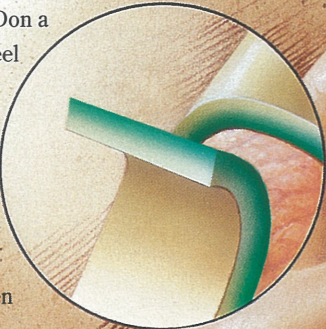


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## Perioperative Nursing Rounds : Bladder Neck Suspension

By Wendy Lawson, R.N. and Fran Irving, R.N.

The goal of this article is to share experience and knowledge as it was researched for Perioperative Nursing rounds at our hospital.

There are many names for this procedure. Bladder Neck Suspension, Endoscopic Suspension of the Vesicle Neck, Suburethral Sling, Needle Suspension of the Urethra, and quite probably more than this. Information on a subject such as this is scarce, therefore it is important for us to share what knowledge we have with each other in our specialty.

The indications for this procedure are, 1) Genuine stress incontinence, 2) cases where previous surgery has failed, 3) obese patients with incontinence, 4) urethral erosion due to long term urethral catheterization and neurological disease. This procedure is also only performed on women.

As Figure 1 indicates, the urinary system lies behind and below the peritoneum that surrounds the organs in the abdominal cavity. The lower urinary tract consists of the bladder, the urethra and the internal and external sphincters of the urethra. The bladder is located behind the symphysis pubis. It is a hollow sac composed of the detrusor muscle which consists of three (3) interwoven muscular layers, that stretches to allow the bladder to hold urine, and a triangular shaped muscle called the trigone. The trigone is found at the base of the bladder and during urination keeps the ureteral orifices closed and opens the bladder outlet. The base of the bladder is the only fixed portion, which allows the bladder to stretch a great deal. The normal bladder of a continent adult holds between 300-500 mls. but is capable of stretching to hold over 1000 mls. After 600 mls. has collected it is difficult to contain in the bladder as the intravesicular pressure becomes greater than the intraurethral pressure. These pressures must be equal if continence is to be maintained.

The act of voiding involves the co-ordination of several complex mechanisms of the body: (1) the

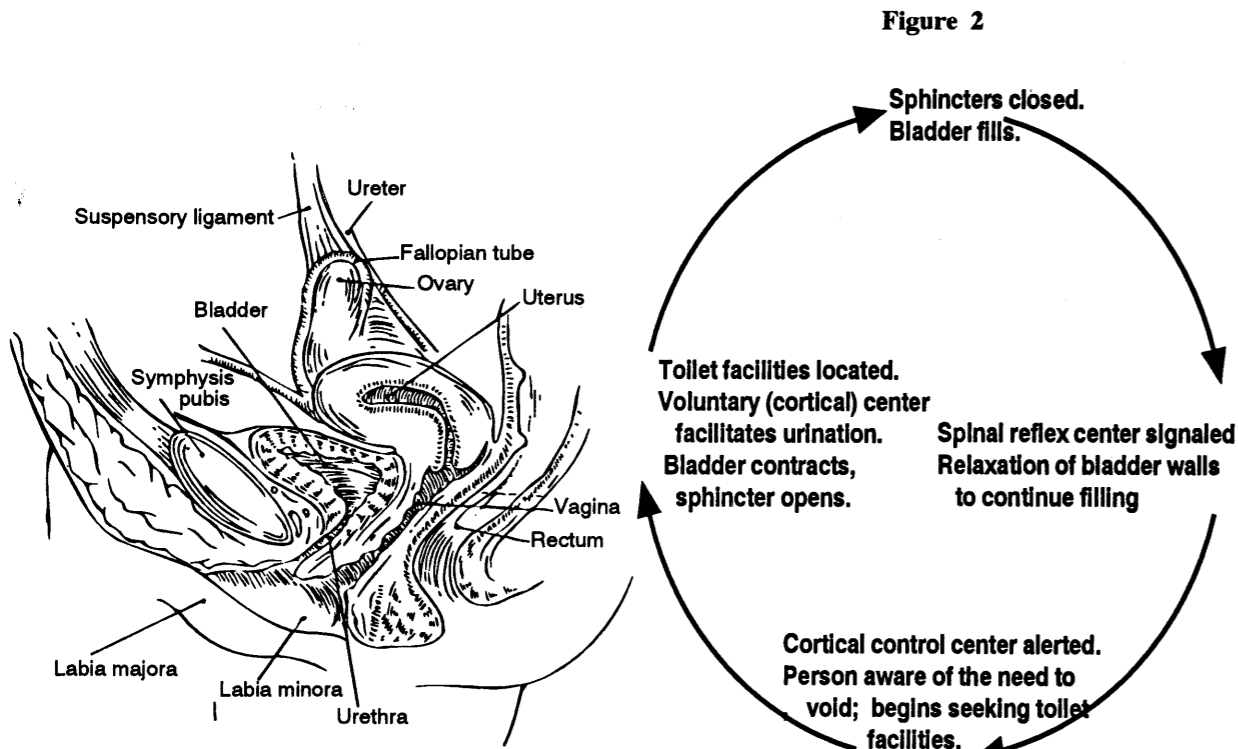
lower urinary tract, (2) the spinal cord, and (3) the frontal lobe of the cerebral cortex which is the centre for conscious control of urination.

The bladder fills and the sphincters close. The spinal reflex centre is signalled to relax the detrusor muscles to allow the bladder to continue to fill. The cortical centre is triggered and the person becomes aware of the need to void and begins to look for a bathroom. When appropriate facilities are found, the cortical centre then helps urination by causing the bladder to contract and the sphincters to open. A defect or interruption in any phase of this cycle can lead to incontinence.

Incontinence is one of the most humiliating and degrading experiences one can have. Because of the shame and humiliation it causes, people voluntarily withdraw from society and any social experiences. They wish to avoid the embarrassment of the smell and shame of soiled clothing and furniture. Incontinence is not just a disruption of function experienced by the elderly. Even teenagers have been afflicted with incontinence. Until recently little has been done regarding research, interest or attention for incontinent members of our society.

Our discussion will concentrate on stress incontinence. Men are rarely affected with stress incontinence, because of their longer urethra. A long tube has greater resistance than a short one therefore it is easier to maintain equal intravesicular pressure and intraurethral pressure in men. It is also rarely seen among women who have had no children. The incidence is increased with obesity and abdominal masses, and may accelerate after menopause.

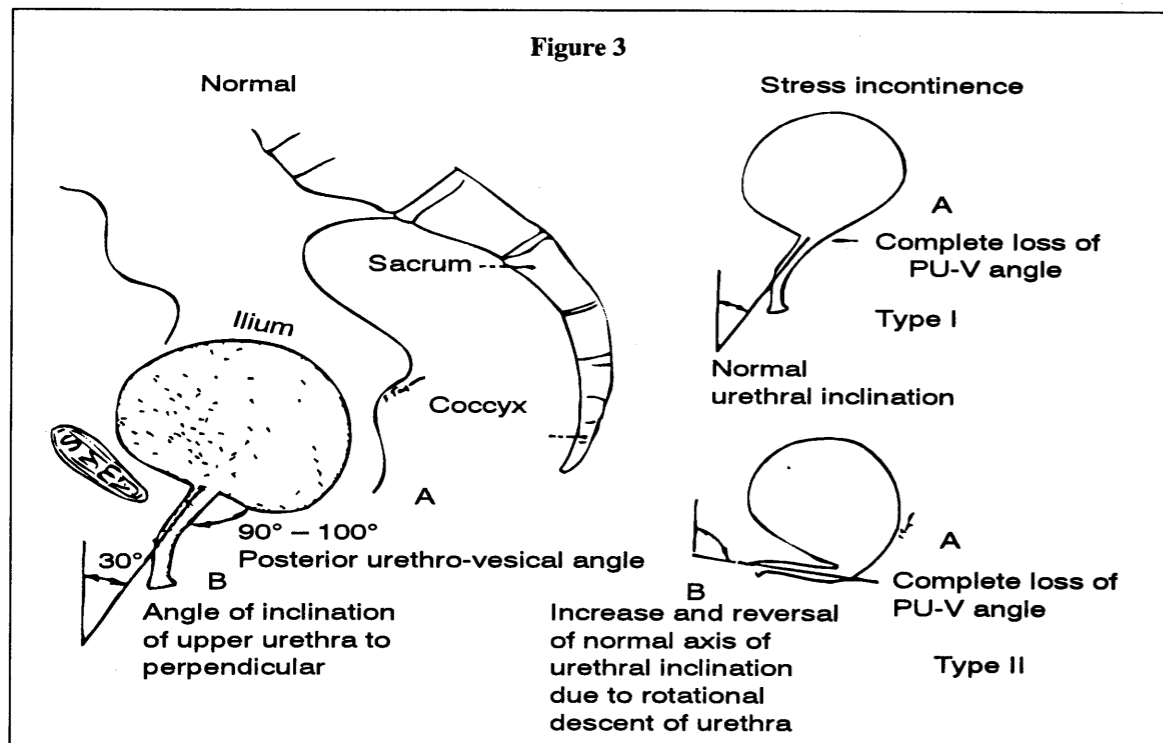
There are many other causes of incontinence that will affect the bladder and necessitate this procedure such as: (1) bladder neck and pelvic muscle weakness due to trauma, childbirth, or vaginal surgery, (2) urinary tract infections, and vaginitis.



Gruendemann, B.J. Meeker, M.H. (1983) *Alexander's Care for the Patient in Surgery*, Eighth edition. C.V. Mosby Co.: Saint Louis, Miss.

Palmer, M.H. (1985) *Urinary Incontinence*. Slack Inc.: New Jersey.

**1-4. Cycle of micturition.**



Palmer, M.H. (1985) *Urinary Incontinence*. Slack

Figure 4

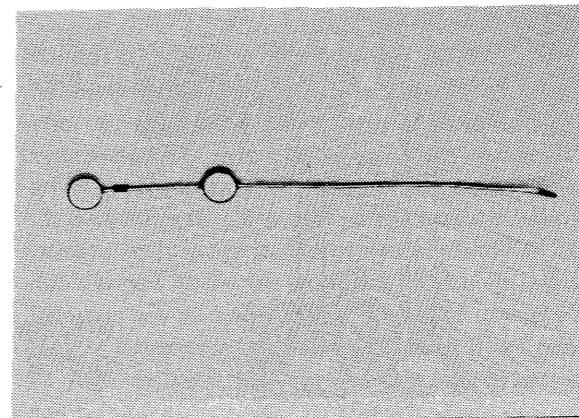


Photo: Courtesy of St. Boniface General Hospital Photography Department.

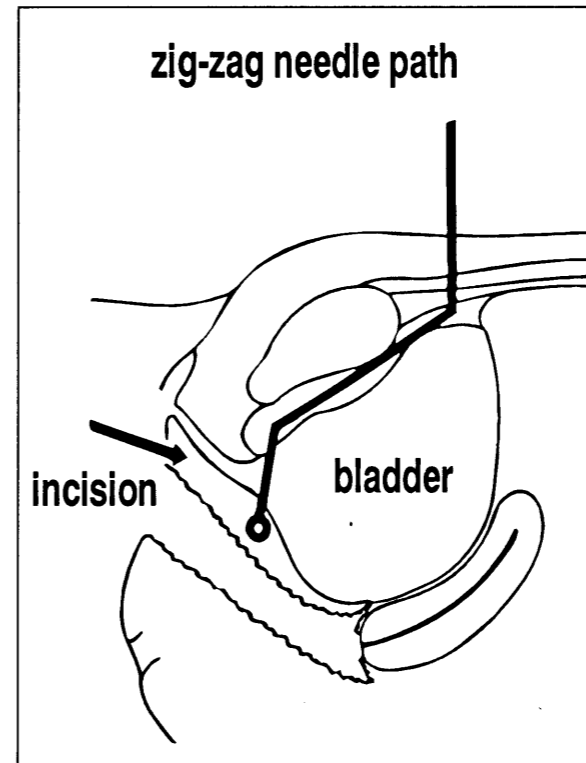
The onset of stress incontinence is gradual and the signs and symptoms are 1) a feeling of heaviness in the pelvis, 2) complaints that everything feels that is "falling out of the vagina" when standing, 3) back-ache, 4) the symptoms are worse at the end of the day, 5) a weakening of the bladder and urethral support, e.g. cystocele, 6) loss of urine when abdominal pressure is increased, for example when one coughs, laughs, or sneezes. When there is loss of tone in the muscles in the pelvis, the bladder falls below the pelvic floor and the muscles are unable to provide counter pressure when abdominal pressure is suddenly increased.

In the continent person, the posterior urethro-vesicle angle of the bladder is between 90 and 100 degrees. When this angle is lost, incontinence occurs. There is type I and type II stress incontinence. The posterior vesicular angle is close to 180 degrees. During surgery the urethral vesicle junction is found by inserting a foley catheter and blowing up the balloon. The junction is found where the balloon can be palpated via the vagina.

The assessment of stress incontinence is made by a thorough physical exam, urinalysis, residual urines and cystometrograms. Cystoscopy and I.V.P. should be done if any other abnormality is suspected.

Once a correct diagnosis has been established and the decision to correct the condition by surgery has been made arrangements are made by the surgeon.

Figure 5



Brochure from: R. Laborie Surgical Ltd. c/o Fermcare Ltd.

**Preoperative Events**

The patient is admitted the day before surgery. This patient has already been through an extensive workup and genuine stress incontinence is the diagnosis. The average hospital stay is two-three days. Preop antibiotics, usually Ancef, are given. Antibiotics are also given 24 hours post-operatively as a prophylactic. No vaginal prep is needed preop.

**The Procedure**

The procedure itself is a simple one for all involved, ie: patient, surgeon and the perioperative nurse. Anesthesia is by general or spinal. The patient is placed in lithotomy position and prepped. Full draping is then applied. The surgeon first inserts a #16Fr. foley catheter. The balloon is inflated and the catheter is plugged. Two small suprapubic incisions are then made. These are approximately two (2) cms. long and are two (2) finger widths above the symphysis pubis and two (2) finger widths lateral to the midline.

The urethrovesical junction is then located by vagi-

nal palpation of the balloon of the catheter. The Nottingham needle (see photoFigure 4.) is then passed blindly from the suprapubic incisions through the rectus fascia and retropubic space, positioned next to the urethrovaginal junction and brought out through the vagina.

The foley is removed and a cystoscopy is done. Indentation of the bladder neck can be seen with movement of the needle. This verifies correct placement. The foley is then replaced and plugged. #2 Nylon is threaded through the Nottingham needle and pulled from the vagina to the suprapubic incision and tagged with a halstead. The posterior end of the Nylon is then loaded to an eyed needle and sutured onto the vaginal wall. The free needle is then removed.

The Nottingham needle is again passed through the same suprapubic incision (approximately 1-2 cm away) and the posterior Nylon tail is threaded and pulled through the suprapubic incision. The foley is removed and proper placement is again checked. If the suture is in the bladder, the suture is removed and reinserted.

The identical procedure is done on the other side. Prior to tying the sutures, a cystoscopy is done. While looking at the bladder neck, the assistant will lift on the sutures and the repair can be visualized. The surgeon can actually test his sutures by filling the bladder, removing the cystoscope and pressing on the bladder while lifting on the sutures.

The sutures do not encircle the bladder neck but elevate the bladder neck by traction on adjacent fascia.

The skin is then closed with 1/2" steristrips. The foley is left in postoperatively.

There are small variations to the procedure according to doctor's preferences. Such as when and how many cystoscopies are done. They can be performed after each threading of the suture or it can be done after both sutures are placed. The final result is the same. If the suture is in the bladder, it is removed and reinserted.

Variations were also found in articles, where some surgeons were incising the anterior vaginal wall and dissecting it from the urethra to the bladder base. The method I've explained is passage of the needle through vaginal punctures.

Some surgeons, instead of suturing the Nylon to the vaginal wall, thread a dacron patch or tube onto the Nylon. This is to avoid the possibility of the suture cutting through the tissues after it has been tied.

There are many advantages to endoscopic bladder neck suspension:

1. Blood loss and morbidity are less because an open operation is avoided.

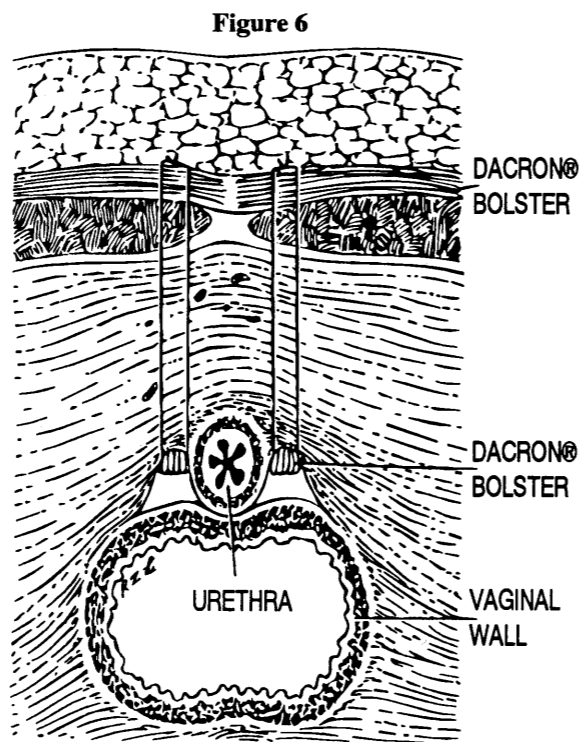


Figure 6  
Cross section of the bladder neck after placement and tying of suspending sutures. Note that the sutures do not encircle the urethra, but elevate the bladder neck by traction on adjacent fascia.

Fowler, J.E. Crowley, J.L. (April '87) Stress urinary incontinence. Endoscopic suspension of vesical neck. *Association of Operating Room Nurses' Journal, AORN* 45, 4.

2. Obesity and/or previous pelvic trauma (including operations) are not contraindications for this procedure.
3. Exact identification of the bladder neck intraoperatively is possible for accurate suture placement.
4. With manual elevation of sutures, the surgeon can determine if incontinence is prevented.

There are some complications but most of these can be fixed:

1. Retention: caused because the sutures are too tight. The worst that can happen then is a return to surgery to have one suture cut - this relieves the retention of urine but maintains continence.
2. Post op infection.

## Postoperative Events

The foley catheter will be removed one day postop. Suprapubic catheters are rarely put in. It's rare for the women to be able to urinate immediately postop. Almost all experience retention and need to be intermittently catheterized. If unable to void on their own after two to three days, self-catheterization is taught and the patient can be discharged. Many women can go up to several months before voiding on their own.

It is understandable that the patient would have concerns re: body image ie: lack of control of voiding, but don't forget, these are women with genuine stress incontinence who are dribbly, who have to worry if they're going to sneeze or laugh. Most don't mind having to catheterize themselves if the long range goal and result will be urinary continence.

## Authors

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Fran Irving, R.N., is also a perioperative nurse at St. Boniface General Hospital. She is a St. Boniface graduate with 28 years of nursing experience. Her practice has involved emergency nursing, V.O.N., day surgery, teaching and perioperative nursing.

## References

- Ashken, M.H.; Abrams, P.H.; Lawrence, W.T. (Dec, 1984). Stamey endoscopic bladder neck suspension for stress incontinence, *British Journal of Urology*, Vol. 56,6.
- Fowler, J.E.; Crowley, J.L. (April, 1987). Stress urinary incontinence. Endoscopic suspension of vesical neck. *AORN* Vol. 45,4.
- Gaum, L.; Ricciotti, N.A.; Fair, W.R. (December, 84) Endoscopic bladder neck suspension for stress urinary incontinence. *Journal of Urology*, Vol. 132,6.
- Gervais, C.; Lessing, E.M.; Hatcher, S. (Aug. 1989). Bladder neck suspension. *St. Boniface General Hospital Urology Information*.
- McConnel, E. Zimmerman, M. (1983). *Care of Patients With Urologic Problems*, J.B. Lippincott Co.; Philadelphia. pp. 51-53.
- Palmer, MH. (1985) *Urinary Incontinence*, Slack Inc. New Jersey. pp. 1-48.
- Romphey, et al. (1975). *Gynecology & Obstetrics: The Health Care of Women*, McGraw-Hill Book

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