



National Association For Continence

Male Stress Incontinence

Non-Surgical
and Surgical
Treatment:

Which suits
your needs?



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Promoting Quality
Continence Care through

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Male Stress Incontinence: Which treatment suits your needs?

Stress urinary incontinence (SUI) refers to the leakage of urine that occurs during activities that exert pressure on the bladder such as coughing or sneezing. While both stress and urge urinary incontinence are more prevalent in women, men can also experience these types of bladder control problems. SUI in men most commonly results from prostate surgery, which can damage the sphincter muscle, or valve, leaving it too weak to function properly.

A variety of surgeries either as treatment for prostate cancer or benign prostatic hyperplasia (enlarged prostate) can leave men with SUI. These procedures include, but are not limited to: prostatectomy (prostate removal), transurethral resection of the prostate (TURP), and radiation therapy. While this leaflet aims to address the options for treating and managing male SUI, you will see reference to the most common form of male SUI, post prostatectomy incontinence (PPI), which refers specifically to leakage following a prostatectomy.

Prevalence of Male SUI

It is not unusual that lack of bladder control is a problem for the first few months and up to one year following a radical prostatectomy. “Radical” refers to the removal of the entire prostate gland and neighboring seminal vesicles, responsible for semen production. In fact, studies have indicated that as many as 90% of men report leakage in the first few weeks following surgery after removal of the catheter. Over the course of the first year following surgery, continence returns in the majority of men. However, in 5-20% of men some degree of SUI will continue to be a significant problem.

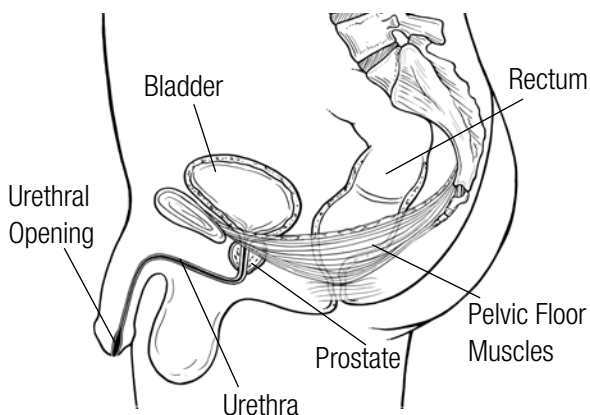


Figure 1: Male Pelvic Floor - side view shows position of prostate in relation to the bladder and urethra

Causes of SUI in Men

Because the prostate gland wraps around the urethra (Figure 1), the tube that runs through the penis from the bladder, its natural structure causes many men undergoing a prostatectomy to experience post-surgery incontinence. Even nerve-sparing techniques can leave the tissue traumatized enough to induce temporary incontinence or even permanent problems with controlling the leakage of urine. Controlling the bladder becomes a problem because the sphincter muscles may be too weakened to work reliably after surgery.

Normally the sphincter (Figure 2) acts like a valve that relaxes and opens when a person is urinating and closes when a person is not. When the strength of the sphincter muscle is compromised, urine consequently leaks into the urethra. Leakage may be slight and occur only during pressure on the bladder, such as with a golf swing or a sneeze, or it may be so severe that it allows a virtual steady stream of urine from the bladder to soil undergarments.

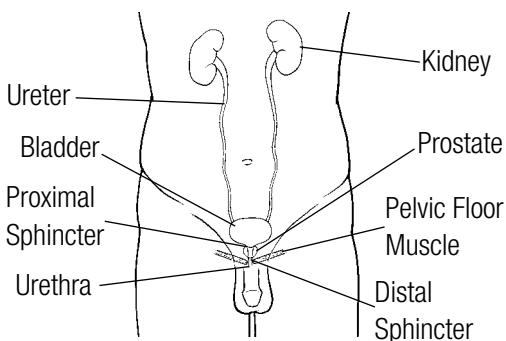


Figure 2: Sphincters - (a) proximal, or internal, is located at the bladder neck (b) distal, or external, is a membrane through which the urethra passes

Evaluation of Incontinence

When SUI persists more than twelve months after radical prostatectomy, a group of diagnostic tests, called urodynamics, are used to evaluate the function of the lower urinary tract to determine the exact cause of the leakage. This urodynamics testing is performed in a 20-30 minute procedure in the doctor's office. The tests involve filling the bladder through a catheter while measuring the pressures in the bladder. During the tests, various maneuvers are performed to demonstrate urinary incontinence and thus define the cause of the urine loss.

Urodynamics testing not only evaluates the extent of damage to the sphincter muscle, which occurs in approximately 35% of men with PPI, but other types of bladder control problems as well. Abnormal pressure developing in the bladder as it fills causes spasms, or brief contractions, and occurs in half of men evaluated for PPI. These bladder spasms may cause urge incontinence because the toilet is not reached quickly enough following the sudden sense of urgency. They may

also be responsible for frequent urination and sometimes loss of urine at night. Sudden urgency to urinate, frequency of urination and urge incontinence are symptoms of overactive bladder (OAB), a condition that typically plagues men and women over age 50. This bladder dysfunction can also occur following pelvic radiation therapy. OAB symptoms are best managed with a combination of behavioral intervention (including attention to diet as well as pelvic floor muscle exercises) and possibly drug therapy. There are many pharmaceutical options to be considered for treating OAB. A combination of bladder malfunction and sphincter damage may be seen in about 10% of men. Men with this combined problem experience “mixed” incontinence symptoms, a combination of both urge and stress incontinence.

Non-Surgical Treatment Options

Like women, men have pelvic muscles that help close the urethra so that it can function reliably. When incontinence occurs following prostatectomy, the normal balance of bladder and sphincter function has been disturbed. To help these muscles regain their strength and functionality, behavioral therapy involving **pelvic muscle exercises** (PMEs) can be helpful. The pelvic floor (Figure 3) is comprised of both slow and fast twitch muscle fibers. Therefore, it is important to do both long and short contractions when exercising these muscles. The slow twitch fibers provide muscle tone over a long period of time, thus supporting the bladder and urethra. The fast twitch fibers react to sudden increases in pressure and thus primarily protect against urine leakage.

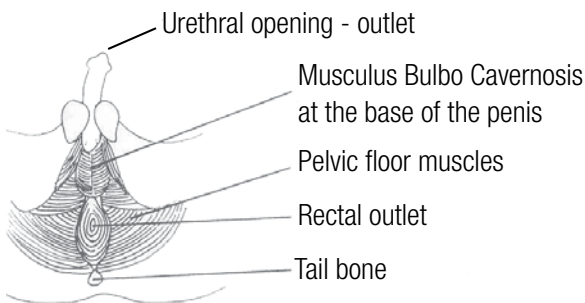


Figure 3: Male Pelvic Floor -
view from beneath the torso

As soon as the catheter is removed following surgery, a man can safely begin a program of pelvic muscle exercises to help rebuild strength and regain muscle tone. After six to eight weeks of faithfully performing a routine of ten repetitions three times a day, significant progress may become evident. Resting between repetitions for an equal amount of time is also advised to avoid fatiguing the muscles.

PMEs, along with other behavioral training prior to prostatectomy surgery, may decrease the time it takes to regain continence after surgery. In research, only 5.9% of men practicing PMEs, prior to surgery experienced continual leakage six months after surgery. In a similar group of men who did not practice PMEs, prior to surgery, 19.6% reported continual leakage.

Biofeedback is a treatment option for men who are incontinent and desire treatment early (within the first three to six months) following prostate surgery. Biofeedback is also a useful treatment option in men who continue to have relatively mild incontinence or who fear they are not doing their pelvic muscle exercises correctly.

The treatment program typically involves weekly, one-hour visits with a trained physical therapist or nurse specialist. A special sensor is inserted into the rectum or onto the skin surface outside the anal opening and attached to a computer programmed to give feedback on contractions as they are performed. During the treatment session, the man is taught to contract and strengthen the pelvic floor muscles as he views the muscular contraction displayed on the computer screen.

Electrical stimulation may be added to send an electrical signal to these pelvic muscles to help strengthen the muscles. Each week, the goal is to make the muscles stronger.

Surgical Treatment for SUI in Men

There are three types of procedures for male SUI:

- Injection therapy
- Male sling procedures
- Artificial urinary sphincter

When evaluating surgical treatments, your doctor should explain each procedure in full detail, describe the associated risks, and help determine which option is best suited for you. Following is an overview of each procedure. Your doctor's method may vary slightly from what is outlined.

Injection therapy

Over the past decade, several different biocompatible materials have received FDA approval to serve as bulking agents aimed at improving closure of the urethra in order to avoid more invasive procedures. The procedure can be performed in a doctor's office or in an outpatient hospital setting. However, injection therapy has not been very successful in men with sphincter

weakness. Only 8-20% of men report successful outcomes following injection of a widely used injected collagen, called Contigen®. Although there are other varieties of injectable materials, the lack of success in all injections appears to be due to the migration of the injected material away from the sphincter area in months following the procedure. Based on research, injection therapy is even less successful in men than women.

Male sling procedure

For men with mild to moderate SUI (e.g., relying on fewer than five absorbent pads per day) a male sling procedure is considered a viable treatment alternative. The best candidates for a male sling are men with no previous history of pelvic radiation therapy and men who have not had an artificial urinary sphincter implanted. The surgical procedure to implant a sling takes less than one hour and can be done either on an outpatient basis or with an overnight hospital stay.

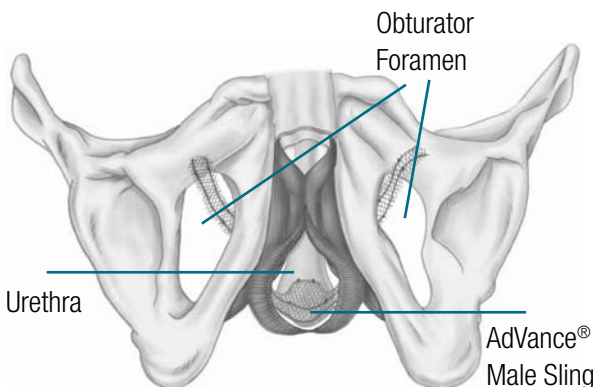
Bone-anchored male sling, InVance® Male Sling

The purpose of the bone-anchored male sling, or InVance® Male sling, is to reduce or eliminate leakage by compressing the urethra. In this procedure, a small incision is made below the scrotum in the perineum. Three miniature titanium screws are placed into the pubic bone on both sides of the urethra. The doctor positions the sling (a small piece of synthetic mesh) so that it places pressure on the urethra. The sling is then secured to the screws in the pubic bone and the incision is closed. A catheter is usually left in place for 24 hours. Most men are able to urinate with good control immediately after the catheter is removed.

The InVance Male Sling procedure was introduced in 2000. Research has demonstrated that following the InVance sling, 40% of men are completely dry, 40% are significantly improved, and 20% are considered surgical failures. While uncommon, complications associated with this procedure include anchor dislodgement, bone infection, and chronic pain in the perineal area.

Transobturator male sling, AdVance® Male Sling

A newer procedure, called the AdVance® Male Sling (Figure 4), is also meant to restore bladder control for men with mild SUI but works differently than the bone-anchored sling. In this procedure, a small sling made of synthetic mesh is placed inside the body through three small incisions using no screws. The sling supports but does not compress the urethra, thereby decreasing the potential for urethral erosion. Following the procedure, a catheter may be left in place for 24 hours.



Source: American Medical Systems

Figure 4. AdVance® Male Sling

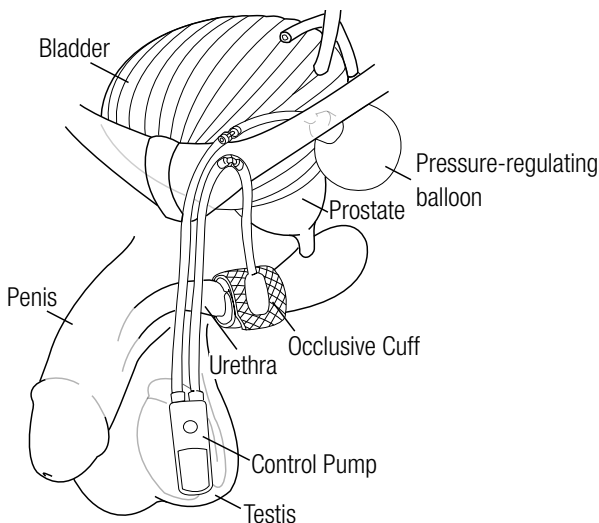
In well-selected patients, results have showed that 40% of men are dry and 30% are improved following the AdVance sling. Since this procedure has only been available since October 2006,

clinical data on its long-term effectiveness continues to be collected. Nevertheless, early results show the procedure to be safe and effective and over 10,000 AdVance slings have been implanted worldwide. Like the InVance Male Sling, bladder control should improve immediately following the AdVance procedure.

If either the InVance or AdVance Male sling is not effective, an artificial urinary sphincter may be placed as another alternative.

Artificial Urinary Sphincter (AUS)

For men with moderate to severe incontinence, or continuous leakage warranting five or more absorbent pads per day, the artificial urinary sphincter (AUS) is an option. In use for over 25 years, more than 100,000 AUS devices have been successfully implanted in men to treat SUI. The AUS is a device implanted into the body to correct stress incontinence in men with significant sphincter damage and thus more severe leakage.



Source: American Medical Systems

Figure 5: Artificial Urinary Sphincter -
view from beneath the torso

The AUS has three components: a cuff that helps to close the urethra, a pump placed inside the scrotum, and a pressure regulating balloon which is placed in the lower abdomen (Figure 5). When the man wants to urinate, he gently squeezes the pump in the scrotum, which opens the cuff around the urethra. Automatically, after three to five minutes, the fluid returns into the cuff, allowing the cuff to close. After the device is tested during surgery, the cuff is “locked” open. It is subsequently activated when post-operative swelling around the pump is gone, usually four to six weeks after surgery. Studies show a 90% satisfaction rate in men experiencing SUI.

With the current model of the AUS, long-term patient satisfaction has been excellent, demonstrating less than 15% mechanical malfunction after nearly eight years following implantation of the device. Despite these positive long-term results, however, some men are hesitant to have this prosthetic device implanted. For these men, as well as those who lack the manual dexterity to squeeze the pump in the scrotum, a male sling is preferred.

Management

Effective treatment for SUI is available, and ideally most men will not need to permanently seek management options. However, many management options are available, especially for those with only mild symptoms.

One widely used management option is the external condom catheter. This special catheter looks like a condom with a tube attached to the end. Men who use condom catheters will have the most satisfactory experience if they have the proper

size and style. It is also important to learn how to prepare the skin and properly apply the external condom catheter. External condom catheters should be changed at least once daily for good hygiene and skin protection.

The category of external collection devices has evolved with many innovations to include those with collection bags concealed in underwear and those with urine collection chambers secured away from the penis. Another option for men is a penile clamp or compression device which squeezes the penis to stop the flow of urine. This device is designed for men with light to moderate leakage and must be released regularly throughout the day to avoid prolonged compression of the penis.

Pads, briefs, and absorbent underwear should be chosen for absorbency, comfort, and fit. Absorbents should wick moisture away from the body. Men may prefer those that have cloth-like outer layers for the quietest product available. It is important that size accommodates body type because the wrong size can lead to leakage. While using absorbent products, it is also recommended to drink an adequate amount of fluids and change pads when they are wet to avoid unpleasant odor and skin irritation.

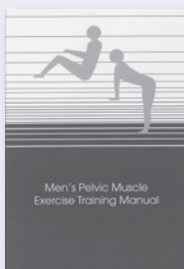


Conclusion

While loss of bladder control after prostate surgery may be a devastating complication which can have a significant, negative impact on quality of life, men should feel encouraged by the increasing number of treatment and management options available to them. With appropriate evaluation and treatment, problems with SUI are usually treatable so that dignity and quality of life can be restored. Regardless of the treatment option selected, men should continue PME's to optimize the degree of continence attained and for sexual performance and vitality.

For further information on the products and devices mentioned in this publication or to find an expert, contact the National Association For Continence (NAFC) at 1-800-BLADDER (1-800-252-3337) or at www.nafc.org.

If you want more information about performing pelvic muscle exercises, you can order NAFC's pelvic muscle exercise kit for men, with an instructional recording and printed manual. Call or visit NAFC's Web site to order.



National Association For Continence is a national, private, non-profit 501(c)(3) organization dedicated to improving the quality of life of people with incontinence. NAFC's mission is threefold: 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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