Stress Incontinence– After Prostate Cancer Treatment

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Definition of Stress Incontinence

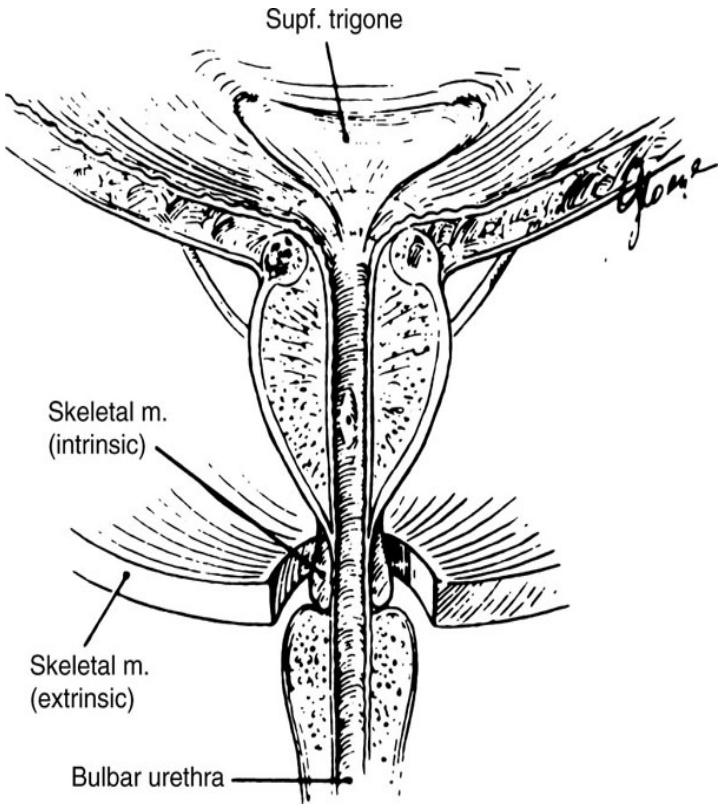
The loss of urine occurring during activities that increase intra-abdominal pressure, such as coughing, sneezing or lifting.

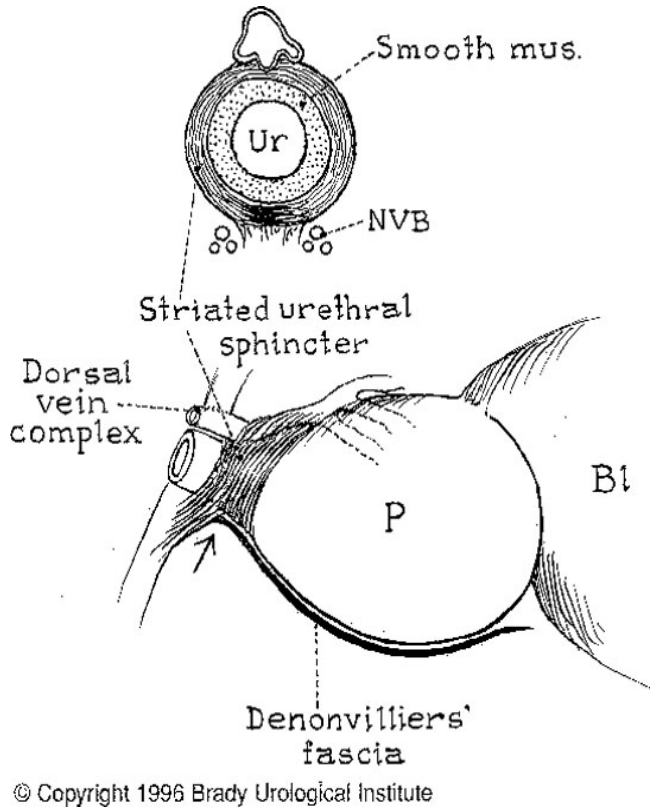
Causes of Stress Incontinence

In men it is due to TURP (BPH)(< 2%), Simple prostatectomy (BPH)(<2%) or a radical prostatectomy (prostate cancer) (10-20%)

- Radiation has a rate of 4% or less.

Mechanisms of continence





Classification of Surgically Correctable Problems

- Sphincter related
  - Postoperative
    - Post-prostatectomy for benign disease
    - Post-prostatectomy for prostate cancer
    - Radiation, brachytherapy, cryosurgery, for prostate cancer
    - Post-cystectomy and neobladder for bladder cancer

Incontinence after Surgery for Prostate Cancer

- Overall incidence variable
- First ICI: 9-48%
- Patient reported higher than physician reported
- Degree of incontinence variable
  - pads, social acceptability, bothersomeness
  - Non-standardized assessment
- Unrelated to surgical approach (retropubic, perineal)
- Sphincteric weakness is a major contributing factor in 80-85%

HIFU

- Incontinence can occur.
- The rate should be the same or less than radiation therapy.
- In the range of 4% or less.

Other Causes of Incontinence

- Urge incontinence- due to involuntary bladder contractions (neurological and idiopathic)(“overactive bladder”)
- Overflow incontinence (retention)
- Functional (inability to get to the toilet)

Diagnosis

- History and Physical Exam
- Cystoscopy and Video Urodynamics

Treatment

- Conservative- Kegel exercises, watch fluid and caffeine intake, timed voiding. May improve symptoms somewhat
- Biofeedback training- costly, labor intensive, few sites, success rate variable and no set protocol

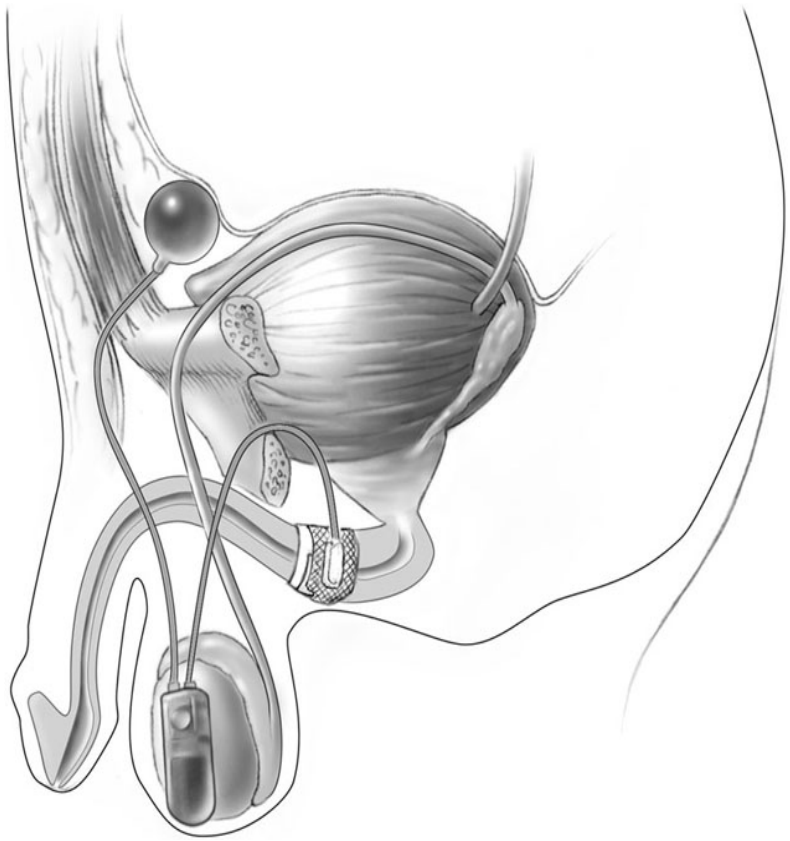
Treatment

Pharmacotherapy

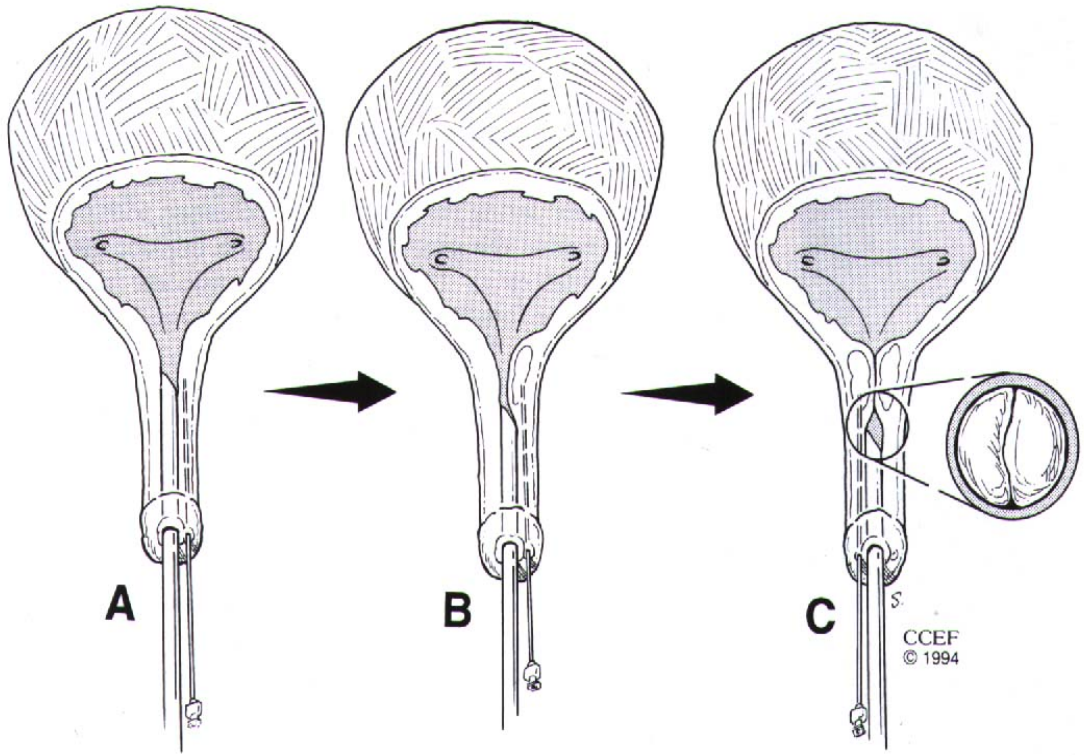
- Anticholinergics (detrol, detrol LA, Oxytrol or ditropan XL) if there is some component of urge leakage (OAB), success is variable.

Interventional treatment for PPI

- Injectable agents
  - Collagen
  - Macroplastique
- Artificial sphincter
- Sling



Urethral Injections



Post-Radical Prostatectomy Incontinence

- AUS results - 75-90% 1 pad per day at 3 years
- Collagen - lower success rate
- No prospective randomized trials comparing treatment modalities

AUS Complications

- Incontinence
  - Alterations in bladder function:
    - neurogenic bladders (3-36%)
  - Urethral atrophy (3-9%)
  - Mechanical failure (0-52%)
- Erosion and/or infection (0-25%)
  - Risk factors - surgery, radiation

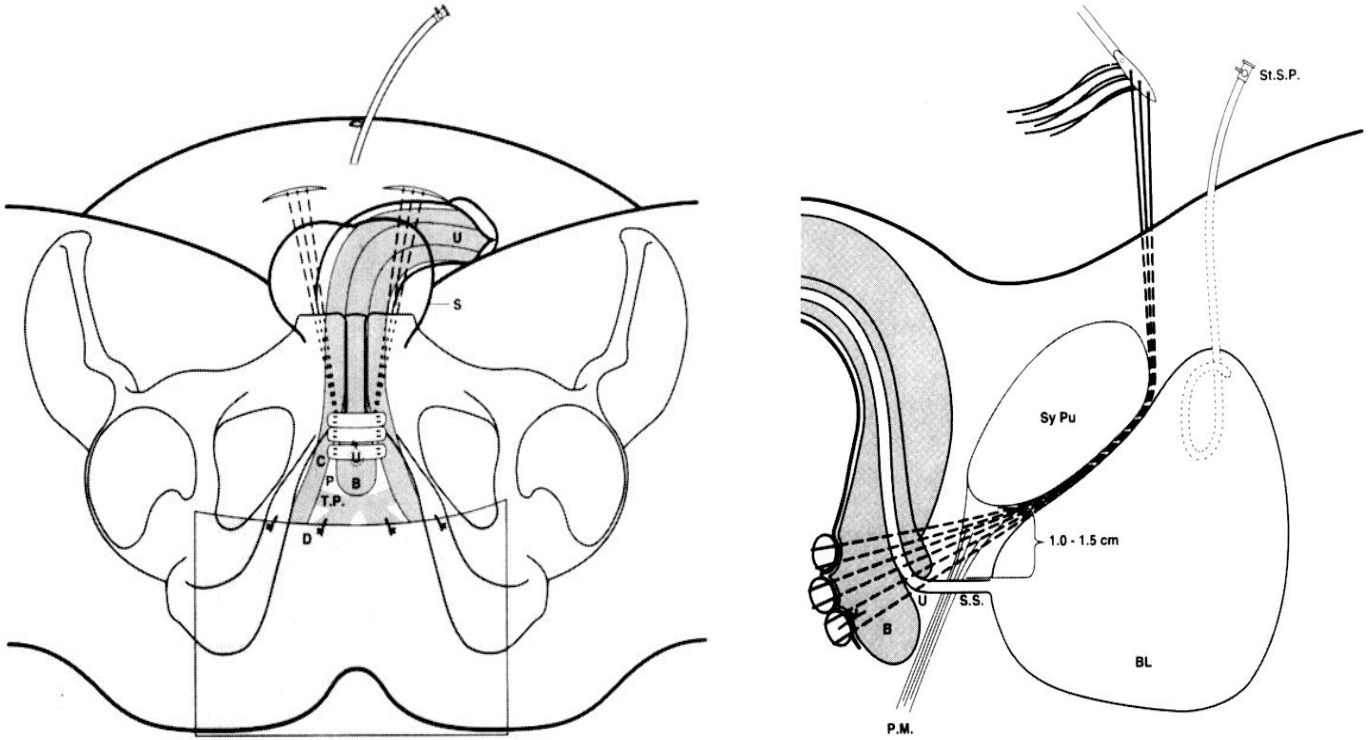
Slings

- Slings described for PPI since 1947 by Millin
- Retropubic (or prepubic)+/- perineal dissection to place sling around the membranous or bulbar urethra

- Grasset (1973):

	Early		Late	
Cure	50%		32%	
Improvement		21%		19%
Failure	29%		49%	

Bulbourethral sling



Conclusions

- Multiple treatments available for post-prostatectomy incontinence
- Current standard is artificial sphincter
- Slings have evolved into less invasive techniques
- Need for algorithm in management and randomized trials to compare various modalities

Diagnosis

- Cystoscopy and urodynamics are not always required and are generally performed by urologists and urogynecologists in complex cases or failed therapy.
- Hence, in most cases primary care physicians can make the diagnosis and start treatment

Surgical Treatment

Burch Suspension

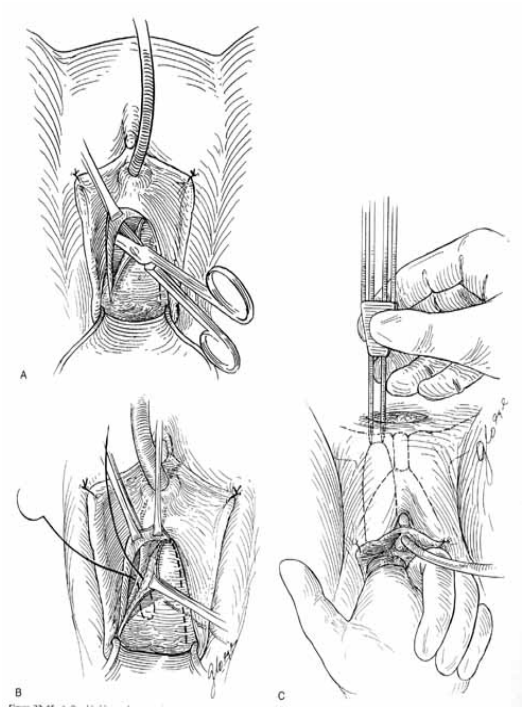
- Lower abdominal incision, hospital stay longer and time off work longer
- Been around for a long time
- Success is 65-85% at 5-10 years
- Complications: Irritative voiding symptoms (frequency and urge leakage) in 8-10%

Surgical Treatment

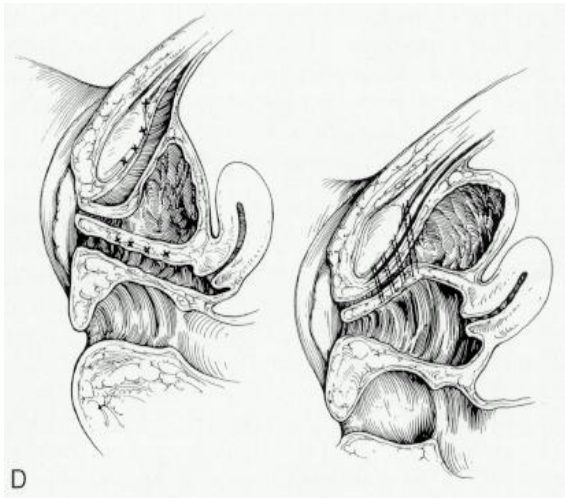
Sling Procedure (at bladder neck)

- Surgery performed vaginally and minimally invasive
- Many different sling materials used cadaveric fascia lata, autologous rectus or fascia lata or porcine or non-absorbable
- Success rate 65-85% at 5-10 years
- Complications: Irritative symptoms 10-20%, retention 2-10% and bladder perforation < 2%

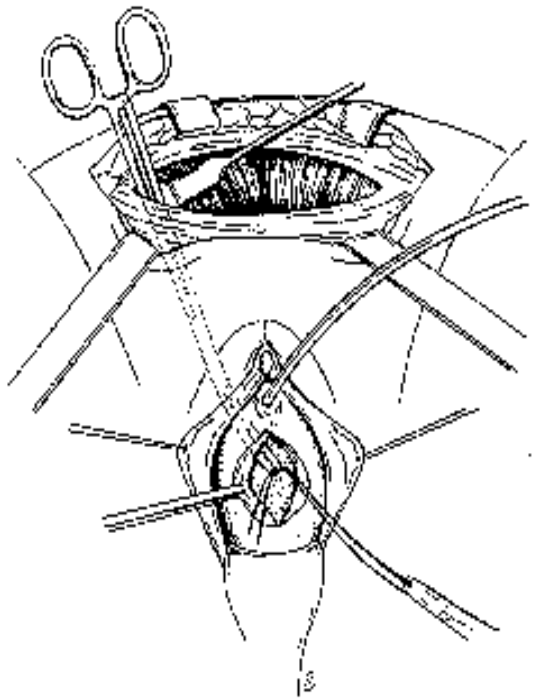
SUI Surgery



Transvaginal needle suspension



Retropubic urethropexy



Pubovaginal sling

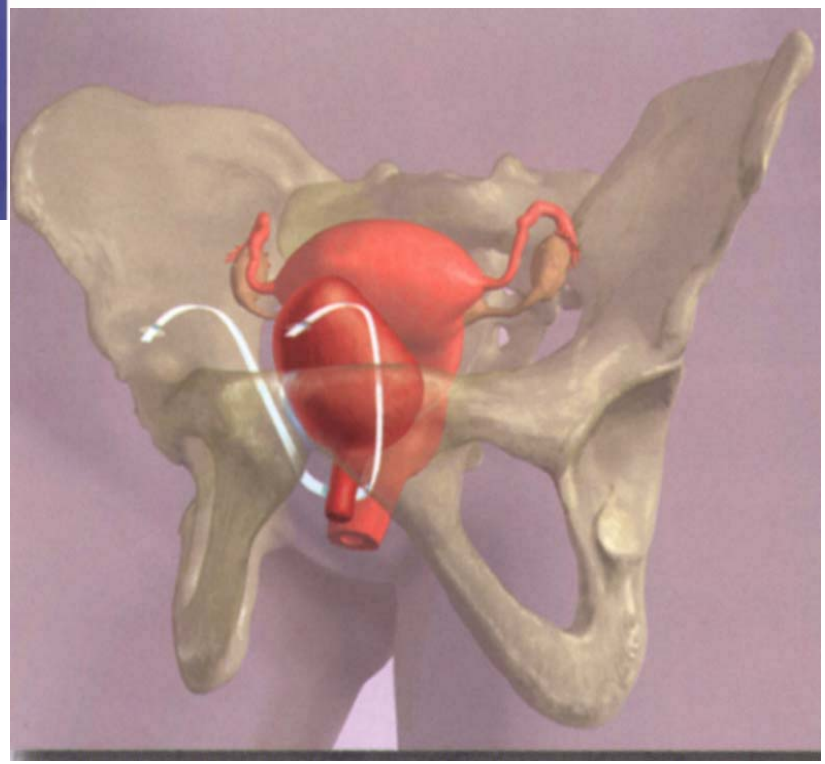
Surgical Treatment

TVT (Transvaginal Tape)

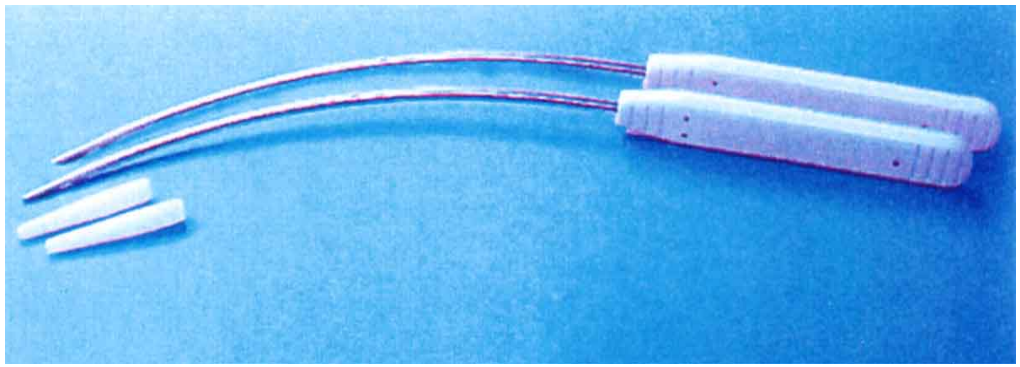
- Mid-urethral sling with a non-absorbable mesh
- Very minimally invasive
- Success rates at single centers > 90% at 3-5 years
- However, success rates published with a multicentered study has been reported as 66% at 6 months
- Complications: Bladder injury 4-10% (iliac injuries reported), retention 2-10% and erosion of mesh

TVT


TVT Reusable Rigid Catheter Guide
TVT Single-use Device
TVT Reusable Introducer
TVT Tension-free Vaginal Tape System
Product Codes:



TVT with abdominal guides



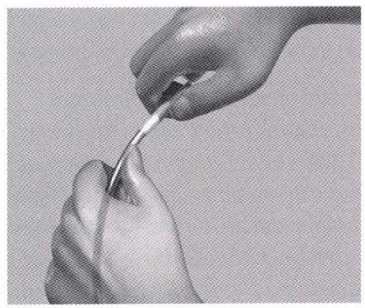


Fig 1. *For the abdominal approach, couplers are first attached to GYNECARE TVT needles by OR nurse.*

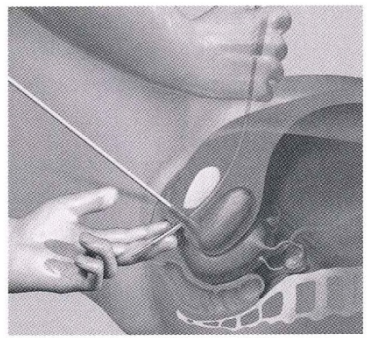


Fig 2. *Abdominal guide is placed, followed by cystoscopy (not shown).*

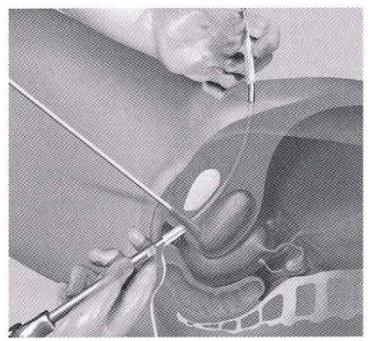


Fig 4. *Needle-guide assembly is pushed upward.*

SPARC System

- Antegrade placement
- Theoretical advantage re: major vascular and/or bowel penetration
- One cystoscopy

When to treat

- All patients should be treated with conservative therapy (Kegel, timed voiding, decreased caffeine and fluids)
- Estrogen when indicated (i.e.. atrophic vaginitis)
- If there is some component of urge leakage pharmocotherapy should be tried

****All of the above can be started by the Primary Care Physician*****

When to refer

- Failed conservative therapy or drug therapy (when indicated)
- If the patient is willing to have more invasive therapy.
- Refer to someone interested in urinary incontinence (Urologist or Urogynecologist)

Conclusions

- Stress incontinence is common
- Urge leakage often associated with it (mixed)
- Diagnosis is easy to make by a simple history and physical exam
- Treatment can be initiated by the Primary Care Physician
- Conservative therapy may be helpful but surgical intervention generally has the highest success rate

Objectives:

- To learn about how to make the diagnosis of stress urinary incontinence
- To learn how to treat stress incontinence
- To learn how to differentiate between stress and urge incontinence

Prevalence of Incontinence

- Affects 10-35% of adults in the US
- Woman 4.5-53% and Men 1.6-24%
- It is estimated by the US National Center for Health Statistics that in 1998:

  - 121,000 operations were performed for female stress incontinence

  - 247,000 operations for genital prolapse were performed apart from hysterectomies

Prevalence

In one large review looking at numerous studies regarding incontinence (Hampel et al, 1997) it was found that:

- 49% had pure stress incontinence
- 29% had mixed incontinence
- 22% had purely urge incontinence

Causes of Stress Incontinence

In woman it is due to bladder neck hypermobility and/or intrinsic sphincter deficiency (ISD)(failure of the urethra to close on itself)

- Both are due to aging, child birth, estrogen deficiency and vaginal wall prolapse

Treatment

Pharmacotherapy

- Anticholinergics (detrol or ditropan XL) if there is some component of urge leakage, success is variable
- Estrogen improves tissue quality but alone is not very helpful
- Duloxetine- tightens the bladder neck and proximal urethra. In clinical trials at present with some reasonable success

Surgical Treatment

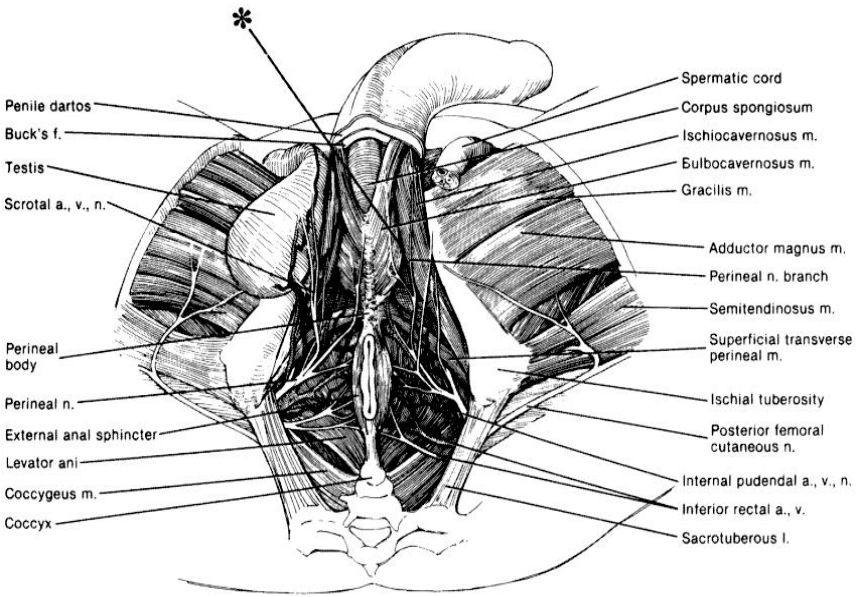
Bulking Agents (Collagen, Teflon)

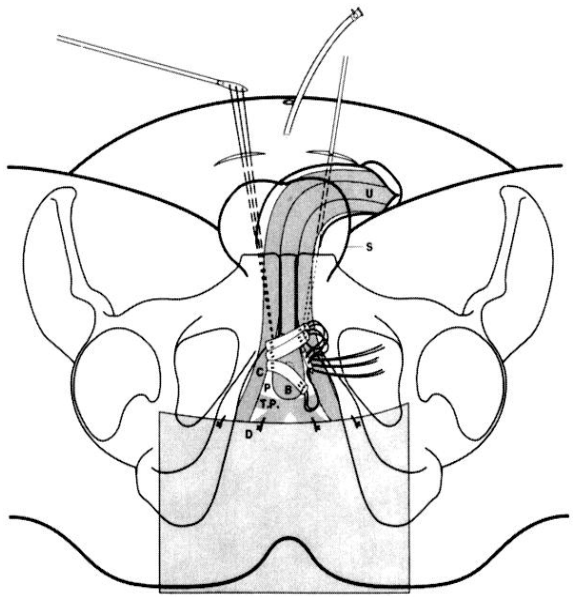
- Outpatient procedure performed under local
- No time off work
- Does not compromise surgery later
- Costly and requires multiple injections
- 50% cured and 20% improved but does not last more than 2 years
- Complications: Minimal

New sling techniques

- Male bulbourethral sling:

  Schaeffer et al. J Urol 1998; 159:1510-1515





Diagnosis

- History- stress vs. urge leakage
- Physical exam- pelvic exam,observe for leakage, bladder neck hypermobility and prolapse with coughing and straining. Stress test standing and observe for prolapse and leakage(make sure bladder is full)
- Urine culture, urinalysis, post void residual, creatinine and voiding diary generally not needed for pure stress leakage