

Bladder Matters: Urinary Incontinence and Pelvic Organ Prolapse

Janice Santos, MD

Assistant Professor of Surgery (Urology), Clinician educator

Warren Alpert School of Medicine of Brown University

Brown Physicians Inc.

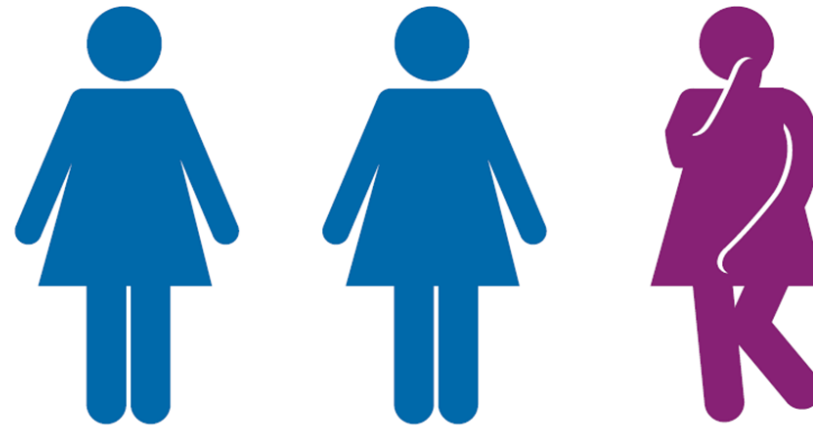
Program for Pelvic Floor Disorders, The Women's Medicine Collaborative

Objectives

- ▶ Prevalence and Incidence of Urinary Incontinence and Pelvic Organ Prolapse (POP)
- ▶ Different types of Urinary Incontinence
- ▶ Recognized and diagnosed POP
- ▶ Work up, treatment algorithm
- ▶ Treatments available: surgical and non surgical

Urinary Incontinence (UI)

- ▶ The accidental leakage of urine
- ▶ Affects millions of Americans, the majority of them women
- ▶ 1 out of 3 women over the age of 45



1 in 3 women
suffer from bladder leakage

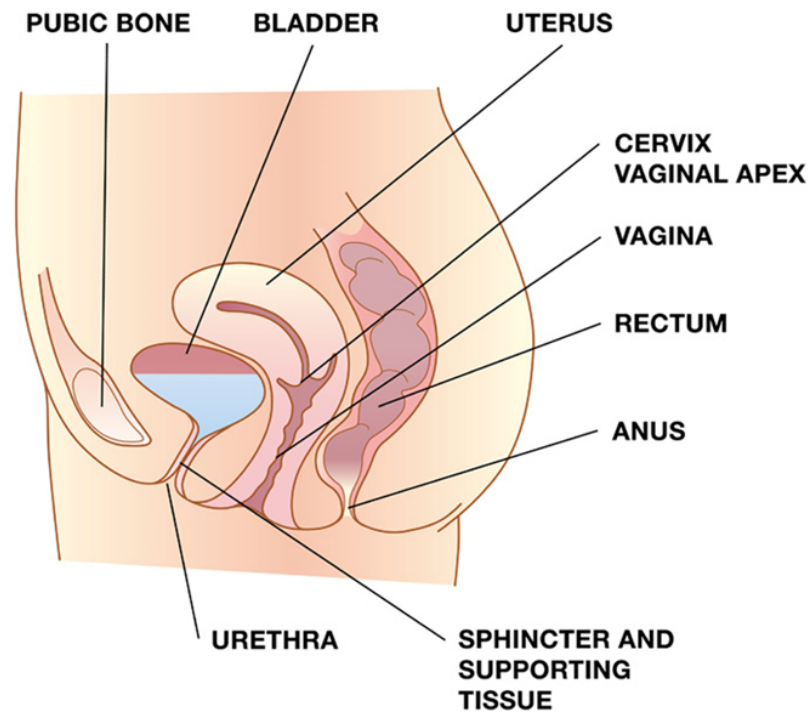
Urinary Incontinence

- ▶ Several types
- ▶ Very common
- ▶ Embarrassment
- ▶ Think it is just part of getting older
- ▶ Are **not aware** that there are treatments
- ▶ Affects both **men** & **woman**
- ▶ Treated differently



Anatomy review

- ▶ Bladder stores the urine
- ▶ Sphincter muscle holds the urine in the bladder
- ▶ Urethra is the tube in which urine is passed out of the body



Types

- ▶ Stress Urinary Incontinence
- ▶ Urgency/Frequency
- ▶ Mixed Incontinence
- ▶ Overflow Incontinence
- ▶ Functional Incontinence



Evaluation

- ▶ History
- ▶ Physical exam
- ▶ Voiding Diary
- ▶ Urinalysis
- ▶ Weighted Pad Test
- ▶ Cough Stress Test - supine and standing
- ▶ Bladder Scan - post-residual volume (PVR)
- ▶ Urodynamic Study (UDS)

Female Stress Urinary Incontinence: AUA/SUFU Evaluation and Treatment Algorithm

EVALUATION (INDICATIONS)

Initial evaluation

The initial evaluation of patients desiring to undergo surgical intervention should include the following components:

- History
- Physical exam
- Demonstration of SUI
- PVR assessment
- Urinalysis

Cystoscopy

Should not be performed unless there is a concern for lower urinary tract abnormalities

Urodynamics

May be omitted when SUI is clearly demonstrated

Additional evaluation

Additional evaluation **should** be performed in the following scenarios:

- Lack of definitive diagnosis
- Inability to demonstrate SUI
- Known/suspected NLUTD
- Abnormal urinalysis
- Urgency-predominant MUI
- Elevated PVR
- High-grade POP (if SUI not demonstrated with POP reduction)
- Evidence of significant voiding dysfunction

Additional evaluation **may** be performed in the following scenarios:

- Concomitant OAB symptoms
- Failure of prior anti-incontinence surgery
- Prior POP surgery

In patients who wish to undergo treatment, physicians should counsel regarding the availability of observation, pelvic floor muscle training, other non-surgical options, and surgical interventions. Physicians should counsel patients on potential complications specific to the treatment options.

TREATMENT

Non-Surgical

- Continence pessary
- Vaginal inserts
- Pelvic floor muscle exercises

Surgical

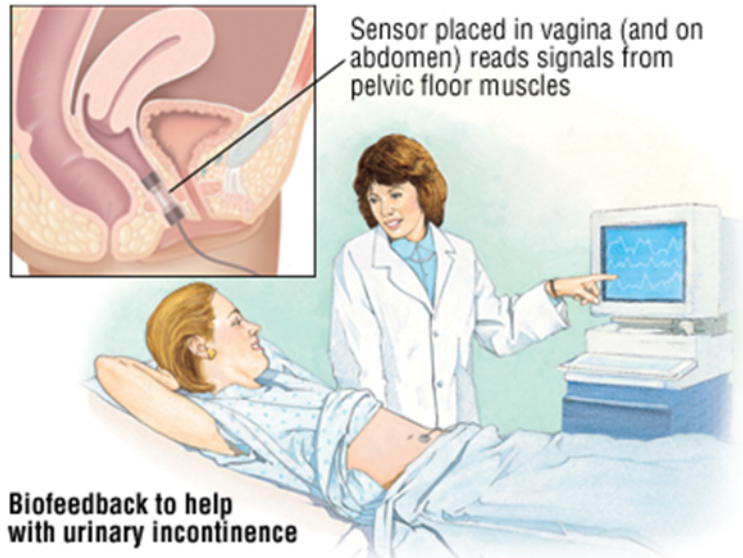
- Bulking agents
- Midurethral sling (synthetic)
- Autologous fascia pubovaginal sling
- Burch colposuspension

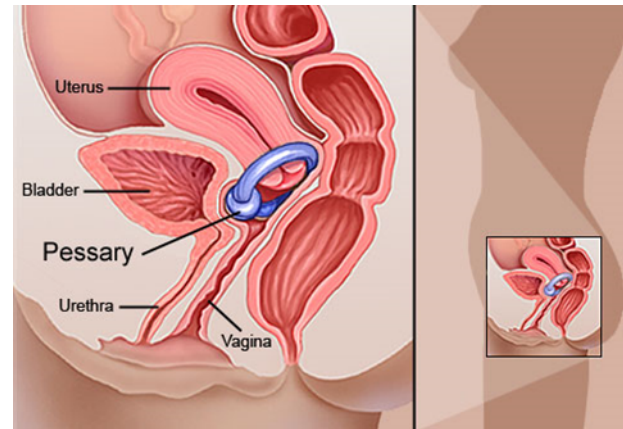
If a midurethral sling surgery is selected, either the retropubic or transobturator midurethral sling may be offered. A single-incision sling may be offered to index patients if they are informed as to the immaturity of evidence regarding their efficacy and safety. Physicians must discuss the specific risks and benefits of mesh as well as alternatives to a mesh sling.

SUI

- ▶ Behavioral modification
 - ▶ Lose weight
 - ▶ Stop smoking
- ▶ Kegel Exercises
- ▶ Biofeedback
- ▶ Injectables
- ▶ Surgery

Pelvic Floor PT (Kegel Exercises) Biofeedback





Non-Surgical/Procedural Options

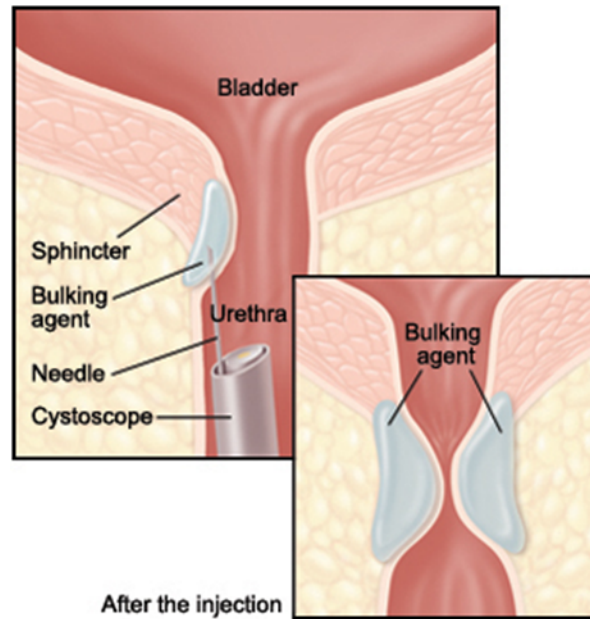


Urethral bulking agents

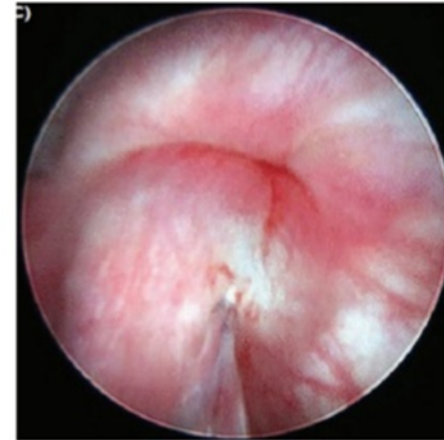
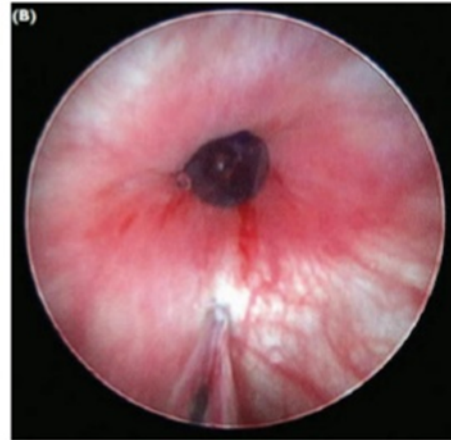
- ▶ Collagen, Contigen, Macroplastique, Durasphere
- ▶ Injection into periurethral tissues
- ▶ Often need repeat treatments
- ▶ Durability not long-term
- ▶ Best candidates = elderly, poor surgical candidates
- ▶ Autologous fat, future applications MSC

Treatment Options

- Bulking Agents - indicated for ISD



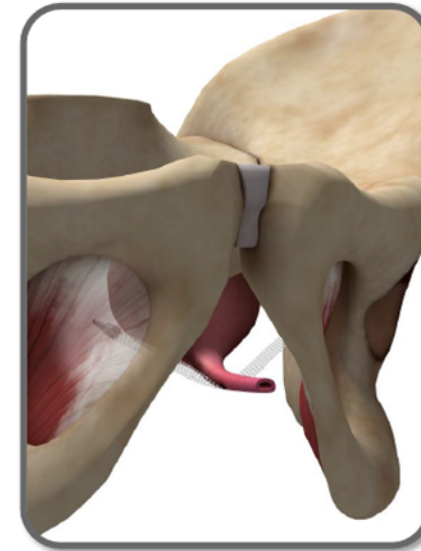
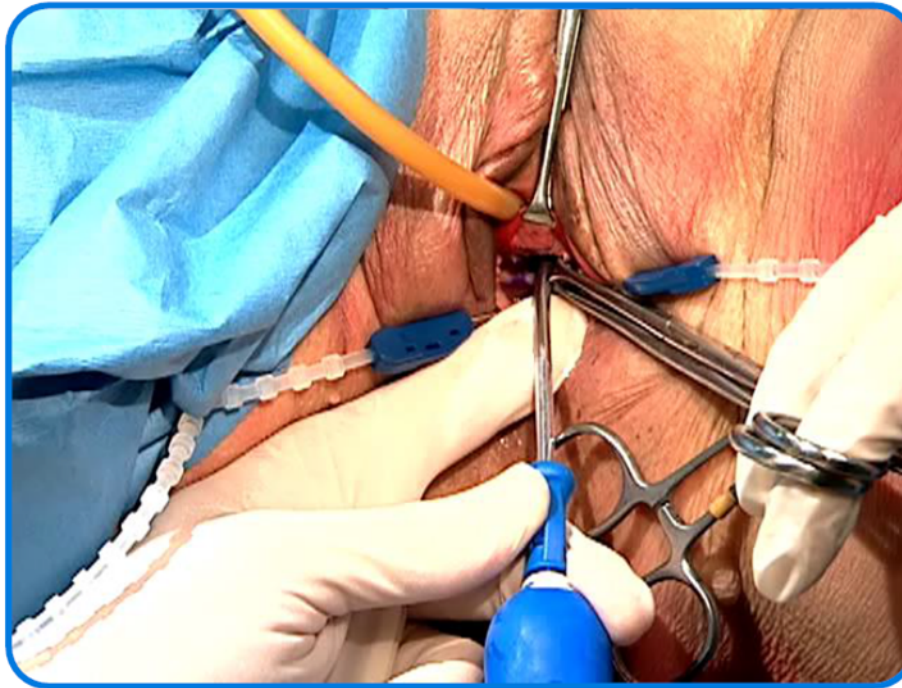
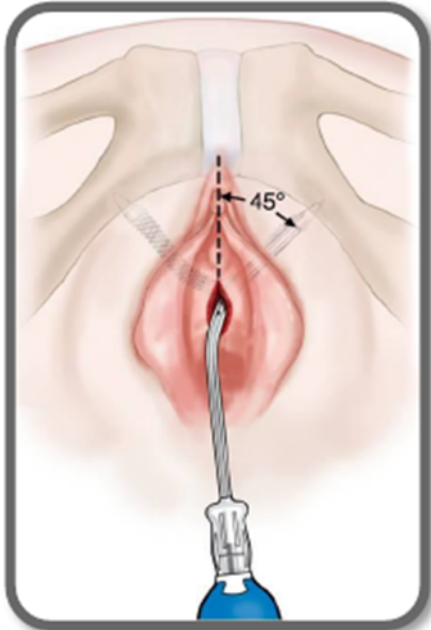
– Submucosal into bladder neck or periurethral to increase urethral resistance.



By Moh.Metwaly, MBBCh

Revised by M.A.Wadood, MD, MRCS

Vaginal sling Mid Urethral sling



Goal of Midurethral sling



Support the urethra and restore normal anatomical angle

Documented clinical success rates for a retropubic slings is approximately 90%- 5 years

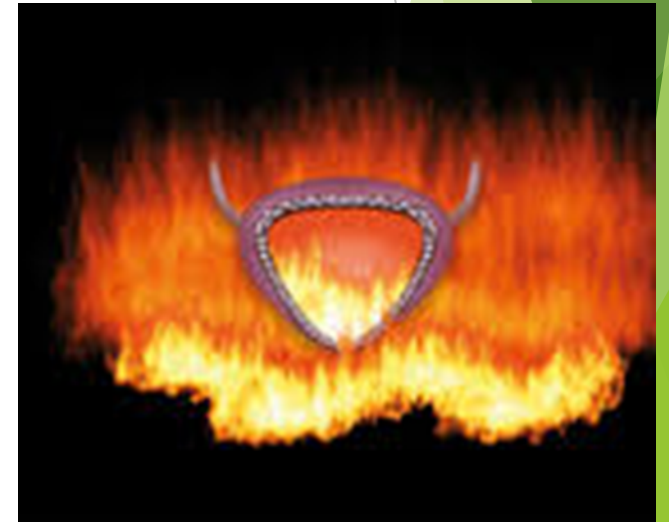
Medical treatment of SUI

- ▶ No FDA approved drug
- ▶ Duloxetine-selective norepinephrine/serotonin dual reuptake inhibitor
- ▶ Used for depression
- ▶ Available in Europe
- ▶ Increases urethral closure
- ▶ Effectiveness proven

Overactive Bladder syndrome

Urge Incontinence

- ▶ Strong urge to urinate with little warning
- ▶ Difficulty postponing urination
- ▶ May or may not leak



Frequency

- 8 or more visits to the toilet per 24 hours

Nocturia

- 2 or more visits to toilet during sleeping hours

Urgency

- Sudden, strong desire to urinate

Urgency Incontinence

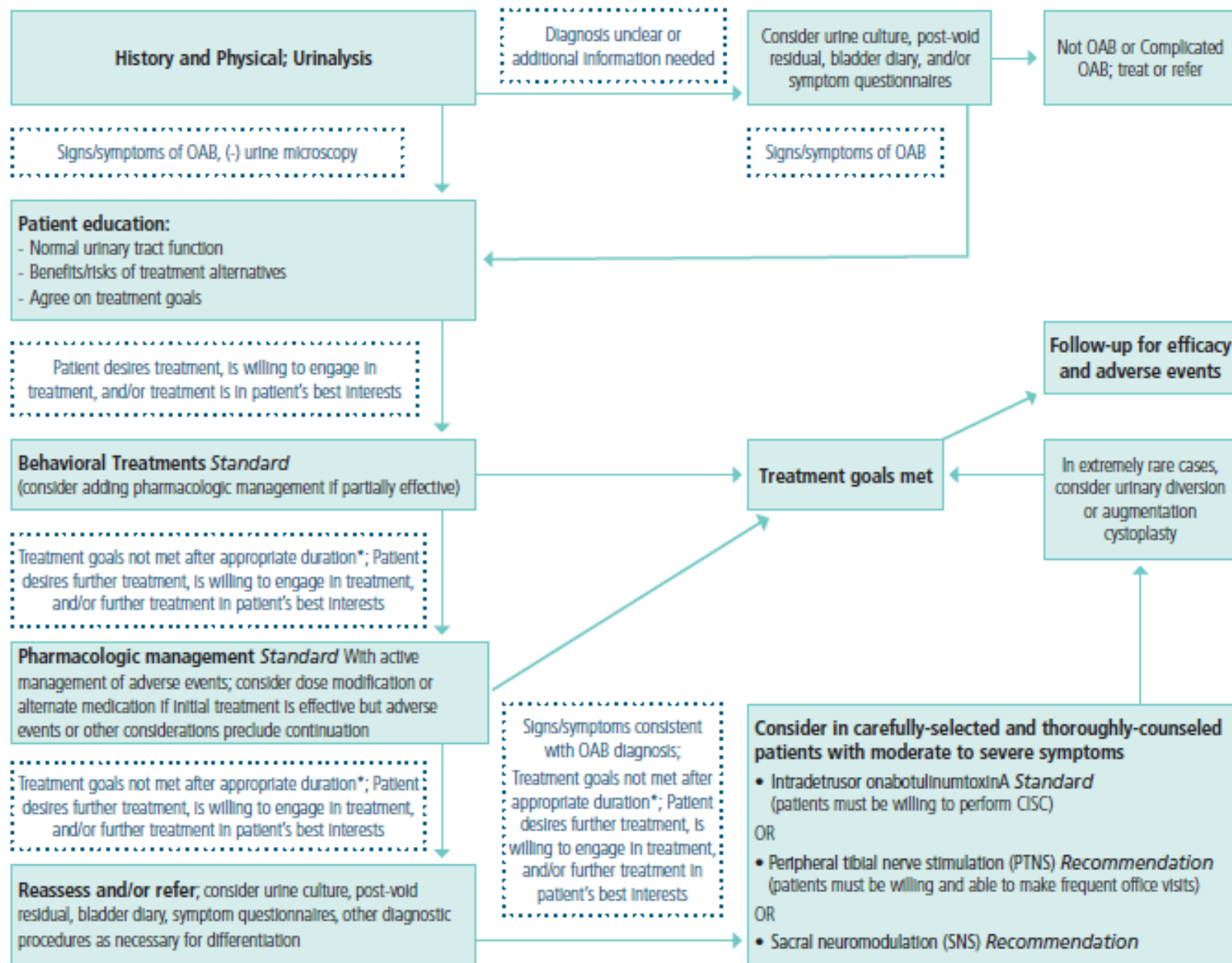
- Sudden & involuntary loss of urine



Overactive Bladder Urge Incontinence

- ▶ Idiopathic
- ▶ Rule out other pathology for Refractory OAB
 - ▶ Damage to the bladder nerves, the nervous system, Damage to the muscles
 - ▶ MS, Parkinson's, DM, and stroke
 - ▶ Bladder infections, bladder stones, cancer
 - ▶ Enlarged prostate
 - ▶ Pelvic Organ Prolapse
- ▶ Aggravated by dietary factors

Diagnosis & Treatment Algorithm: AUA/SUFU Guideline on Non-Neurogenic Overactive Bladder in Adults



Treatment Options

- ▶ Timed voiding and bladder training
- ▶ Biofeedback



Treatment Options

- ▶ Anticholinergics/Antimuscarinics
- ▶ Medications to inhibit contractions of an overactive bladder

Once-a-day
DITROPAN XL[®]
(oxybutynin chloride) Extended-release
tablets 5, 10, 15 mg


Detrol LA
tolterodine tartrate
extended release capsules

 **Enablex**[®]
(darifenacin) EXTENDED-
RELEASE
TABLETS
7.5 mg or 15 mg

ONCE-DAILY
SANCTURA XR[®]
(trospium chloride
extended release capsules)
60 mg

 **VESicare**[®]
(solifenacin succinate)
tablets

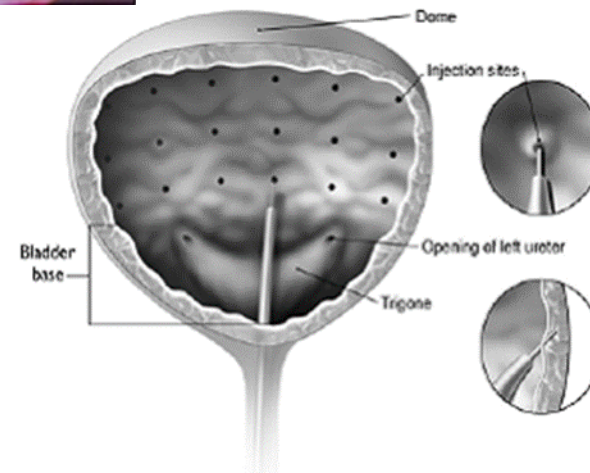
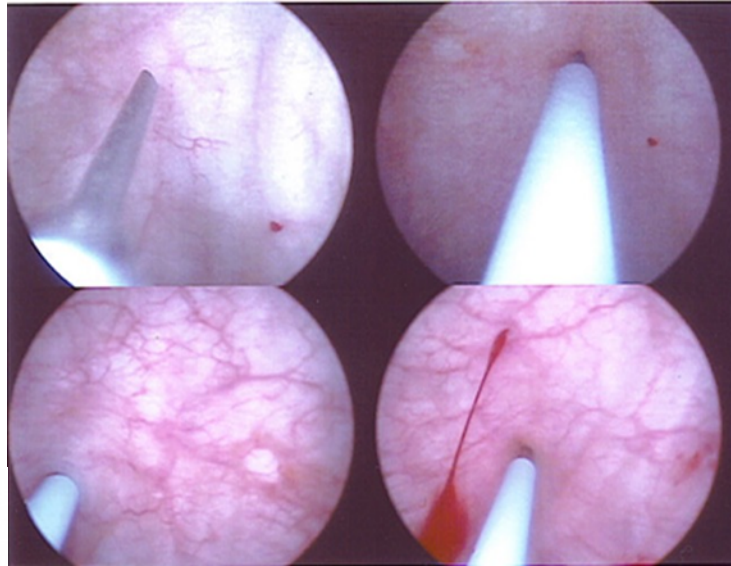
 **Toviaz**[™]
fesoterodine fumarate
extended release tablets 4mg and 8mg

Treatment Options

- B3-adrenoceptor Agonists - Myrbetriq (mirabegron) - works by stimulating the B3 receptors in the detrusor muscle of the bladder, causing relaxation of the bladder muscle during the storage phase of micturition cycle



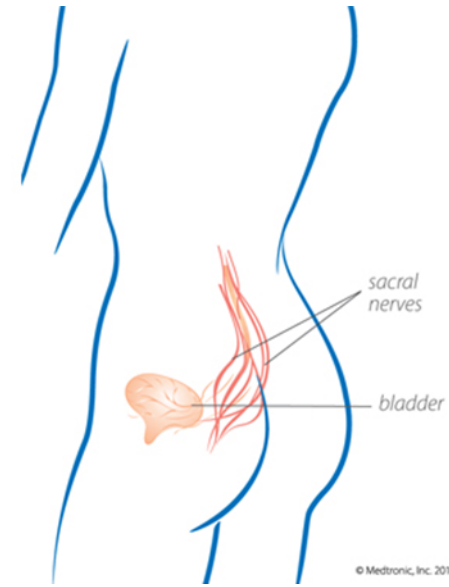
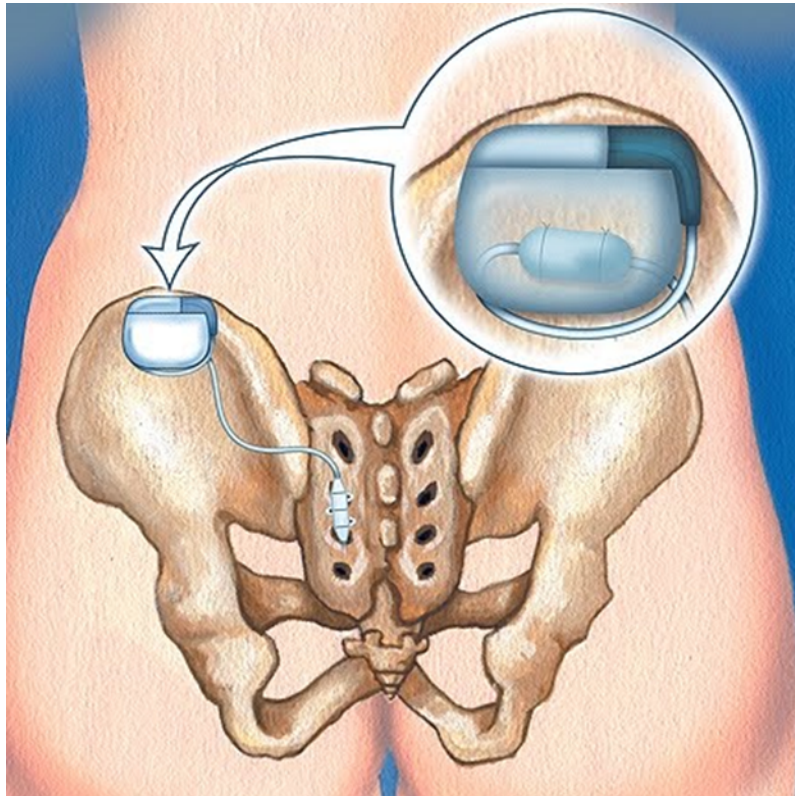
OAB Advance Therapies



Percutaneous Tibial Nerve Stimulation



Sacral Nerve Stimulation Interstim



Special Consideration in the elderly

Transient Incontinence

► DIAPPERS

Delirium

Infection of urinary tract

Atrophic vaginitis

Pharmaceuticals

Psychological

Excessive urine output (CHF, hyperglycemia)

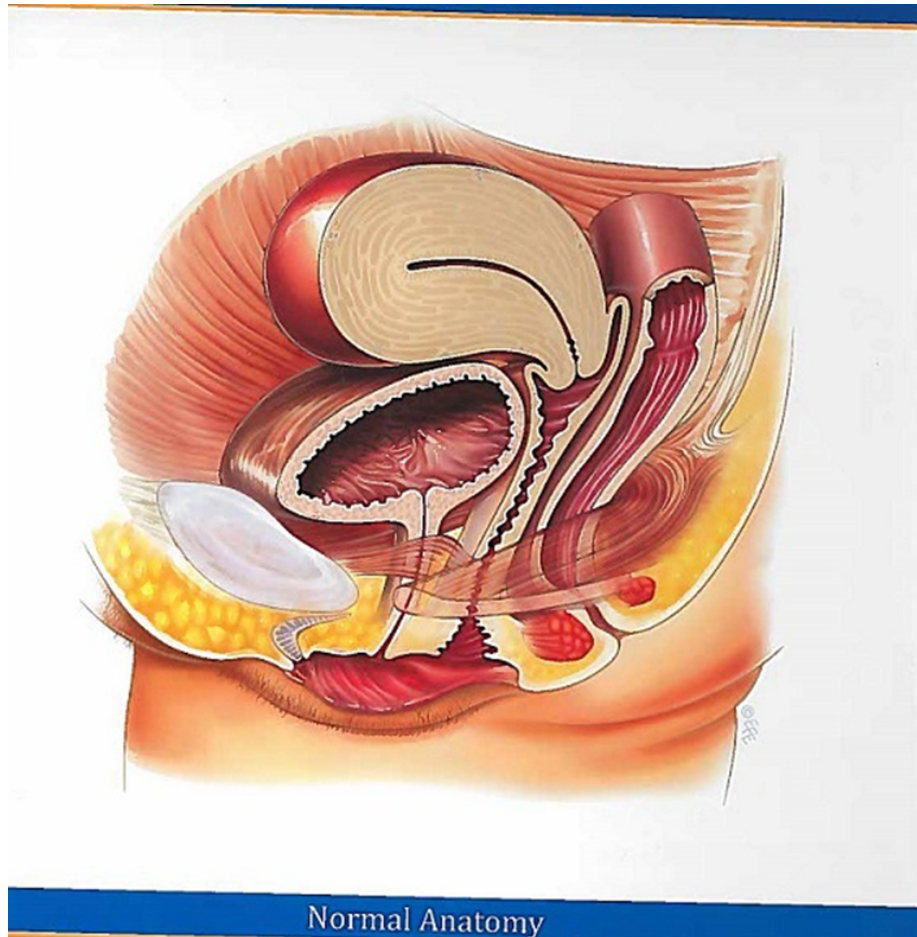
Restricted mobility

Stool impaction

INCONTINENCE HOT LINE



Pelvic Organ Prolapse (POP)



Causes

- ▶ Weakened or damaged pelvic muscles and ligaments can cause pelvic organ prolapse.
- ▶ Loss of muscle tone
- ▶ Menopause and estrogen loss
- ▶ Multiple vaginal deliveries
- ▶ Obesity
- ▶ Family history/Genetics
- ▶ Pelvic trauma or previous surgery
- ▶ Chronic Coughing

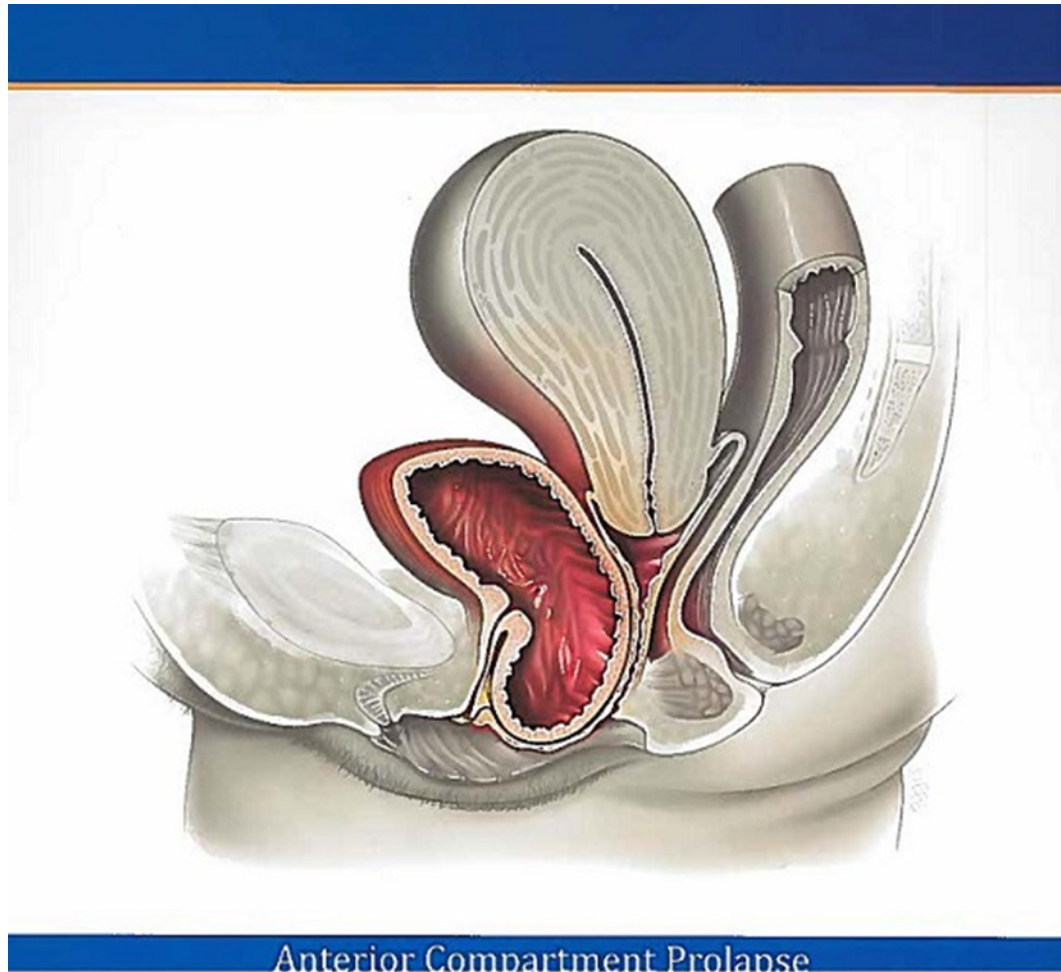
Symptoms

- ▶ A bulge or lump in the vagina
- ▶ A pulling or stretching feeling in the groin area
- ▶ Difficult or painful sexual intercourse
- ▶ Urinary or fecal incontinence
- ▶ Difficulty with bowel movements
- ▶ Delayed or slow urinary stream

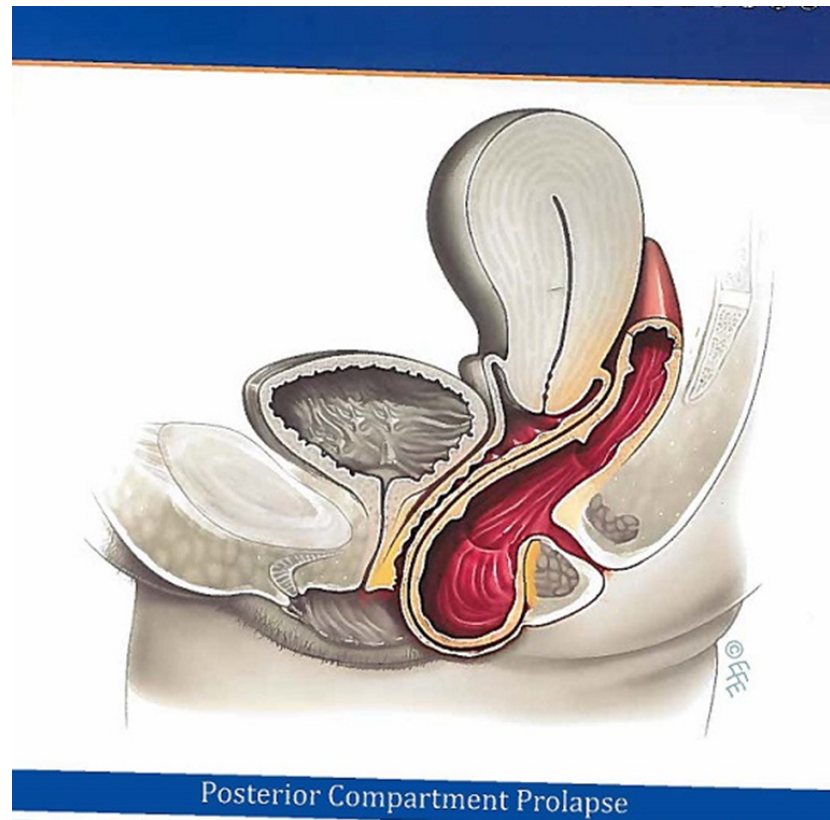
POP

- ▶ Anterior vaginal wall prolapse (cystocele)
- ▶ Posterior vaginal wall Prolapse (rectocele)
- ▶ Apical vaginal wall Prolapse (uterine prolapse, enterocele)

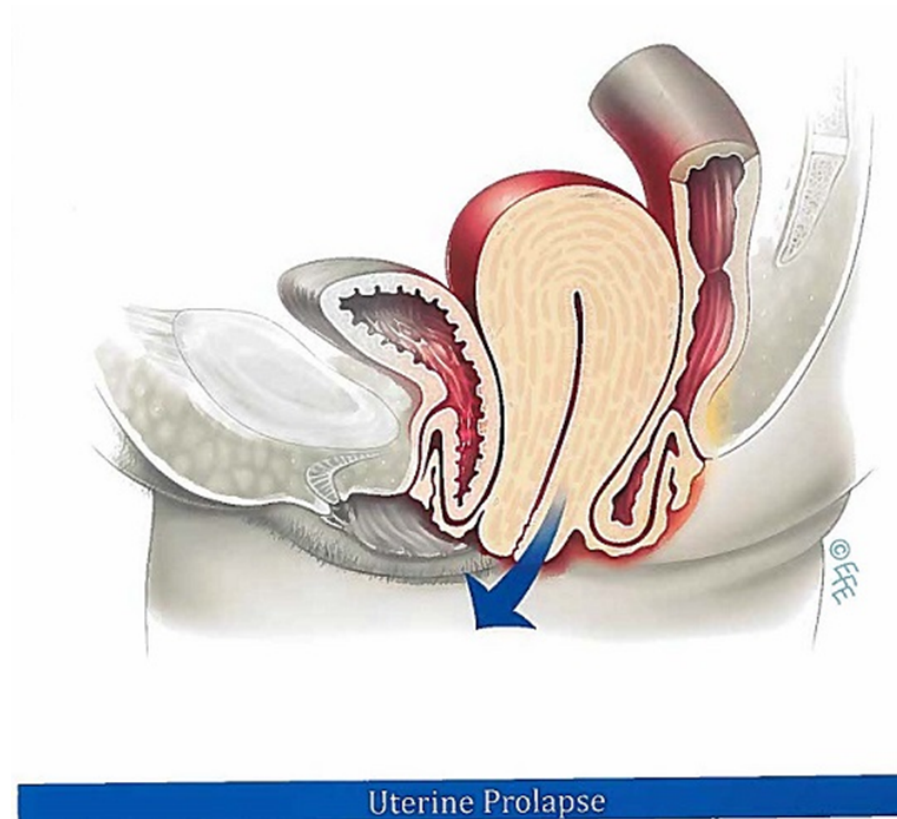
Anterior Prolapse Cystocele



Posterior vaginal Prolapse (Rectocele)



Complete uterine prolapse with anterior and posterior compartment



Staging of POP - POPQ Staging

- ▶ Should be done with maximum straining such as a very strong cough or Valsalva
- ▶ Stage 0 - no prolapse
- ▶ Stage 1 - most distal prolapse is more than 1 cm above hymen
- ▶ Stage 2 - most distal prolapse is between 1 cm above the 1 cm below hymen
- ▶ Stage 3 - most distal prolapse is more than 1 cm below the hymen but no further than 2 cm less than TVL
- ▶ Stage 4 - represents complete procidentia or vault eversion

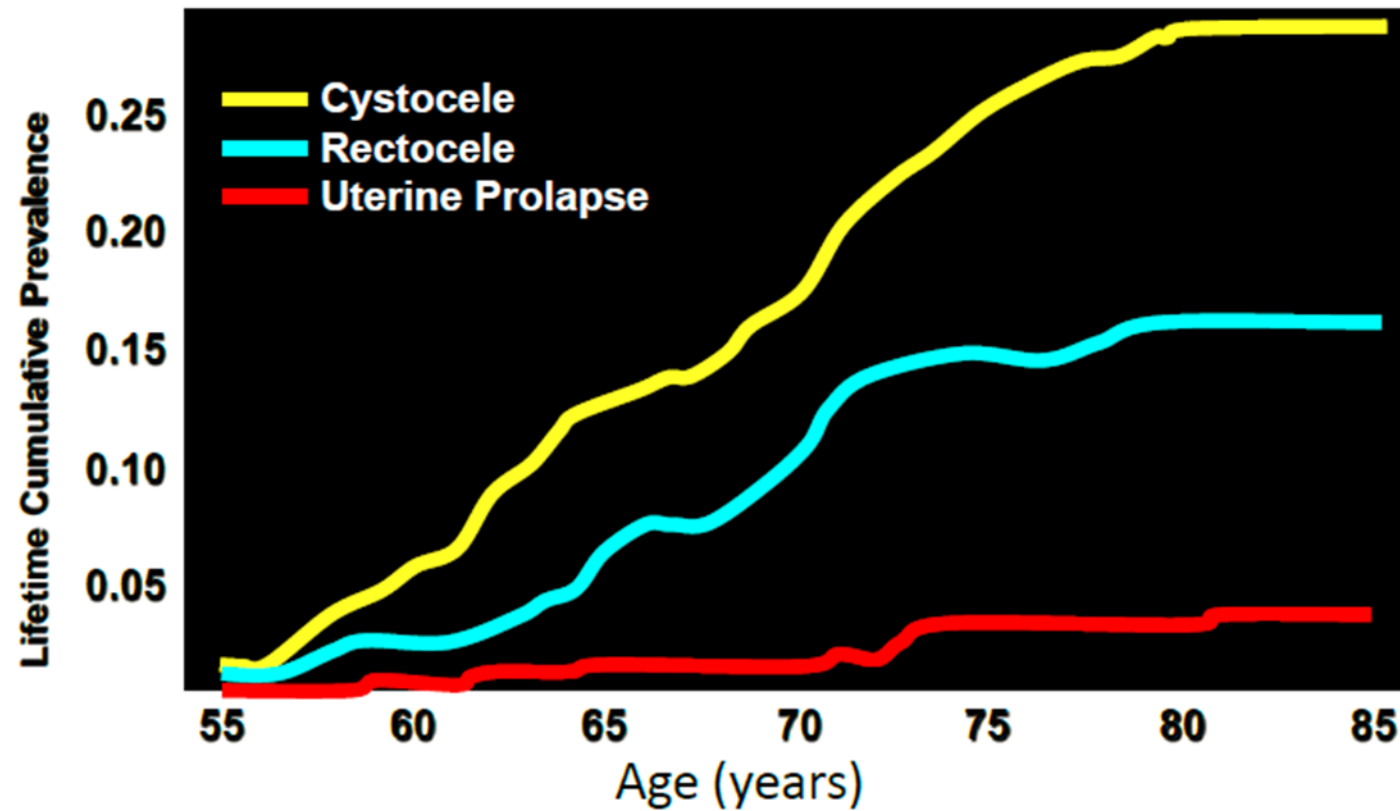
Stage 4 Prolapse



Incidence

- ▶ U.S. 13 % lifetime risk of undergoing surgery for POP
- ▶ Peak age - 70 to 80
- ▶ By 2050, POP will have increased by 50%

Prevalance site POP



Handa 2004

Work up

- ▶ Only physical is needed
- ▶ Prolapse is beyond the hymen or patient has voiding problem - should have post-void residual done
- ▶ Patient with urgency and frequency- UA and Urine culture
- ▶ Urodynamics if surgical planning

Treatment Options

Non-surgical treatments

- ▶ Kegel exercises help strengthen pelvic floor muscles and may help relieve some symptoms of minor prolapse. These exercises involve identifying the pelvic floor muscles that purposely interrupt the flow of urine in midstream, and then tightening these
- ▶ Vaginal pessary device placed into the vagina to support surrounding structures

Surgical treatments

- ▶ Vaginal vs abdominal approach

Pessaries that I used



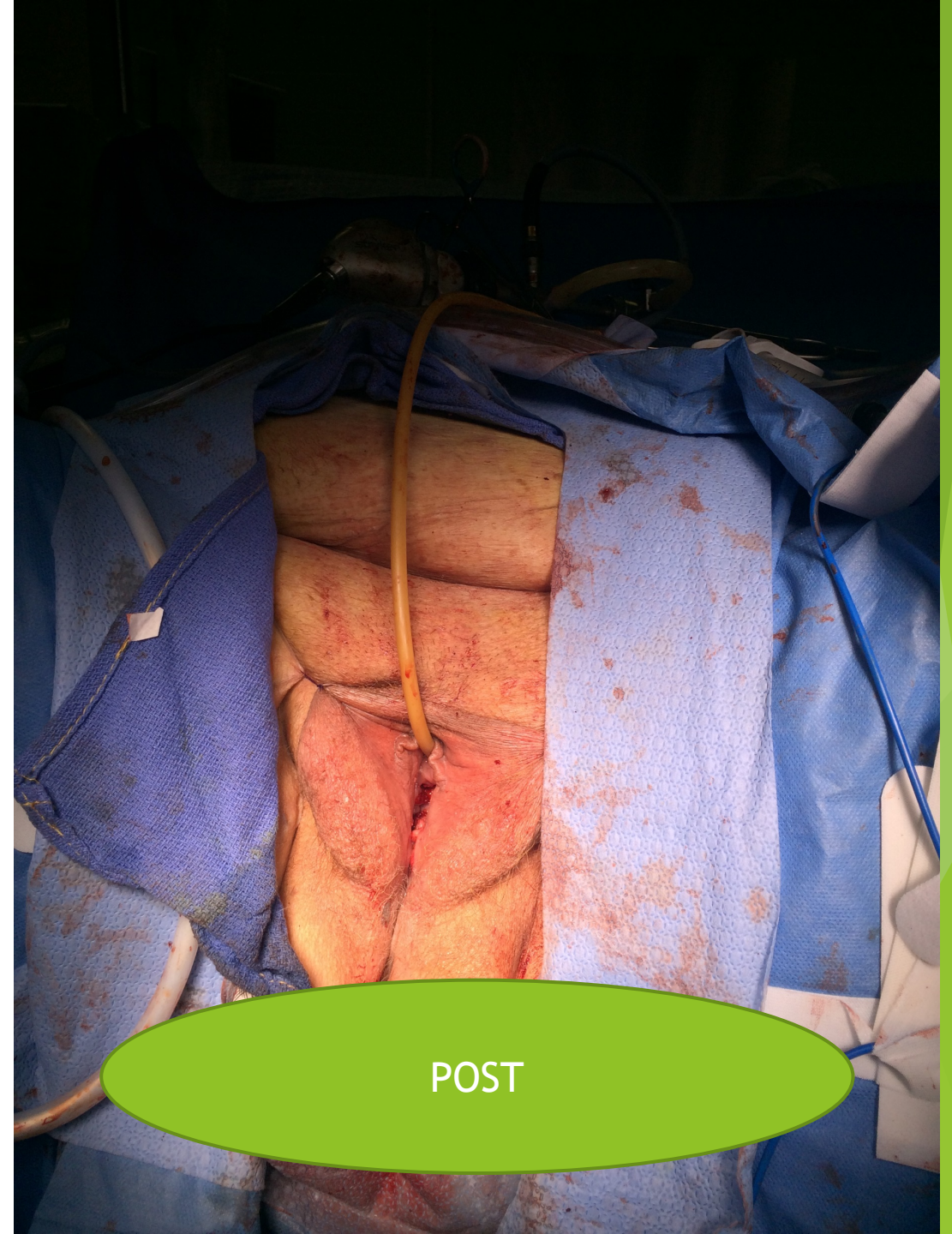
Gelhorn pessary



Ring pessary

5 Different Ways to Address Apical Repair (colpopexy)

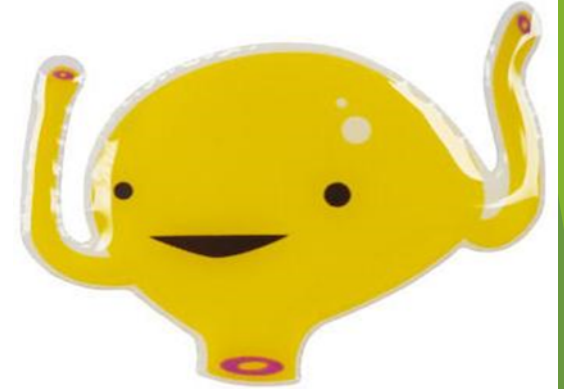
- ▶ Sacralcolpopexy
 - ▶ Uterosacral ligament suspension
 - ▶ Sacrospinous fixation
 - ▶ McCall culdoplasty
 - ▶ Colpocleisis
-
- ▶ Cystocele /Rectocele
 - ▶ Vaginal (unless concomitant apical)



POST

Bladder Health Pearls

- ▶ Stop Smoking
- ▶ Obesity contributes to urinary leakage
- ▶ Avoid Constipation
- ▶ Alcohol & caffeinated beverages can aggravate your “gotta go” problem
- ▶ If you are a Diabetic, watch your diet & control your fingerstick glucose levels



Knowledge of UI and POP

- ▶ MUI>OAB>SUI - highly prevalent
- ▶ Most patients treated for OAB visit their PCP first
- ▶ Patients often “suffer in silence” and adapt their behavior/lifestyle around the condition
- ▶ Adaptations have the potential to to the patient’s health and quality of life



Questions

