

MINIMALLY-INVASIVE SURGICAL TREATMENT OF FEMALE STRESS URINARY INCONTINENCE

Stress urinary incontinence (SUI) is an involuntary spurt-like loss of urine provoked by a sudden increase in abdominal pressure such as sneezing, coughing, laughing, exercising, changing positions, etc. Underlying contributing factors include childbirth (in particular, traumatic vaginal deliveries of large babies), menopause, hysterectomy, aging and any condition causing a chronic increase in abdominal pressure such as cough, asthma, and constipation. SUI is usually due to *urethral hyper-mobility*, an acquired laxity in the tissue support of the urethra that allows urethral descent with increases in abdominal pressure.

The goal of surgical management of SUI is to provide support to the urethra in order to correct the hyper-mobility. The surgical treatment of SUI has evolved significantly over the past several years and the current procedure represents an evolution of surgical technique that has merit because of its effectiveness, durability, relative simplicity, and need for only tiny incisions.

The procedure for repair of SUI is called a *mid-urethral sling*. Its purpose is to cure SUI, but is also performed in conjunction with cystocele (bladder prolapse) repair to prevent the occurrence of SUI that may be unmasked as a result of the cystocele repair. The sling procedure works by providing support and a “backboard” to the urethra such that with “stress” maneuvers such as coughing, sneezing, and exercising, the urethra will be compressed.

The procedure is performed via a small vaginal incision and two tiny groin punctures. The sutures used to repair the vagina will dissolve on their own and do not require removal, and the groin punctures are closed with surgical adhesive. The permanent synthetic material used for the sling is prolene mesh, the same material as used by general surgeons to repair groin hernias. *Mid-urethral* refers to the placement of the sling beneath the mid-urethra, the tubular channel that leads from the bladder to the urinary opening. *Sling* refers to the configuration created when the prolene mesh is firmly anchored to the soft tissues of the pelvis after being placed underneath the urethra. This creates a “hammock” or “backboard” to provide urethral support and to allow compression of the urethra with any activity that increases abdominal pressure.

The sling is an outpatient procedure that can often be performed in an ambulatory surgery center under anesthesia. The pubic region needs to be shaved and the genital region needs to be gently cleansed with antiseptic solution. An intravenous is started so that appropriate fluids and antibiotics can be administered. The entire procedure is performed with your legs in padded stirrups. Most women are able to urinate adequately after the sling procedure, but some will have difficulty that generally lasts only a few days. If you are unable to urinate by several hours after the sling placement, a small catheter will be placed into the bladder. You will then need to go home with the catheter and it will be removed within 24 hours.

Your normal diet and medications can be resumed immediately. You can resume most of your normal activities very quickly. In fact, walking and stair climbing are desirable as rapid return to activities facilitates recovery. You may bathe or shower. Any non-strenuous activity is permissible as long as pain is not experienced. Avoid heavy lifting, strenuous exercise, straining at bowel movements, and sexual intercourse for about six weeks after the sling placement. The operative site may hurt more with excess activities—this should signal for you to ease up. Vaginal, pubic, groin, and pelvic soreness are normal for several weeks. Vaginal discharge (bloody at first, and subsequently a yellow color), is also typical for several weeks following surgery and it is therefore recommended that you wear a pad initially.

You will be given a prescription for antibiotics and pain medication—it is imperative to complete the prescription for antibiotics to avoid a urinary tract infection. The pain medication can be used as needed.

BENEFITS AND POTENTIAL RISKS OF THE SUB-URETHRAL SLING

Benefits:

- 90% cure of stress urinary incontinence.
- 65% of patients with pre-existing urgency incontinence that accompanies the stress urinary incontinence will have resolution of the urgency incontinence.

Potential Adverse Effects:

- Transient groin and leg pain
- Failure of the procedure to cure the SUI in 10%; new onset of urgency incontinence in 5-10%.
- Inability to urinate in less than 1% requiring self-catheterization or takedown/revision of the sling.
- Injury to the urethra, bladder, bowel, or vascular structures: extremely rare.
- Prolene mesh protrusion: extremely rare.

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May 2014