for PME's, you can use vaginal weights, wands, or other devices that provide resistance against muscle contractions.

Some of these aids are prescribed by a health professional and used under professional supervision, and others are available without prescription.

Once you get comfortable with practicing PME's, keep a couple of tips in mind in order to avoid accidents. Tighten your pelvic floor muscles just before you do anything that puts pressure on your bladder, such as sneezing, clearing your throat, or blowing your nose. You may also use PME's to help suppress a strong urge to urinate until you can locate an appropriate place to empty your bladder.

## Further Instruction

If you are considering PME's or frustrated with results, it is wise to seek professional and personalized instructions. As a resource, NAFC sells a pelvic muscle exercise instruction kit for women, which includes an illustrated manual, audio CD (or cassette), and motivational DVD (or VHS tape). Call us at 1-800-BLADDER to order.

To ensure proper identification of pelvic floor muscles, to stimulate damaged nerves, and to establish an exercise routine, you may also need to see a nurse specialist or physical therapist to undergo biofeedback therapy or pelvic floor stimulation.

## Biofeedback

While the discipline of practicing PME's can be challenging, special computerized biofeedback devices are available to teach these exercises. By placing small sensors close to the muscles being monitored, biofeedback devices detect and record this electrical activity. By "feeding back" the information, the patient knows immediately which muscles she is using.

This therapy is usually performed under the care of a nurse specialist or physical therapist. It is known to be a safe and effective method of increasing pelvic floor strength and therefore can

greatly help women with stress incontinence.

Two types of sensors can be used in biofeedback therapy and both are effective in measuring muscle activity. Either small tampon-like sensors are placed in the vagina or an external “stick-on” type of sensor can be placed just outside the anal opening. The most common error that some individuals make in performing pelvic muscle exercises is using their abdominal muscles instead of the pelvic muscles. With biofeedback, you can learn to stop using the wrong muscles and start using the correct ones.



Biofeedback Equipment in Use

The job of the biofeedback therapist is to coach you in the proper use of the pelvic muscles, just like a personal trainer. By following instructions, you will see the signals changing as you contract and relax the muscles. You will consequently become more aware of your pelvic muscles and will be better able to identify and use them.

## Pelvic Floor Stimulation

In addition to biofeedback, pelvic floor stimulation (PFS) can help women with SUI contract and therefore strengthen their pelvic floor. Pelvic floor stimulation is based on the principles of treating nerves, which supply the pelvic floor muscles. When a muscle is weak,

regular treatment with an external stimulus may make the muscle contract.

PFS is the controlled delivery of small amounts of stimulation to the nerves and muscles of the pelvic floor and bladder. The stimulation is generated through a tampon-like sensor that is placed in the vagina or by surface electrodes that are placed around the anus. The sensor, or electrode, is attached by a cable to a small battery-operated device used privately in the home or a larger clinical device in a doctor or therapist's office. Sometimes pelvic floor stimulation is called electrical stimulation or "E-Stim."

PFS is not painful. Some people describe a tightening or lifting of the pelvic floor muscles. Others feel nothing or sometimes a light tapping or mild tingling sensation. To learn more about PFS, speak to your healthcare professional. If he or she is not familiar with stimulation for improved bladder control, look for a physical therapist, nurse specialist, or physician who is knowledgeable about urinary incontinence. An average program is three to six months and varies depending on the person's needs and progress.

## Pessaries

Pessaries are silicone devices that come in a variety of shapes and sizes and are placed in the vagina to provide support to the pelvic organs. Most are used as a non-surgical means of managing prolapse. However, a few are used successfully for managing SUI by partially compressing the urethra, with shapes known as the "dish," "Hodge," and "Marland." Fitting is by trial and error. Local, topical estrogen should be prescribed for use with a pessary for comfort,

lubrication, to reduce the risk of irritation or ulceration, and for a lower incidence of urinary tract infections.

## Topical Estrogen

Loss of estrogen after menopause contributes to a thinning of the tissues lining the vagina, which can contribute to episodes of stress incontinence. If you are post-menopausal, your doctor may prescribe local, low dosage estrogen administered vaginally to gently lubricate the tissues of the vagina. Many clinicians observe improvement in symptoms of SUI in many women. Still, topical estrogen alone is not a curative remedy and research on its benefits remains mixed.

Options are in the form of a vaginal cream, tablet, or ring that releases estrogen over a three-month period before being replaced. These are all FDA approved therapies, with few systemic effects. Generally, 4-12 weeks of therapy are needed for symptoms to resolve. Symptoms will return, however, in 4-6 weeks if therapy is discontinued.

Topical estrogen therapy is not to be confused with hormone replacement therapy (HRT), which has been shown in a large study not to relieve incontinence in postmenopausal women. Topical estrogen therapy is routinely and successfully being used safely in postmenopausal women for treating many symptoms associated with vaginal atrophy. It is important to speak with your health care provider to discuss whether estrogen would be of benefit for you.

## Medications

Though millions of individuals suffer from SUI, there are no FDA approved pharmaceutical medications to treat the condition. Duloxetine

is the only medication used to treat SUI, but it is not FDA approved for this indication in the United States.

## **Minimally Invasive Treatments** Injection Therapy

Another technique to treat SUI is with the nonsurgical injection of “bulking” material into the tissues around the urethra, called injection therapy. The goal of injection therapy is to provide closure of the sphincter without obstructing it and, therefore, protect against incontinence by increasing the resistance to the outflow of urine.

Attempts to treat SUI with injection therapy have been considered for decades with a variety of materials. In most cases, injections are performed under local anesthesia, which allows the procedure to be performed in a hospital outpatient setting, or in the physician’s office. After injection, most patients urinate with little difficulty, though urine retention is possible.

Although collagen, a natural material produced by the body, has been safely used as a bulking agent since 1993, manufacturing was discontinued in 2011 for economic reasons, and is no longer available in the U.S. There are other products on the market that use synthetic materials designed to be non-migratory, non-absorbable, and biocompatible. Both Boston Scientific (Coaptite) and Uroplasty (Macroplastique) offer products for this use.

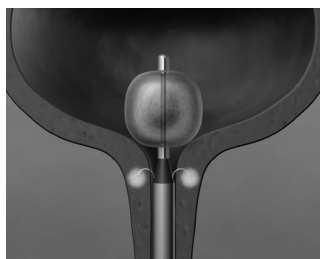
Recognizing that SUI may be due to either weakened pelvic muscle support or intrinsic sphincteric deficiency (ISD), the best results from injection therapy occur when your leakage is a result of poor urethral function but pelvic muscle support remains good.

The FDA has cleared the use of bulking agents for SUI due to intrinsic sphincter deficiency (ISD) only.

Multiple research studies thus far have shown that in carefully selected patients up to 80% of women become dry or improved after three treatment sessions. This is not a permanent solution and repeated injections are necessary because the body absorbs the fluid over time.

## Radiofrequency Energy Treatment - Renessa®

The Renessa Treatment is a non-surgical approach to treating SUI, typically performed in a physician's office.



Renessa® System

During treatment, the physician passes a small catheter-like device into the urethra. The device generates low temperature heat in small areas at the base of the bladder. Once treatment is complete, the device is removed. There are no incisions and no foreign materials of any kind are left inside the body. The heat causes the natural collagen in the tissue to become firmer, increasing the bladder's ability to resist leaks during activity. Only a local anesthetic for numbing is needed, so patients are typically comfortable during the procedure. Recovery is rapid; many women return to normal activities the same day.

Clinical studies have shown that about three out of four women are dry or improved following the Renessa treatment, and nearly 60% eliminate use of pads. A long-term study has shown that results of a single treatment last for at least three years. If conservative therapy and/

or symptom management aren't enough, the Renessa treatment can be an option for women before surgery. Treatment with Renessa does not prevent a woman from having a subsequent surgical treatment for incontinence. More information can be found at [www.renessa.com](http://www.renessa.com).

## **Conclusion**

Stress incontinence is very common in women and can significantly impact a woman's life.

If SUI is bothersome to you, it should be encouraging to learn that there are non-surgical treatment options that can greatly improve your quality of life. While exploring such options, give each option opportunity for success. Use NAFC as a resource for additional information and access to local experts, available by phone at 1-800-BLADDER or via the Internet at [www.nafc.org](http://www.nafc.org).

## **About NAFC**

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NAFC is the world's largest and most prolific consumer advocacy organization dedicated to public education and awareness about bladder and bowel control problems, voiding dysfunction including retention, nocturia and bedwetting, and related pelvic floor disorders such as prolapse.

This material is based on professional advice, published experience and research, and expert opinion. It does not represent individual therapeutic recommendations or prescription. For specific medical advice, consult your personal physician or other knowledgeable healthcare provider. For further information, visit [www.nafc.org](http://www.nafc.org) or call us at 1-800-BLADDER (1-800-252-3337).

National Association For Continence is a national, private, non-profit 501(c)(3) organization dedicated to a threefold mission: 1) To educate the public about the causes, diagnosis categories, treatment options, and management alternatives for incontinence, nocturnal enuresis, voiding dysfunction and related pelvic floor disorders, 2) To network with other organizations and agencies to elevate the visibility and priority given to these health concerns, and 3) To advocate on behalf of consumers who suffer from such symptoms as a result of disease or other illness, obstetrical, surgical or other trauma, or deterioration due to the aging process itself.

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