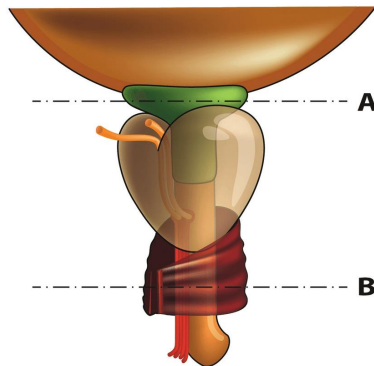




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Urinary Incontinence Following Prostate Cancer Treatment

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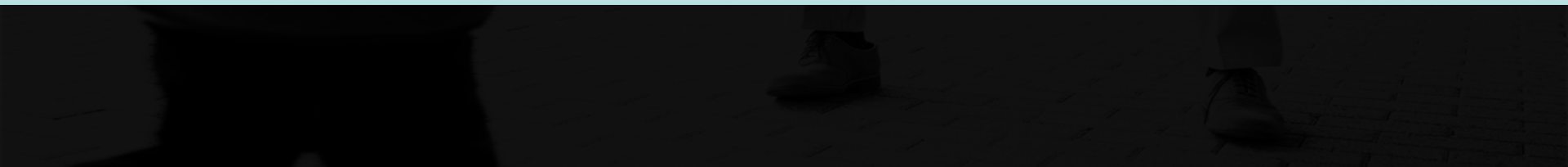
Overview

- What is stress urinary incontinence?
- Anatomy of the bladder and prostate
- Physiology of urinary continence
- Complications of prostate cancer treatments
- What happens to the urinary sphincter after prostate cancer surgery?
- Incidence of stress urinary incontinence & risk factors
- Testing of patients with urinary incontinence
- Treatment
 - Injections, male sling surgery, artificial urinary sphincter





Learning about male stress urinary incontinence



What is it?

- Urinary leakage without control when a person cannot stop urine from flowing out of the body when moving (laughing, lifting, bending, etc.)

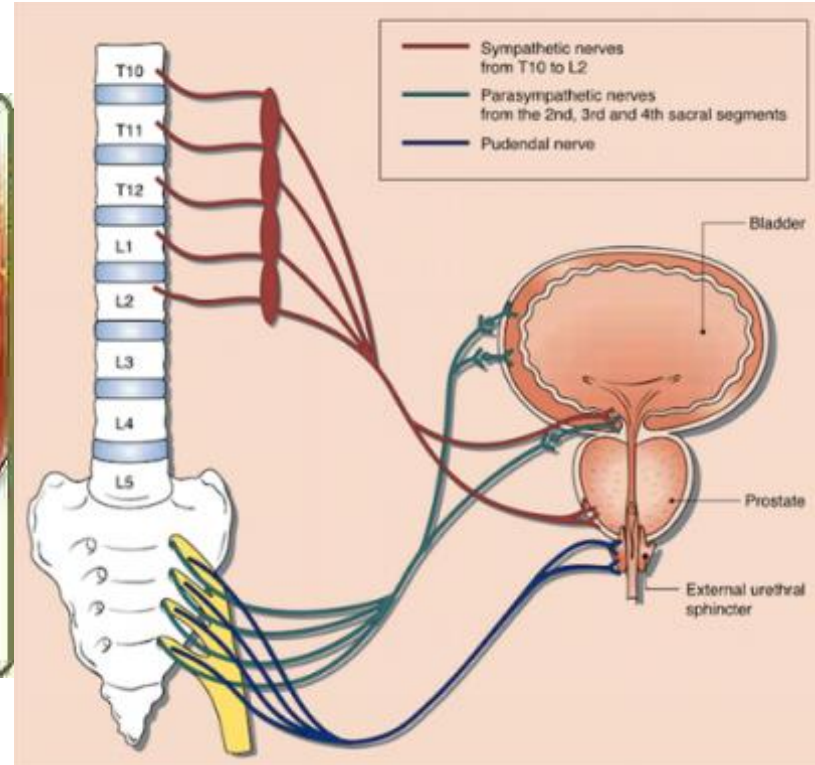
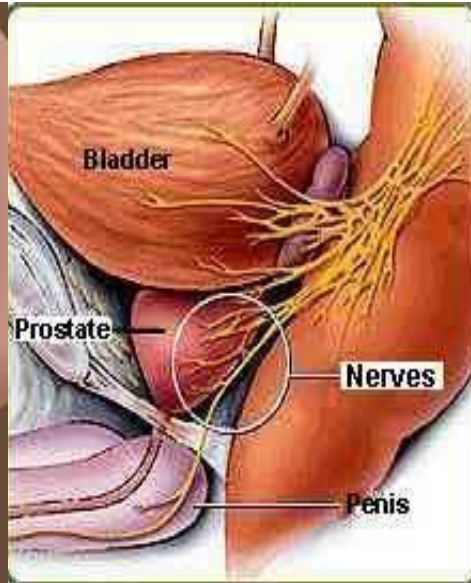
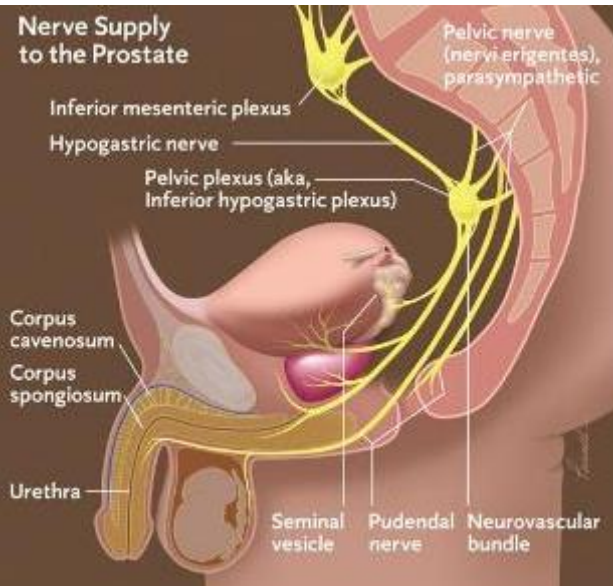
How common is it?

- Worldwide, approximately 500,000 men suffer from SUI⁴



- Nearly 1 in 20 men over 20 years of age have moderate to severe incontinence of any kind.⁶²

Anatomy of Bladder and Prostate



Because the prostate is close to bladder, bowel, and vital nerves for sexual function, prostate cancer and its treatments can disrupt normal **urinary, bowel, and sexual functioning**

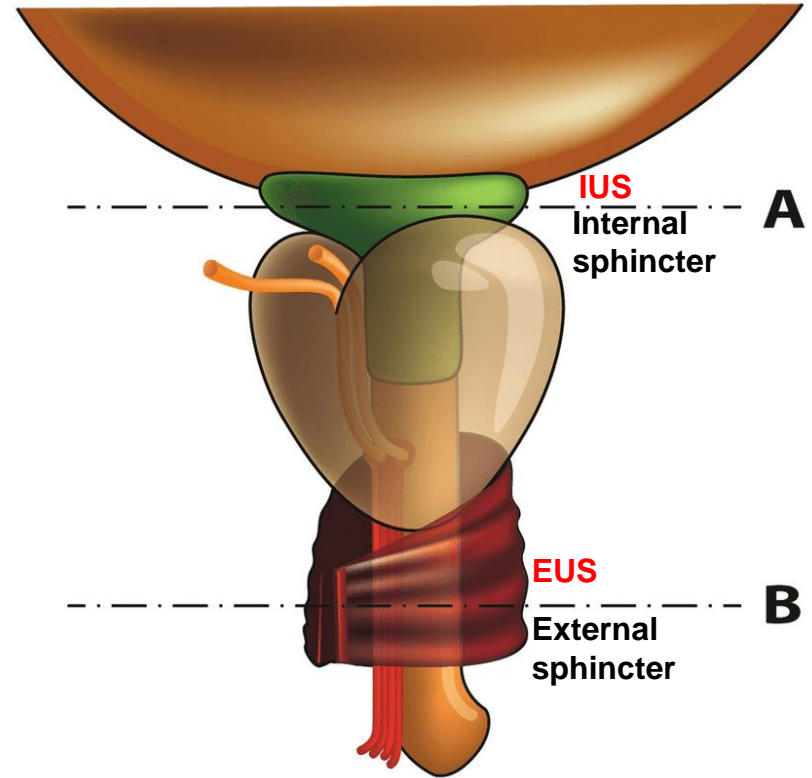
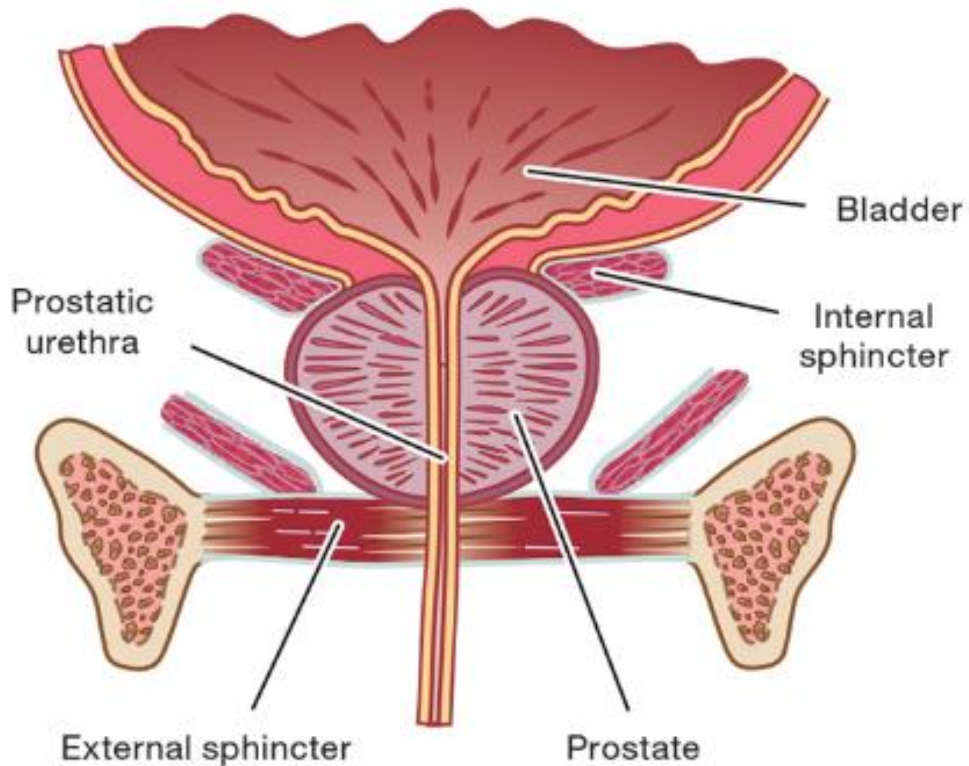


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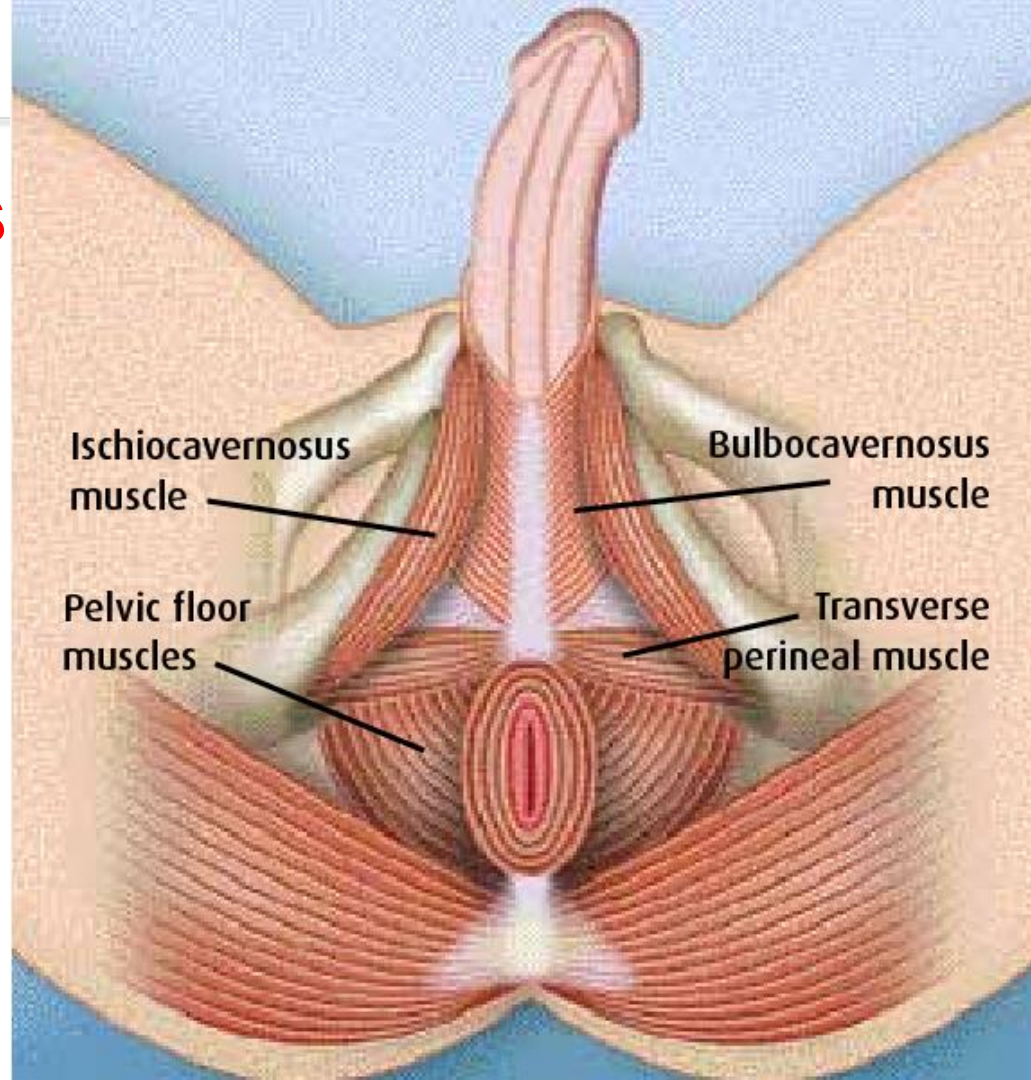
Male Urethral Sphincter

A) Full bladder



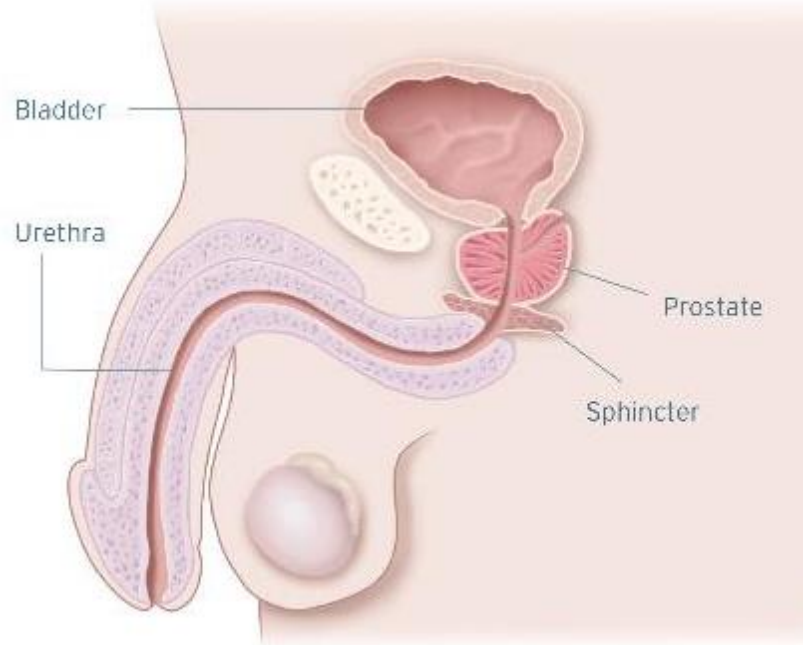
Damage/dysfunction of EUS: incontinence

Pelvic floor muscles



Urinary process

- Bladder stores urine
- Urine exits via the urethra
- Sphincter muscle surrounds the urethra
- Muscle contraction keeps urine in the bladder
- When the sphincter muscles relax, urine is able to exit the body



SUI strongly correlates with prostate cancer surgery

- Up to 50% of men report leakage immediately following surgery for prostate cancer⁶³
- About 9–16% of men have incontinence one year after treatment⁶⁴

Can also be a result of:^{4,65}

- Neurologic disorders
- Enlarged prostate surgery
- Radiation
- Pelvic trauma

Prostate cancer treatments

- Surgery
 - RALP/open/retropubic/perineal
- Radiation
 - External beam
 - Brachytherapy
 - Proton beam
 - Cyberknife
- Cryotherapy
- HIFU





Male SUI and prostate cancer treatment



SUI and prostate cancer treatment connection

26

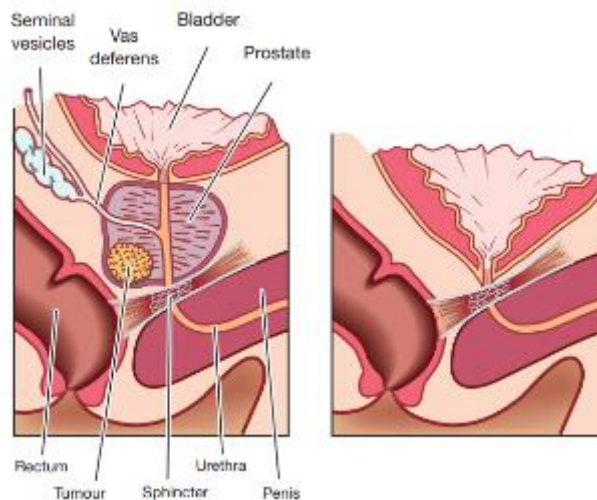
- Approximately 70,000 radical prostatectomies are performed each year⁴
- Approximately 9–16% of men have persistent post-prostatectomy incontinence 1 year after treatment⁶⁴



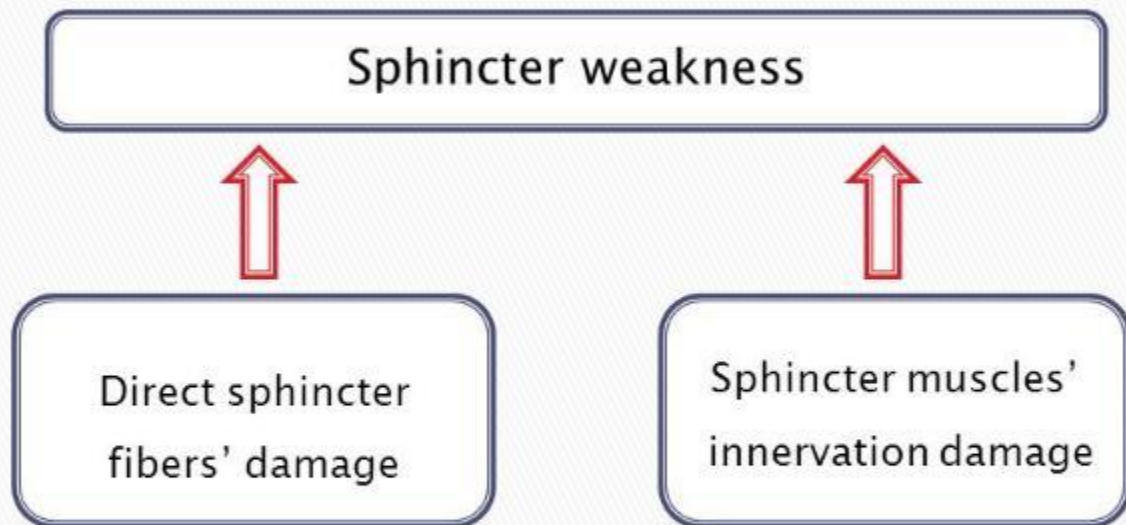
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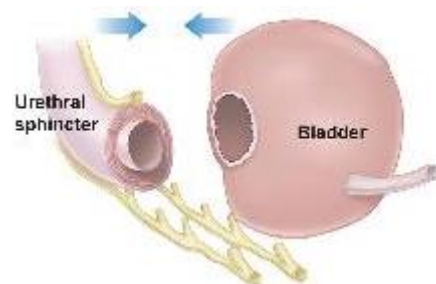
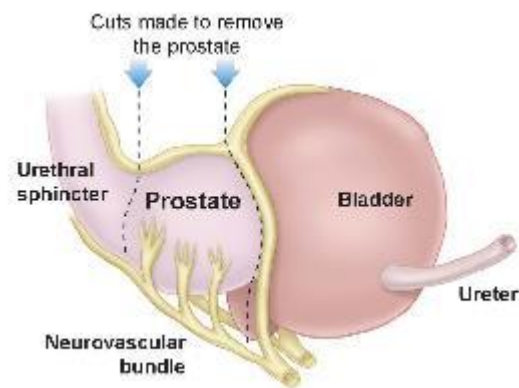
What happens after radical surgery for prostate cancer ?



Mechanisms of postprostatectomy stress urinary incontinence (PPSUI)

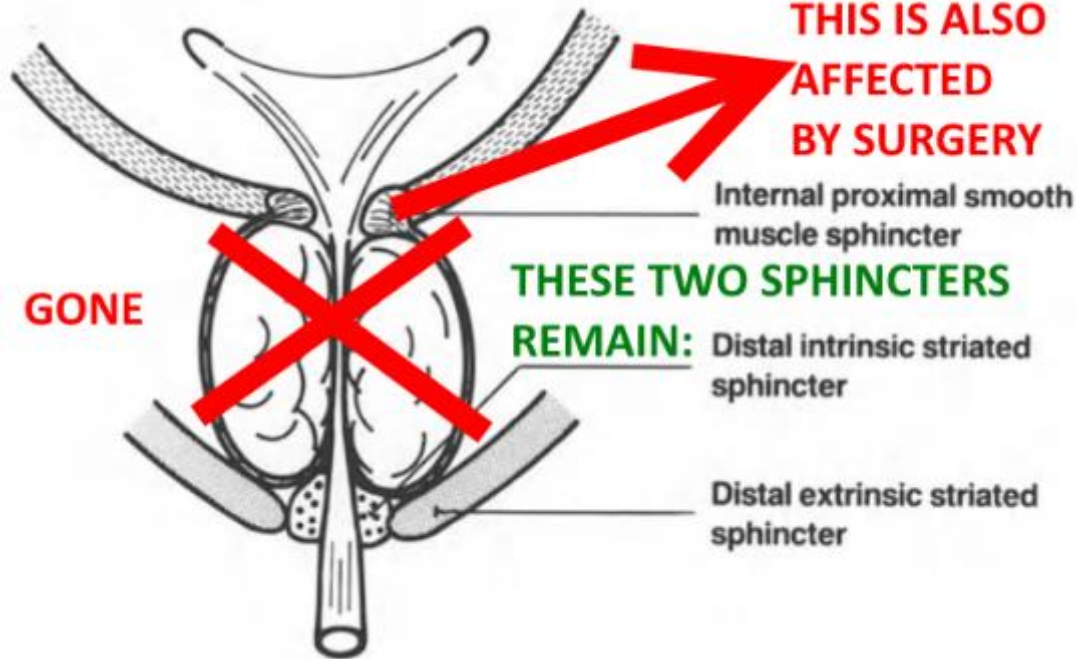


Groutz A. et al., 2000, Carlson K.V. et al., 2001,
Noguchi N. et al., 2006, Hubner W.A., 2009

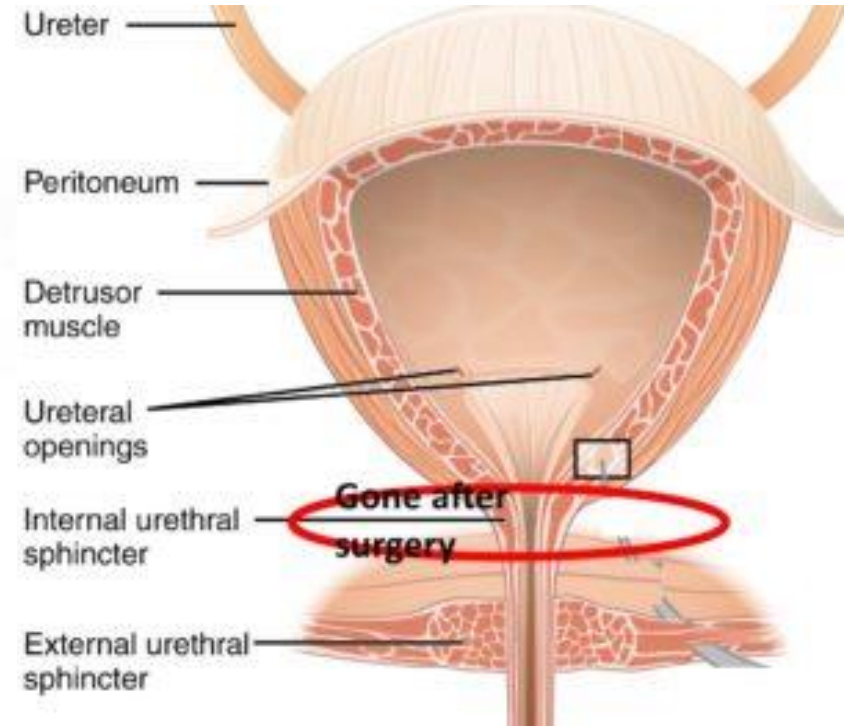


Urethra surgically re-
attached to the bladder

Before surgery



After surgery



Post prostatectomy urinary incontinence (PPI)

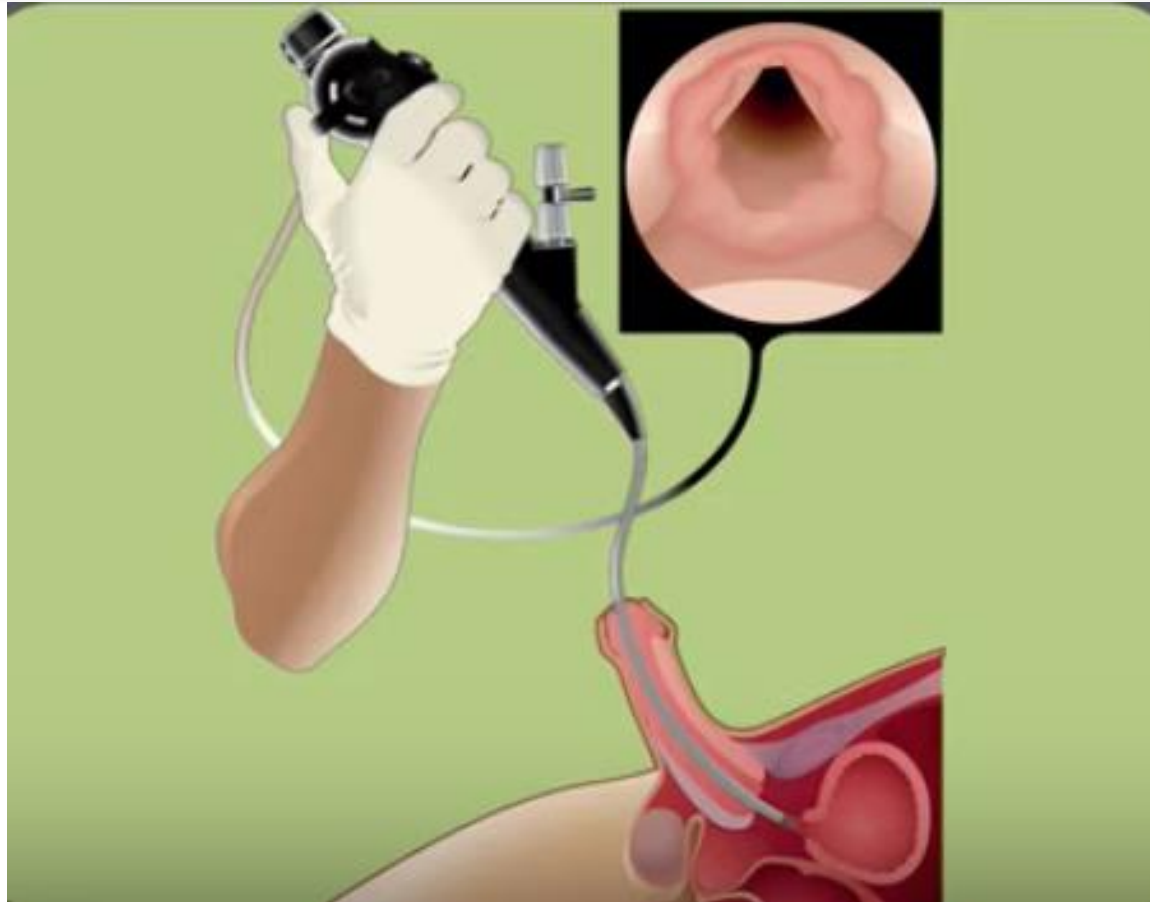
- Overall prevalence continues to rise due to an increasing numbers
- Profound impact on the QOL
- Following robotic prostatectomy
 - 4–31%
 - 2 years after surgery: <10%
- Following open surgery
 - 7–40%

SUI after prostate cancer treatment: work up

- Medical interview (history) and physical exam; UA; bladder 'scan'
- Questionnaires, pad usage (number, type, pad wt.)
- **Special tests**
 - Uroflowmetry
 - **Urodynamic study**
 - Special catheter
 - Water runs through bladder
 - Pressure measured while bladder fills and while urinating; flow measured while urinating
 - Takes about 30-40 minutes

PPI: Evaluation

- Cystoscopy



Can we do something before prostatectomy? pelvic floor muscle physical therapy

- Effective in reducing the risk and severity of prolonged urinary incontinence after prostatectomy
- Early recovery of continence (3 months)

SUI after CaP treatment: how to treat?

How bothersome or severe is the incontinence???

- Urgency incontinence

- Medications (to relax bladder)
 - Potential side effects
- Radiation therapy can cause urgency incontinence



- Overflow incontinence

- Surgery (if there is blockage to urinary flow @ bladder neck or urethra)

Stress incontinence

- Simple (conservative) treatments
 - pads, behavioral changes (fluid restriction, dietary changes, smoking cessation, timed voiding, bladder training, pelvic floor muscle training)
- Surgery (injections, slings, artificial urinary sphincter)



Behavioral modifications

- Reduced fluid intake
- Planned restroom breaks

Intervention

- Pelvic floor physical therapy
- Kegel exercises
- Biofeedback

Coping

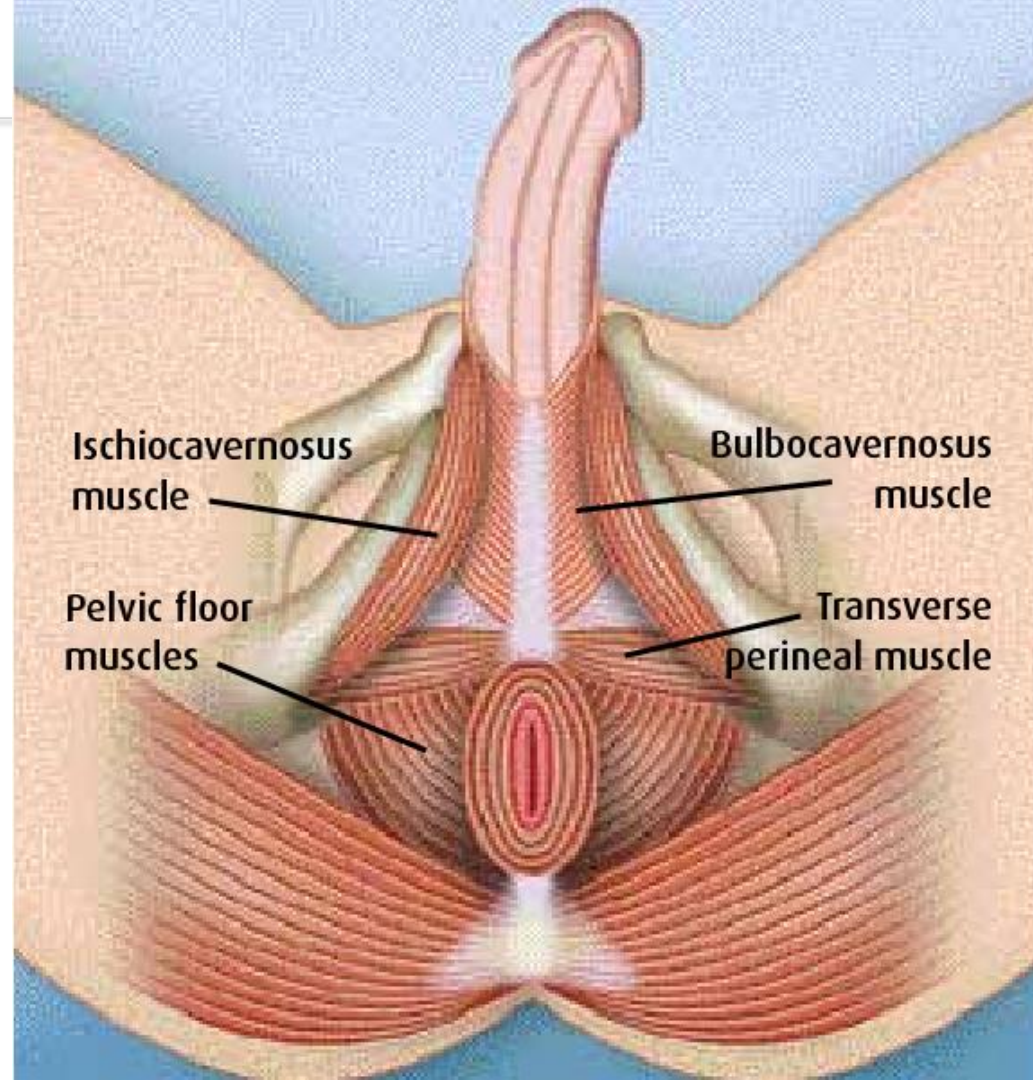
- Pads
- Diapers
- Catheters
- Penile clamps



Common bladder irritants to be avoided

Bladder irritants	
Coffee	Sugar
Tea	Artificial sweetener
Honey	Chocolate
All alcoholic beverages	Tomatoes
Carbonated beverages	Tobacco
Caffeinated sodas	Citrus fruits and juices
Corn syrup	Spicy foods

Pelvic floor muscle physical therapy



Pelvic floor muscle exercises

Quick contractions

Tighten pelvic floor and Hold for 5 seconds. Release contraction by half and hold for 5 seconds. Relax.

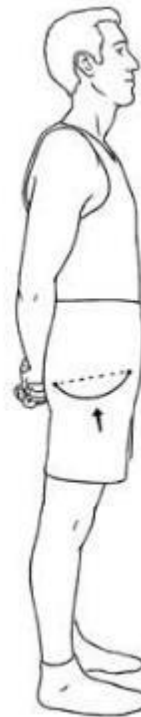
Repeat 5-7 times.
Do 1 time a day.
Begin 2-3 weeks after surgery



Long contractions

Slowly squeeze pelvic floor for 10 seconds. Rest for 10 seconds. Progress to squeezing up to 15 seconds.

Repeat 5-7 times.
Do 1 times a day.
Begin 3-4 weeks after surgery



Penile clamps

Squeezer™



ActiCuf™ compression pouch



Cunningham clamp



C3 Penis Clamp



J Clamp



Coping solutions can be expensive, a nuisance and become problematic.

- Absorbent products can be costly, bulky, likely to leak and smell
- Catheters may be uncomfortable, and long-term use may cause urinary tract infections
- A penile clamp can control leakage but has to be moved often and can be painful and uncomfortable⁶⁷

5-YEAR COST OF PADS AND DIAPERS⁶⁸



5 pads
per day

X

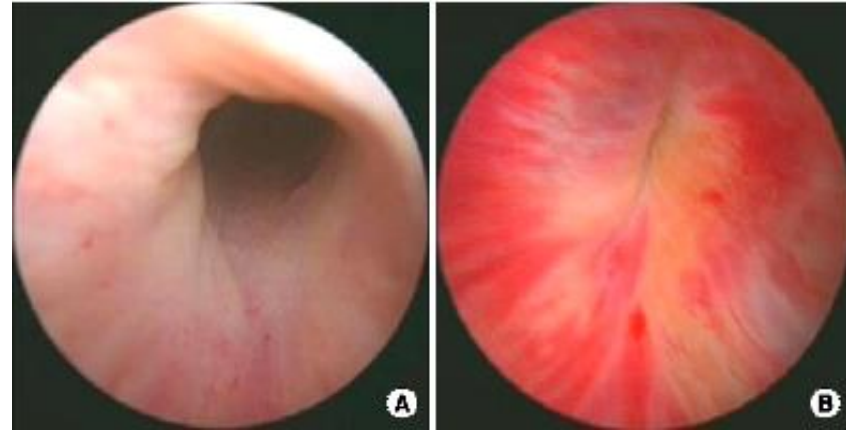
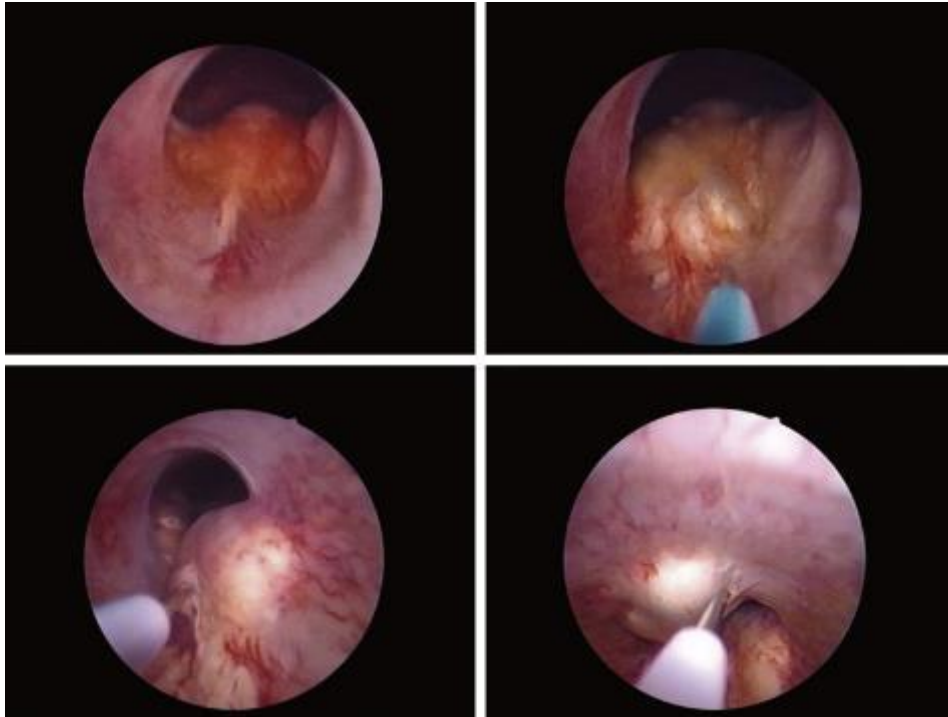
5

years



= \$7,000

Bulking agent injection



- Undetectable to others
- High success achieved in patients with mild to moderate SUI⁶⁹
- Most patients are continent immediately following the procedure⁷⁰
- Operates on its own to restore continence
- 92% would undergo the procedure again⁷¹



Acts as a “hammock”
to reposition and
support the urethra,
restoring bladder
control⁶⁹

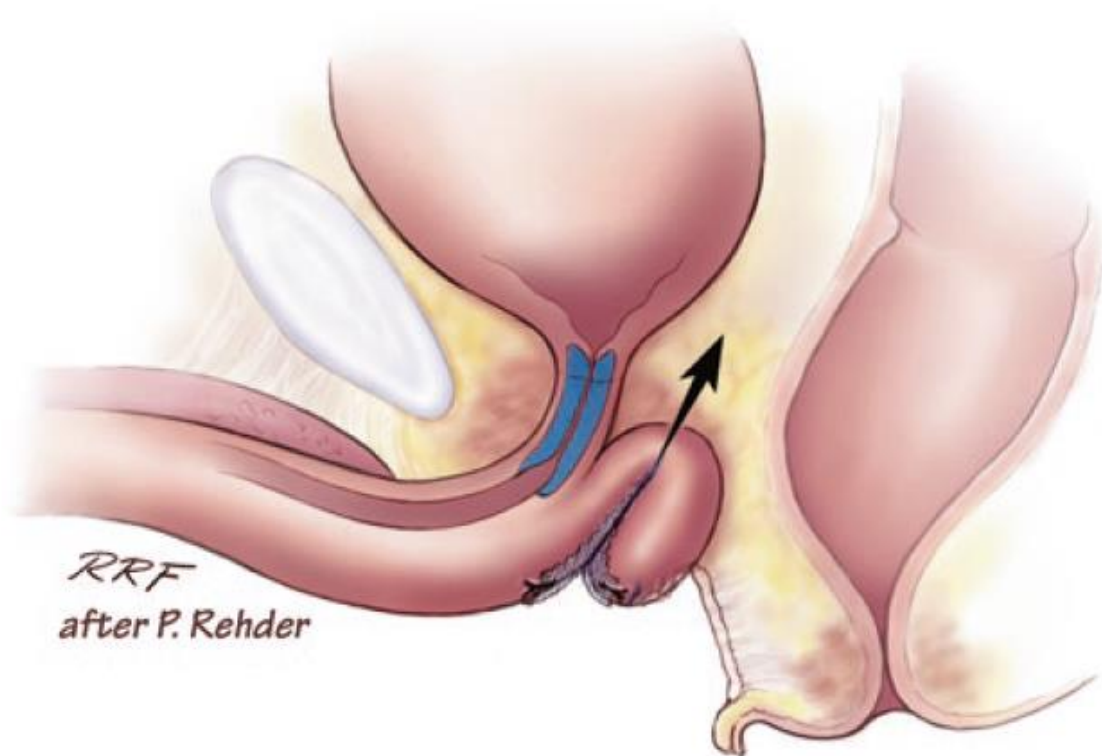


*Patient satisfaction rates reflect research results with use of the Male Sling



• 94% would recommend a sling procedure to a friend.*⁷²

AdVance Male Urethral Sling



- Supports, compresses or repositions urethra
- Outpatient surgery
- No moving parts
- 60-80% success rate
- Not effective for severe leakage
- Not very effective after radiation therapy

Gold standard treatment⁷³

Quality of life

- Provides proven, discreet bladder control⁷³
- Undetectable to others
- Mimics a healthy sphincter⁷⁴
- Most men with weakened sphincter muscle achieve continence⁷⁵

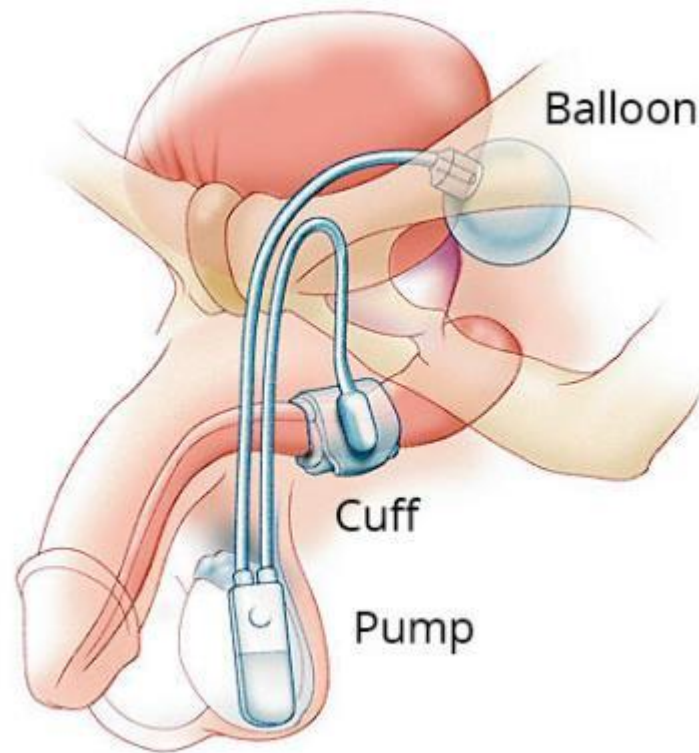


Artificial Urinary Sphincter (AUS)

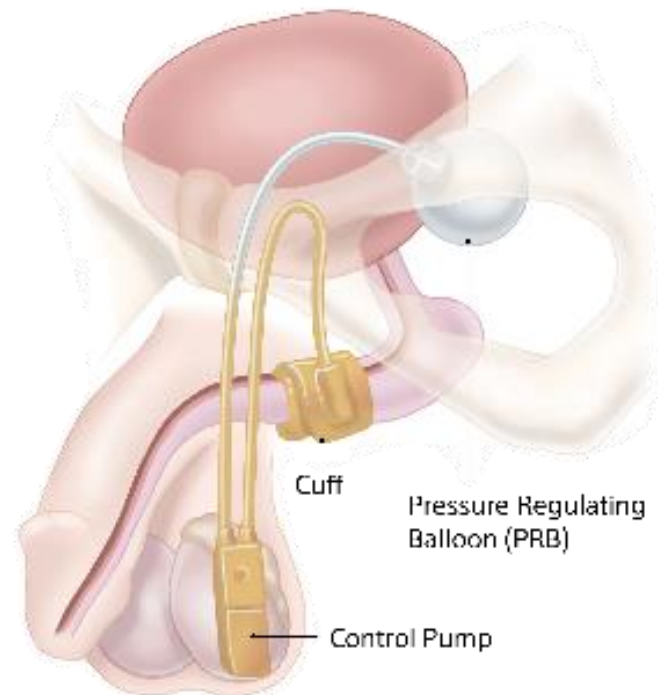


Artificial urinary sphincter

- ***‘Gold standard’ (since 1972)***
- Urinary control achieved in 75-95%
- Long track record of excellent results
- Simple surgery; some require revision
- 3 parts
 - Pump, cuff, balloon reservoir

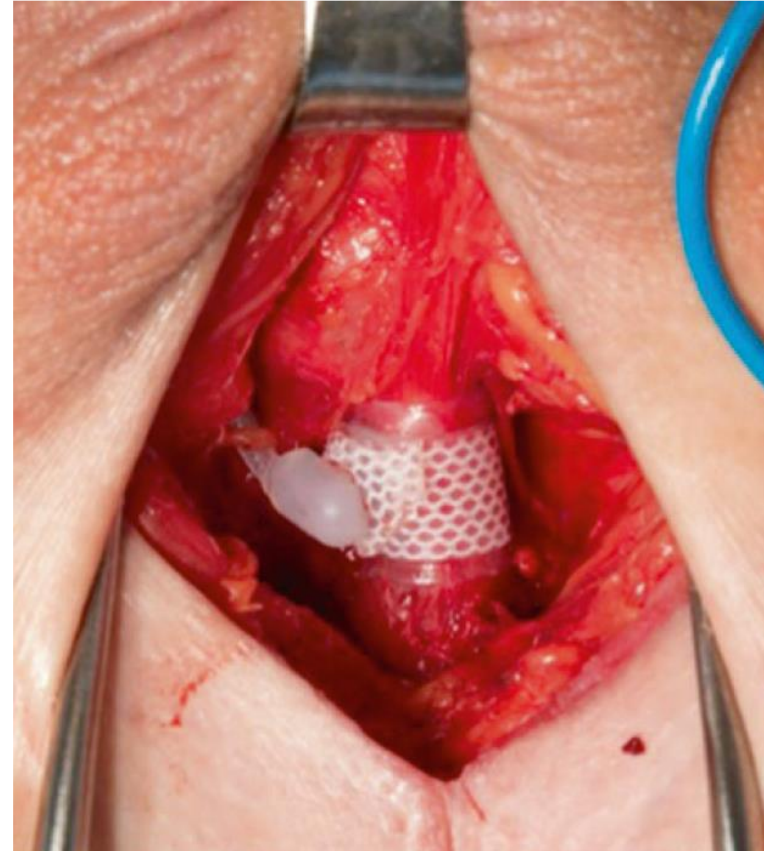


- Cuff around the urethra
- Inflated cuff closes urethra
- Patient squeezes pump to void
- Cuff automatically re-inflates



Artificial urinary sphincter

- Excellent control of urine leakage in severe cases
- Most effective treatment for SUI
- High patient satisfaction



Artificial Urinary Sphincter – Patient satisfaction



94.6%⁷⁷

of patients* are satisfied
with their device

~90%⁷⁸

of patients are satisfied with
their device long-term**



~90%⁷⁹

of patients would
have the surgery
again



94%⁸⁰

of patients would
recommend the
device to a friend or
family member

*Non-urethroplasty patients

**10+yrs



- **Outpatient procedure**
- **Small incisions**, 2-4 cm
- A few days to return to non-strenuous activities
- Patient has to wait 4 to 6 weeks before using the implant to ensure full healing



There are risks involved with any surgery.

Not all patients are candidates for a male sling or AUS.

Male Sling⁸¹

Possible side effects include, but are not limited to:

- Device failure
- Urinary retention
- Post-operative pain
- Irritation at the wound site
- Foreign body response

Artificial Urinary Sphincter⁷⁴

Possible side effects include, but are not limited to:

- Device malfunction or failure, which may require revision surgery
- Erosion of the urethra in the cuff area
- Urinary retention
- Infection, pain and soreness

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

www.printable-calendars.com

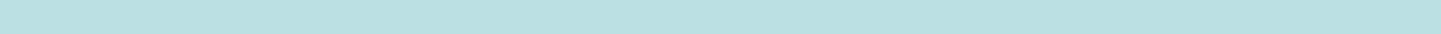
SUI: Timing of surgery

- Most improvement in urine control in the first several months after surgery
- Pelvic muscle exercises may speed this up
- Mild improvement continues over 6 months to one year
- Very slight improvement may occur from 1-2 years



- Incontinence treatment is commonly covered by insurance

Stress urinary leakage: Take Home Messages

- Known significant side effect of prostate cancer treatment
 - Different types and causes for urine leakage after prostate cancer treatment
 - Variety of treatment options
 - Short-term options can be expensive and uncomfortable
 - Sling or AUS could offer a long-term solution
- 

Living with urinary incontinence

Take Home Messages

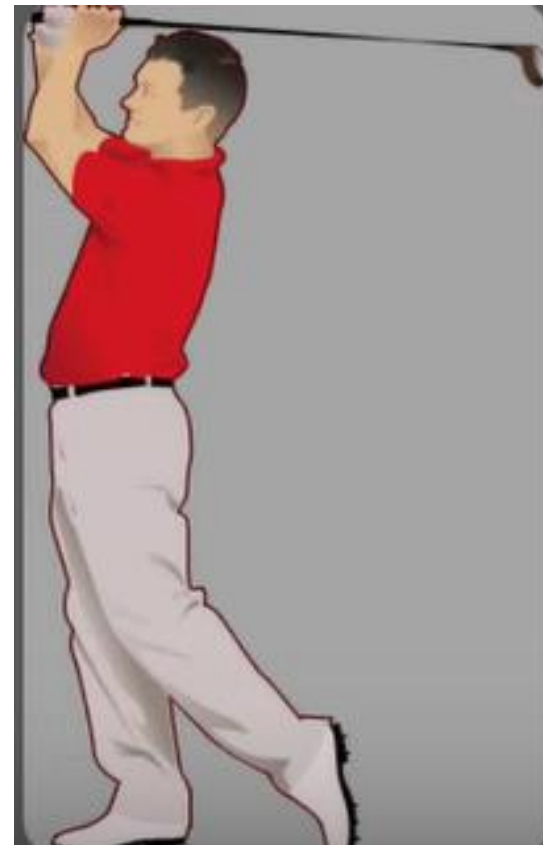
- Urine leakage has negative impact on
 - Overall quality of life
 - Sexual satisfaction
 - Daily activities and social life
 - Return to work
- Successful treatments **DO EXIST with high success rates**



Living with urinary incontinence

Take Home Messages

- **Moderate leak:** male urethral sling (60-80% success)
- **Severe leak:** artificial urinary sphincter (AUS)
 - up to 95% success rate
- **Seek help if it is needed !**



- The ability to achieve continence⁷⁶
- Urinate when desired⁷⁶
- Placed entirely inside the body,
it is undetectable to others
- High patient satisfaction^{*73}
- Can help restore normalcy
and renew confidence





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Management of Postradical Prostatectomy Urinary Incontinence: A Review

Kushan D. Radadia * • Nicholas J. Farber * • Brian Shinder • Charles F. Polotti • Lee J. Milas •

Hari S.G.R. Tunuguntla ✉ • Show footnotes

Published: October 11, 2017 • DOI: <https://doi.org/10.1016/j.urology.2017.09.025> •

Check for updates



PlumX Metrics

Two-stage management of severe postprostatectomy bladder neck contracture associated with stress incontinence

By: Gousse, AE (Gousse, AE) ; Tunuguntla, HSG (Tunuguntla, HSG) ; Leboeuf, L (Leboeuf, L)

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(Print pagebreak 393)

CHAPTER 45

The Artificial Urinary Sphincter

ANGELO E. GOUSSE

HARI S. G. R. TUNUGUNTLA

NEAL PATEL

IZAK FAIENA

INTRODUCTION AND EPIDEMIOLOGY

Normal lower urinary tract function is critical in maintaining urinary continence at low bladder pressure. Up to 16 to 20 million Americans have some type of urinary incontinence with potential major psychosocial consequences. Urinary incontinence is prevalent in men, although the overall numbers are lower than in women. The Epidemiology of Lower Urinary Tract Symptoms (EpiLUTS) study examined rates of urinary incontinence in both men and women in the United States, United Kingdom, and

THANK
YOU