Management of Post-Prostatectomy Urinary Incontinence and Sexual Dysfunction

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Post-prostatectomy Incontinence

- Incidence ?
- Affected by several factors:
  - Preoperative bladder function and compliance
  - BMI
  - Loss of functional urethral length
  - Radiation (affect on bladder and urethra)
  - Age (and aging)
  - Post-treatment urethral stricture

Post-Radiation Therapy Incontinence

- Loss of bladder compliance with severe urgency
- Inflammation from radiation cystitis
- Loss of urethral compliance
- Radiation stricture

Prostate Anatomy

Options for Treating Incontinence

- Behavioral modification
- Kegel exercises
- Absorbent products
- External penile clamp
- Urethral bulking agent (?)
- Male urethral sling
- Artificial urinary sphincter

Behavioral Modification

- Limit fluid intake
- Avoid bladder irritants – caffeine, alcohol, carbonation
- Pelvic floor exercises

Absorbent Products

- Skin irritation
- Discomfort
- Shifting movement
- Odor
- Not discreet
- Expensive

Clamps, Catheters, Bulking Agents

- External clamp
  - Urethral compression, may irritate skin
- External catheter
  - May cause skin breakdown, risk of UTI
- Urethral bulking agent
  - Availability of permanent materials now
  - May require several treatments
  - Poor results secondary to scarring or radiation

Male Urethral Sling

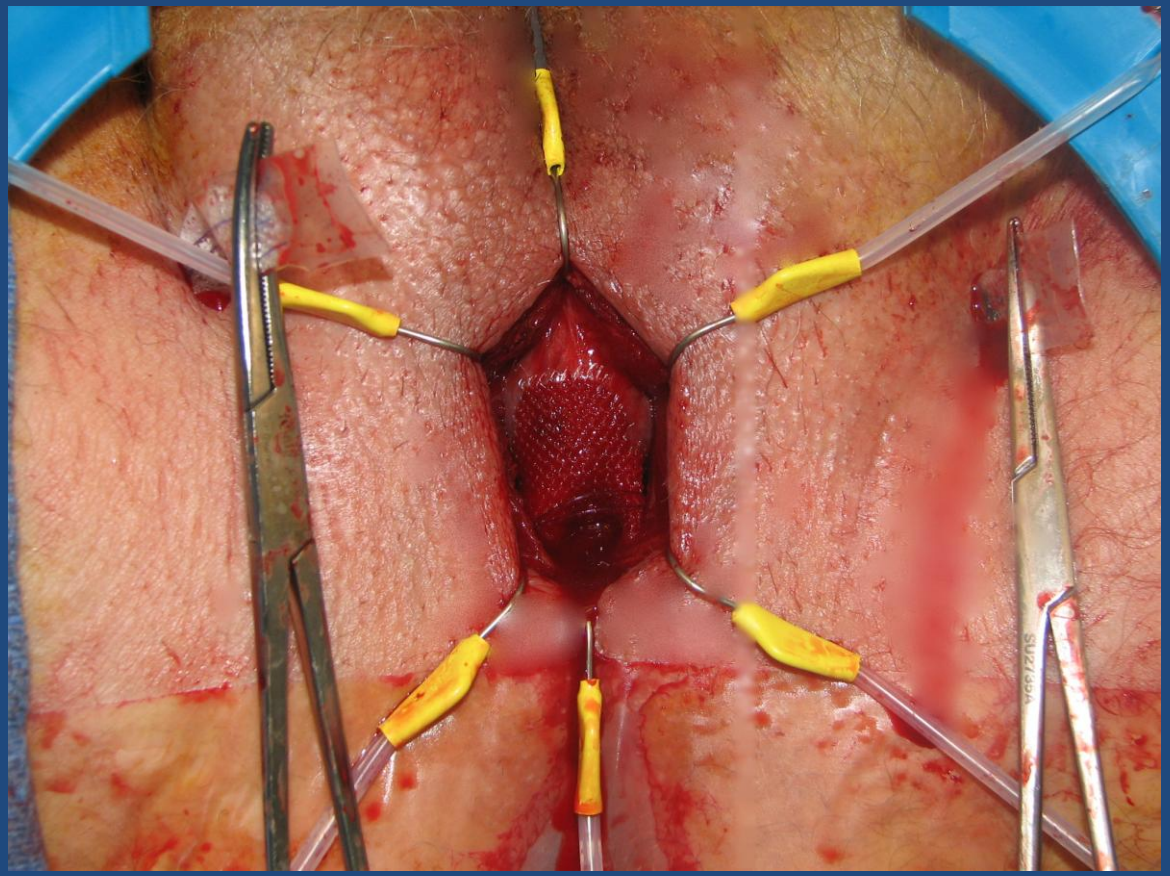
- For mild to moderate SUI (1-5 pads per day)
  - No mechanical pieces or manipulation required
  - XRT is relative contraindication
  - Doesn’t preclude later AUS
  - Complications include erosion or infection

Male Urethral Sling

- For mild to moderate SUI (1-5 pads per day)
- No mechanical components
- Repositions urethra and provides passive compression
- Must rule out urethral stricture first
- Success rate 55-90% in 6 studies > 35 patients

Male Urethral Sling

Male Urethral Sling



Artificial Urinary Sphincter

- Highest rate of cure for SUI – 95%
- Requires manipulation of pump, thus patients must have adequate dexterity and cognitive ability.
- Higher complication rate after XRT
- Must inform other health care providers about risk of catheterization without cuff deactivation

Artificial Urinary Sphincter

- Complications:
  - Half-life of mechanical device
  - Infection
  - Erosion (catheterization)
  - Atrophy of urethra under cuff

Artificial Urinary Sphincter

Post-Treatment Sexual Dysfunction

- 70% of patients will likely experience ED following surgery or XRT
  - Time line may vary
  - Depends on baseline pre-treatment sexual function
  - There may be some protective effect with pre-treatment PDE-5 inhibitors
  - Loss of penile length
  - Development of penile fibrosis

- With radical prostatectomy, there is a correlation between post-op sexual function and continence, suggesting that meticulous surgery and attempts to nerve-spare may preserve more innervation to the urethra and sphincter

Options for Treating ED

- Oral PDE – 5 Inhibitors
- Vacuum Erection Device
- Intra-urethral Suppositories
- Penile Self-Injection
- Prosthetic Surgery

PDE – 5 Inhibitors

- Viagra, Levitra, Cialis
  - All work by same enzyme pathway
  - Difference is duration of response
  - Requires nerves to be working to generate a response
  - Side effect are facial flushing, headache, stuffy nose, upset stomach
  - expensive

Vacuum Erection Device

- Lack of spontaneity
- ? Helps to maintain penile length
- Does not develop true penile rigidity
- May be helpful as adjunct with other methods
- May be uncomfortable
- Limit is 30 minutes of compression

Intra-urethral Suppository

- Does not require nerves to be working
- Direct effect to cause vasodilation
- Prostaglandin can produce aching discomfort in penile shaft and genitalia
- Risk of hypotension, dizziness
- Oral contact unsafe
- Expensive

Intra-cavernosal Self-Injection

- Safe when patient is properly evaluated and instructed in use
- Does not require nerves to be functioning
- Poor response may indicate significant penile vascular disease with correlate for CAD
- 80+ % of men respond
- May produce corporal fibrosis with prolonged use or high doses

Intra-Cavernosal Injection

- Least expensive treatment option
- Allows early sexual rehabilitation
- Compounding pharmacy issues with bi-mix and tri-mix

Penile Prosthesis

- Excellent choice for motivated patient
- Improved spontaneity
- Inflatable devices give best flaccidity and rigidity
- Usually covered by insurance
- Rare instance of infection or mechanical failure
- Best results with experienced implanters
- 93% patient, 90% partner satisfaction

Inflatable Penile Prosthesis

Future Directions

- External penile support device

  2 Japanese studies but no published data

  not FDA-approved

  sleeve with 2 openings at corona which provide sensitivity with SI

Erektor – penile ring

Future Directions

- Vibratory stimulator
  - Introduced in 1965
  - Approved by FDA in July 2011
  - May be helpful for postoperative rehab
  - Stimulates pudental nerve in penile shaft to release nitric oxide
- Low intensity ESWL
  - Study of 60 patients, 12 sessions
  - Currently not approved by FDA

Future Directions

- Increases blood flow and vascularity in the penis
  - Stimulates mesenchymal stem cells
- Nanotechnology
  - Ability to deliver small particles and drugs into tissue – NO, tadalafil
  - Potential to revolutionize local therapies

Future Directions

- Endourological techniques
  - Drug-eluting stents – internal pudental artery
  - For short arterial blockages (50% response)
  - Embolization of dorsal vein of penis
- Medicated penile prosthesis
  - Medication placed in refillable scrotal pump
  - Cannula inserted into corpora cavernosa
  - Implanted in 30 men so far in a study
  - High mechanical failure rate and infection