Genitourinary Issues in Older Women

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Urogynecology and Pelvic Reconstructive Surgery
UW Medicine
May 9, 2023

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Disclosures

- None

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Goals and objectives

- Understand the evaluation and treatment of genitourinary issues in older women:
  - Genitourinary syndrome of menopause
  - Urinary incontinence
  - Pelvic organ prolapse
  - Recurrent urinary tract infections
  - Accidental bowel leakage

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Take home tips

- Consider vaginal estrogen for all postmenopausal women
- Recommend pelvic floor PT to anyone with a pelvic floor disorder
- Refer at any time, particularly if complicated

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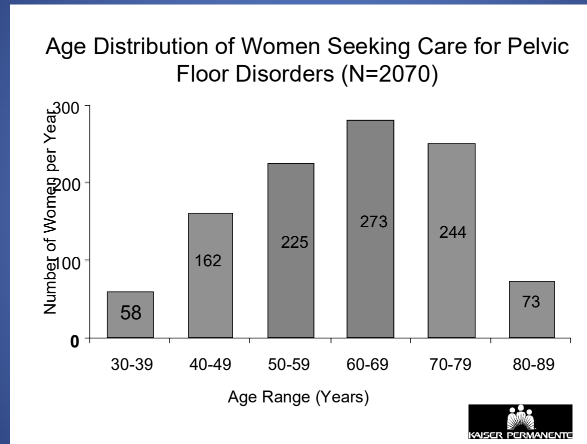
2070 consecutive women seeking care for Pelvic Floor Disorders at Kaiser Permanente San Diego



Luber et al, 2001

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Scope of the Problem - prolapse

Original Research

Lifetime Risk of Stress Urinary Incontinence or Pelvic Organ Prolapse Surgery

Jennifer M. Wu, MD, MPH, Catherine A. Matthews, MD, Mitchell M. Conover, BS, Virginia Pate, MS, and Michele Jonsson Funk, PhD

- 20% lifetime risk of surgery for prolapse and/or incontinence

- 12.6% lifetime risk of surgery for pelvic organ prolapse

- >$1 billion/year prolapse

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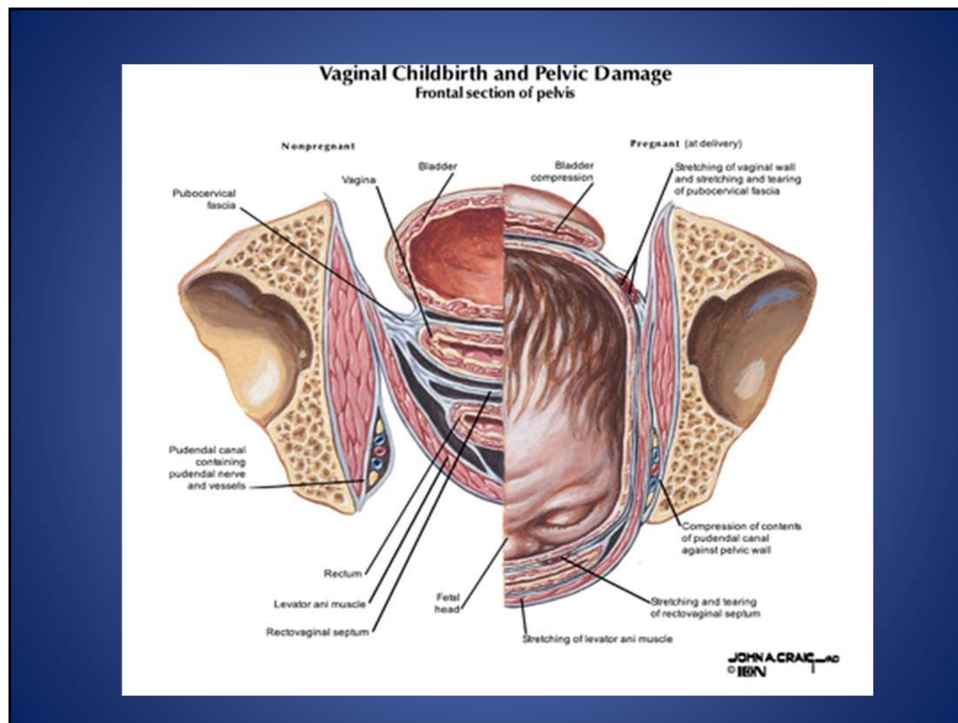

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Vaginal estrogen!

- If your patient is postmenopausal, ask yourself,

"Should she be using vaginal estrogen?"

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Indications for vaginal estrogen:

Genitourinary symptoms of menopause

- Recurrent urinary tract infections (UTIs)
- Bladder irritation
  - Urinary urgency, urgency urinary incontinence, dysuria (pain with urination)
- Sexual symptoms
  - Discomfort or pain, lack of lubrication
- Vaginal discomfort
  - dryness, burning, irritation
- (Prolapse*)

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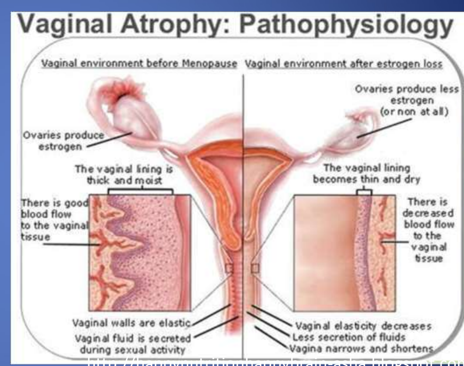
Pain, dyspareunia

- Estrogen treats vaginal atrophy and improves
  - Thickness
  - Blood supply
  - Lubrication
  - Elasticity
  - Comfort



http://happynutritionhappybrain-asha.blogspot.com

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Recurrent bladder infections (UTIs)

- Better evidence for vaginal estrogen than cranberry, D-mannose, voiding after sex, systemic estrogen
- "Moat theory"
- Improves health of bladder epithelium
- (Less effective than daily or post-coital antibiotics but less side effects and no risk of promoting bacterial resistance)

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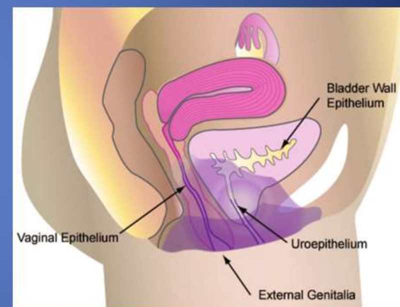
Irritative bladder symptoms

- The bladder has estrogen receptors
- Replacing local estrogen via the vagina decreases
  - Bladder irritation
  - Urinary urgency
  - Pain
  - UTI-like symptoms



researchgate.net

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Urodynamic changes with Estrogen

- Significant improvement in:
  - First desire to void
  - Maximum cystometric capacity
  - QOL – SF36
    - Esp emotional, mental and general health
  - No change in detrusor overactivity

Matarazzo M. Eur J of OB/GYN 2018

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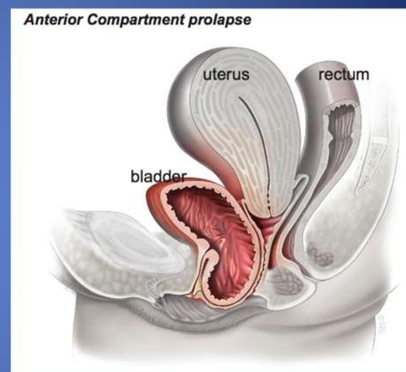
*Prolapse

- Vaginal estrogen won't put organs back up in place, but it can:
  - Improve comfort
  - Thicken vulvar epithelium
  - Decrease dryness and rubbing to improve comfort
  - Improve healing after surgery
  - Decrease risk of mesh exposures



IUGA.org

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Who can use topical vaginal estrogen?

- ✓ Already using systemic hormone replacement therapy (HRT)
- ✓ Family history of breast cancer
- ✓ Personal history of estrogen receptor positive breast cancer
  - Except for women taking aromatase inhibitors, maybe
- ✓ Any estrogen-positive cancer
  - But if significant symptoms benefits might outweigh risks
- ✓ History of blood clots
- ✓ Almost everyone

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Types of vaginal estrogen

- Generally similar efficacy
- Choose type of estrogen based on:
  - Bother/mess/comfort/schedule (*insurance coverage)

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Types of vaginal estrogen

- Estring
- Vagifem/yuvafem/imvexxy tablets
- Estrace/premarin creams

(Compounded formulations)

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Types of vaginal estrogen

Ring (Estring)
+ Lowest overall absorption
+ Easiest to remember (remove every three months)
+ Can also act as a pessary for some women with prolapse (- or fall out)
- Will not fit in some women (*might after three months of tablets/creams)

Tablets (vagifem, yuvafem, imvexxy)
- Two nights per week
- Might not dissolve
+ Not messy

Creams (estrace, premarin)
+ Best for patients with prolapse
- Two nights per week
- Messy
- Premarin can burn at first (*might use alternative for first 3 months)
+/- Premarin is from pregnant mares

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Vaginal estrogen

Menopauseliving.today

Tips:

- Throw away applicators
- Set a reminder for applications and removals
- Try a fitting Estring model before buying it if concern about fit
- Will NOT affect sexual partners
- Give it three months before you decide if it helped or not
- Only works as long as you use it
- Ask insurance which is best covered

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Urinary Incontinence

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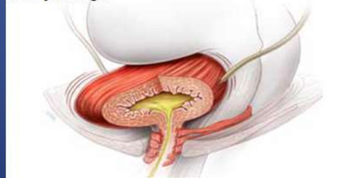
Scope of the Problem
Urinary Incontinence



13.6% lifetime risk of surgery

>$19 billion/yr

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Urinary incontinence and overactive bladder in older women

Significant effect on quality of life and mental health, financial burden, and also real risks including:

- Nursing home admissions
- Falls
- Skin breakdown
- Sleep
-

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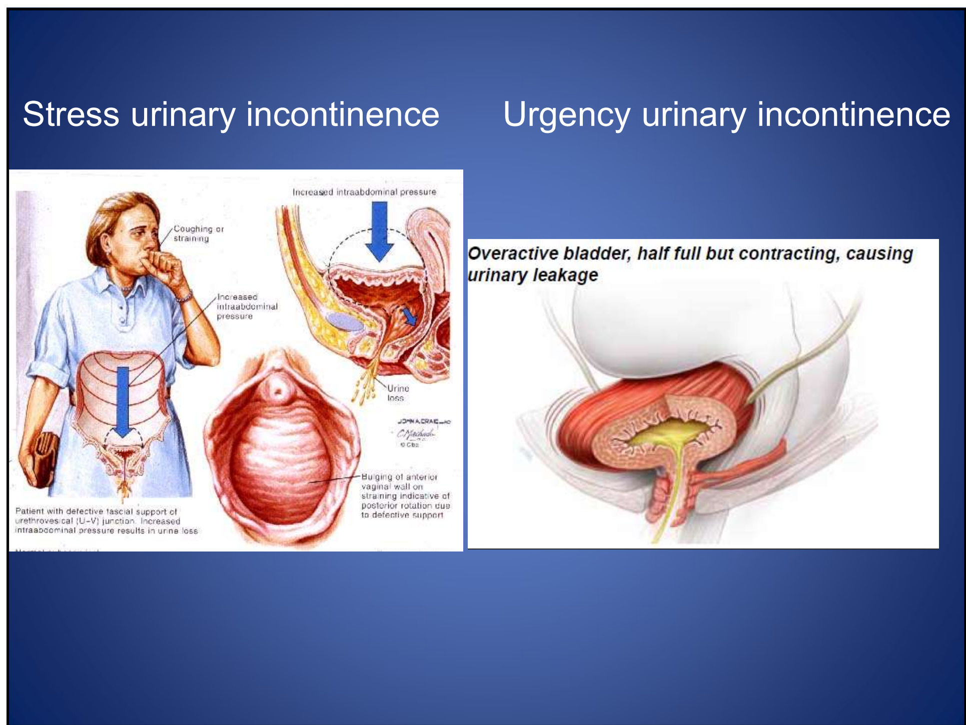

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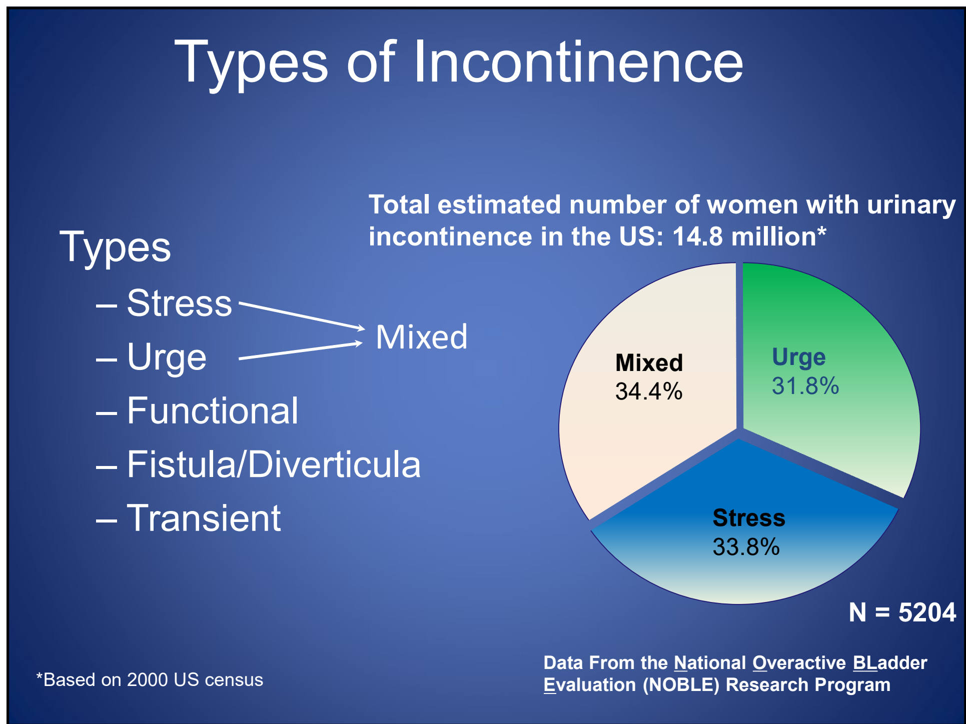

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Uncomplicated urinary incontinence
Minimum evaluation: **history, physical, UA**

History

Physical examination

(Rule out bad things)
- Perineal sensation/reflexes
- Lymph nodes
- Evaluate for masses/urethral diverticulum/tenderness
- Observe for urinary leakage/fistula
- Pelvic floor contraction strength
- Levator spasm
- Post-void residual
- Atrophy
- Prolapse

Urinalysis
- With culture if positive

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UI red flags

- Decreased bladder or perineal sensation
- Incomplete bladder emptying
  - confirm with a bladder scan or catheterization
- Masses
- Hematuria

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Quick side note on asymptomatic miscroscopic hematuria

- Definition:
- Can NOT diagnose with urine dipstick
- Diagnosis: RBCs on microscopy

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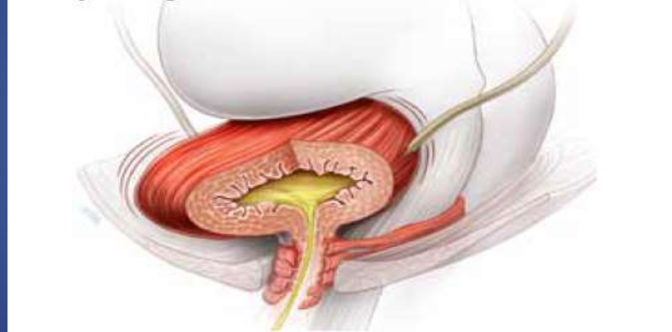
Overactive bladder/ Urgency urinary incontinence



Neuromuscular dysfunction, so treat medically

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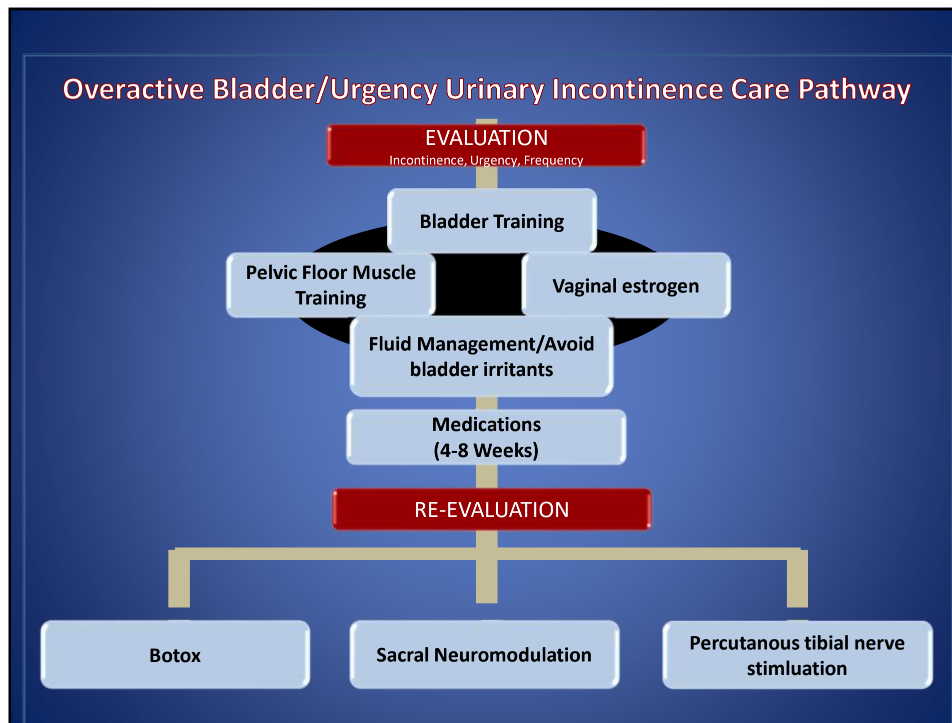

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Behavioral Modification

- Fluid management
  - Only drink when thirsty (unless there is an indication, eg lightheadedness, kidney stones)
  - Reduce nighttime fluids
- Reduce/ eliminate bladder irritants if it helps
  - Coffee, Tea
  - Acidic juices & fruits (Citrus, Tomato, Vinegar)
  - Alcohol & Tobacco
- Timed voiding/bladder retraining
  - Re-establish cortical control over the bladder

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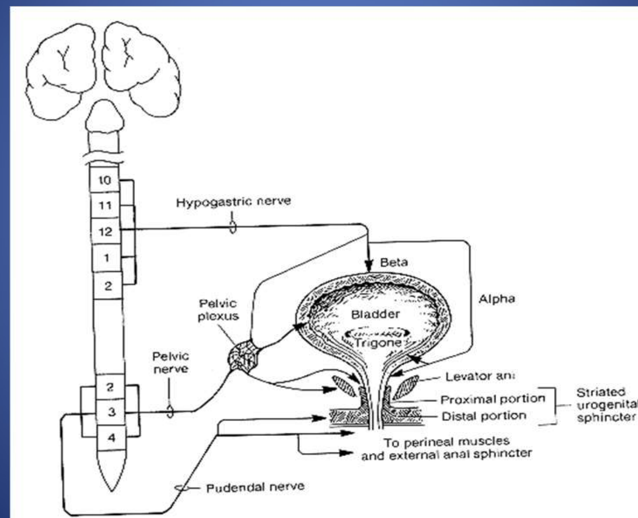
Bladder re-training:
Re-establish brain-bladder connection



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Bladder Re-Training

- Goal: Regain central control of bladder. Bladder is getting triggered by wrong cues.
- Process: Gradually increase time between voids
- Set an alarm with intervals short enough to make it every time
  - Increase interval by 15-30 minutes
  - Goal: Void every 2-3 hours without leaking
- Randomized controlled trials 50-80% success

Fantl, JAMA 1991; Jarvis, Br. Med J 1980

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Pelvic floor PT and "Freeze and squeeze"

- Stop and stay still
- Squeeze pelvic floor muscles
- Relax rest of body
- Concentrate on suppressing urge
- Wait until the urge subsides
- Walk to bathroom at normal pace

- Tip: much more effective if she can work with a pelvic floor physical therapist.
  - Could be more a matter of training pelvic muscles to relax rather than strengthening them
  - www.pelvicrehab.com/

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https://pelvicrehab.com/?utm_source=hwdotcom&utm_medium=mainmenu

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Medications for Urgency Incontinence

- Anticholinergics/antimuscarinics
    - Oxybutynin (Ditropan, Oxytrol, Gelnique)
    - Tolterodine (Detrol)
    - Trospium (Sanctura)
    - Solifenacin (Vesicare)
    - Darifenacin (Enablex)
    - Fesoterodine (Toviaz)
  - Similar efficacy and side effects
  - High rate of discontinuation (70-80% by 1 year)
  - Contraindications: Narrow angle glaucoma, myasthenia gravis, delayed gastric emptying, obstructive voiding, severe kidney or liver disease
  - ER have fewest side effects
- Beta 3 Agonist Mirabegron (Myrbetriq)

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HHS Public Access

Author manuscript

JAMA Intern Med. Author manuscript; available in PMC 2015 March 13.

Published in final edited form as:

JAMA Intern Med. 2015 March 1; 175(3): 401–407. doi:10.1001/jamainternmed.2014.7663.

Cumulative Use of Strong Anticholinergic Medications and Incident Dementia

Shelly L. Gray, PharmD, MS[1], **Melissa L. Anderson, MS**[2], **Sascha Dublin, MD, PhD**[2,3], **Joseph T. Hanlon, PharmD, MS**[4], **Rebecca Hubbard, PhD**[2,5], **Rod Walker, MS**[2], **Onchee Yu, MS**[2], **Paul Crane, MD, MPH**[6], and **Eric B. Larson, MD, MPH**[2,6]

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- Higher cumulative anticholinergic use is associated with an increased risk of dementia

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American Urogynecologic Society (AUGS) consensus statement 2017

- Behavioral treatment for OAB should be instituted first
- Caution in frail or cognitively impaired patients
- Given concern about cognitive impairment and dementia in general population, providers should counsel about risks, prescribe the lowest effective dose, and consider alternative medications in patients at risk

FPMRS 2017

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β3 adrenoreceptor agonists

Newest class of medication for OAB
- Mirabegron (Myrbetriq) and vibegron (Gemtesa)
  - FDA approved for OAB 2012
    - First new class of drug for OAB in 30yrs
  - Mirabegron contraindication: uncontrolled hypertension
  - Not more effective than antimuscarinics but fewer adverse events, side effects

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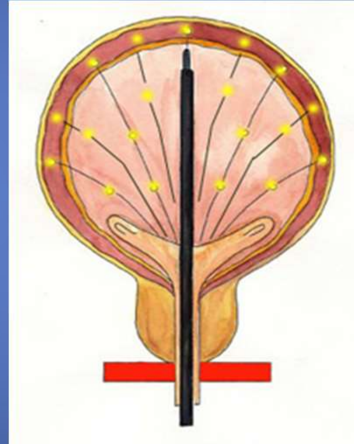
Botox

- Cystoscopic injection of onabotulinumtoxinA
- Highest dry rate
- Repeat every 6-12 months



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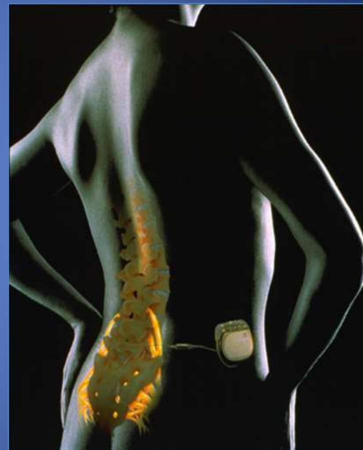
Sacral neuromodulation

Implantable, programmable neuromodulation system.

Therapy consists of 2 steps:
1. Test stimulation procedure in clinic or in the OR to see if it helps
2. Implantation of the chronic neurostimulator.



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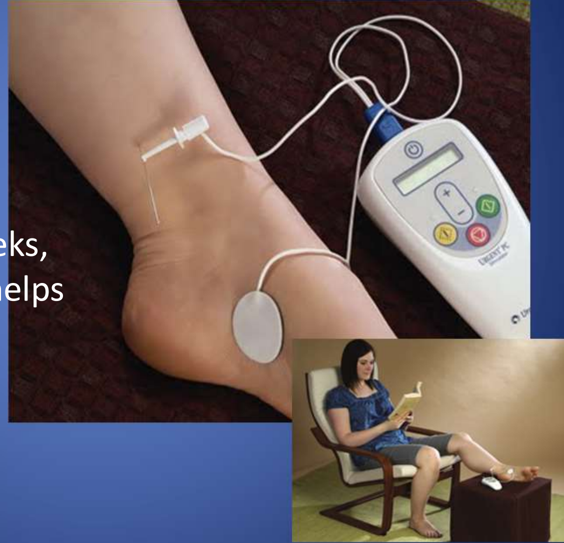
PTNS

- Minimal risks, side effects
- Weekly 30 minute sessions for 12 weeks, then monthly if it helps



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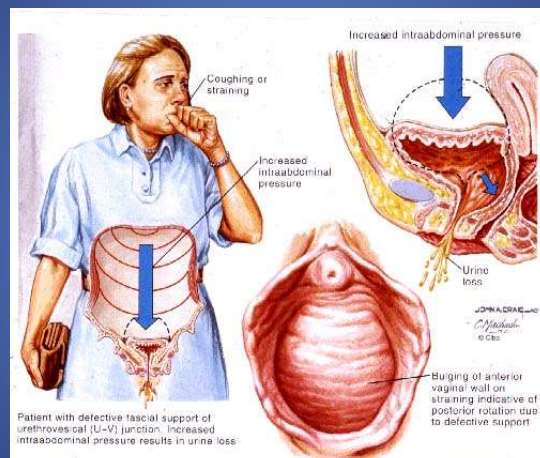
Stress urinary incontinence



Loss of urethral support, so re-create it

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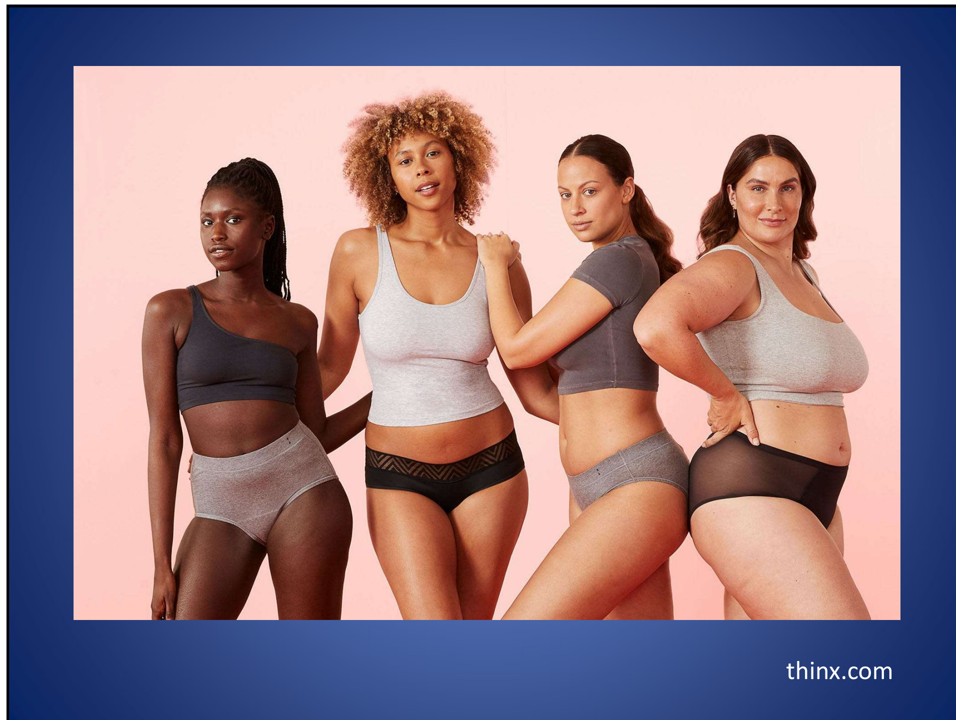

thinx.com

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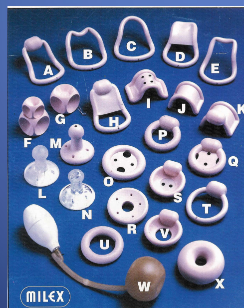
Treatments for stress incontinence

- Pelvic floor muscle physical therapy
- Pessary
- Surgery



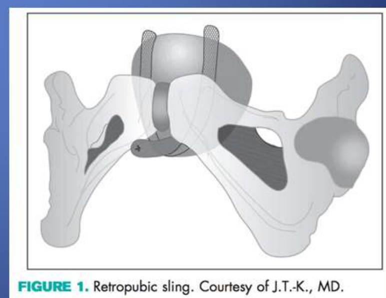


FIGURE 1. Retropubic sling. Courtesy of J.T.-K., MD.

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Pelvic floor PT

www.pelvicrehab.com

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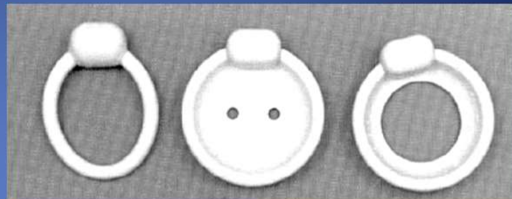
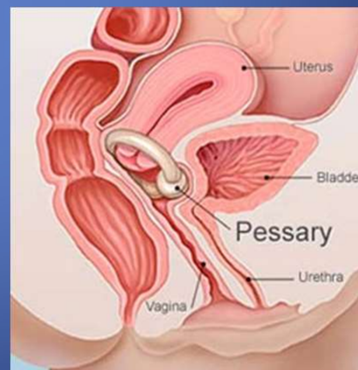
Pessaries

- I recommend a trial for everyone



Complications:
- Vaginal discharge
- Vaginal abrasions



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Poise Impressa

- Over the counter: patient buys a fitting pack then decides if she is size 1, 2, or 3.
- Caution: absorbent, so maximum 8 hours.
- If works for the patient, consider silicone pessary (can leave in longer, less expense long-term)

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Mesh midurethral sling

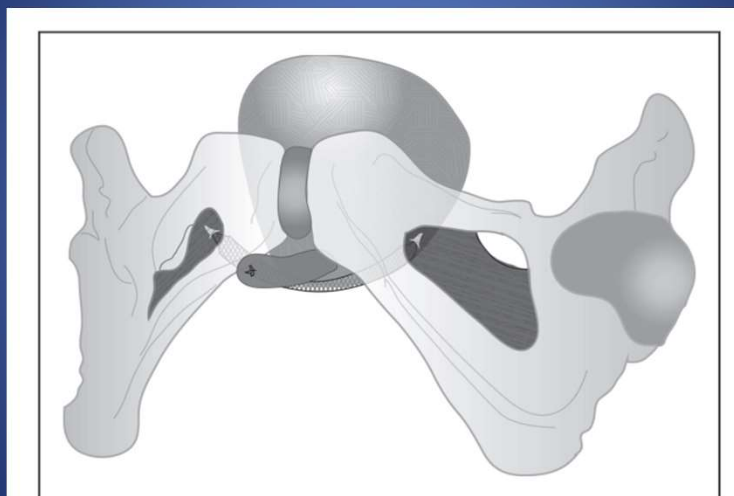

FIGURE 3. Single-incision sling. Courtesy of J.T.-K., MD.

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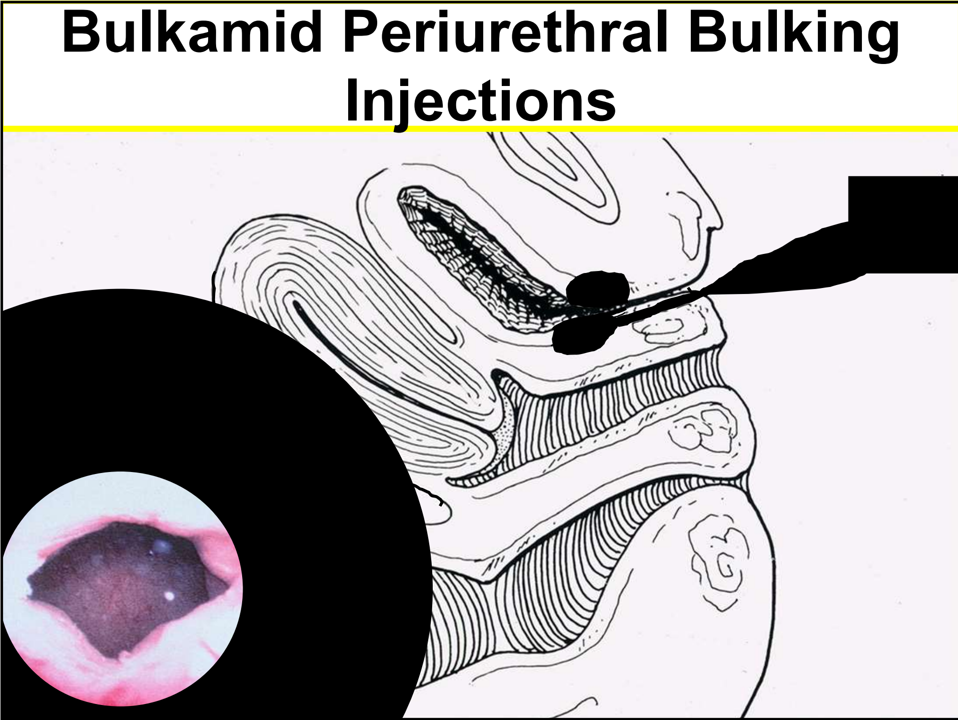
Bulkamid Periurethral Bulking Injections



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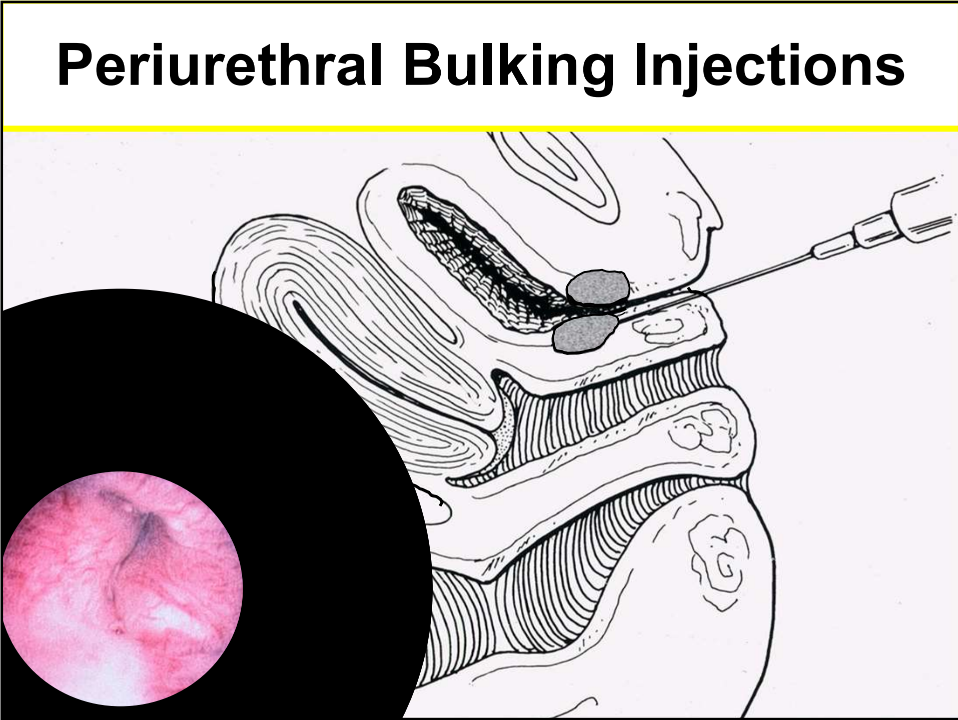
Periurethral Bulking Injections



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Mesh slings vs Bulkamid injections

Randomized Controlled Trial > J Urol. 2020 Feb;203(2):372-378.
doi: 10.1097/JU.0000000000000517. Epub 2019 Sep 3.

Tension-Free Vaginal Tape Surgery versus Polyacrylamide Hydrogel Injection for Primary Stress Urinary Incontinence: A Randomized Clinical Trial

Anna-Maija Itkonen Freitas [1], Maarit Mentula [1], Päivi Rahkola-Soisalo [1], Sari Tulokas [2], Tomi S Mikkola [1 3]

Affiliations + expand
PMID: 31479396 DOI: 10.1097/JU.0000000000000517

224 patients, TVT vs Bulkamid
1y satisfaction (>80 on 100 point scale):
95% TVT, 60% Bulkamid
* 6 reoperations TVT, 0 Bulkamid

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Mesh slings vs Bulkamid injections

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Affiliations + expand
PMID: 31479396 DOI: 10.1097/JU.0000000000000517

Almost no complications from bulking
Most get better
Can always combine them to try for increased continence.

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Urinary incontinence summary

- Vaginal estrogen and PT for urgency urinary incontinence
- PT and pessary (with vaginal estrogen if postmenopausal) for stress urinary incontinence
- Refer right away or after three month trial or if any warning signs

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Pelvic Organ Prolapse

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Pelvic organ prolapse

- Descent of anterior vaginal wall, posterior vaginal wall, uterus, and/or vaginal apex
- Usually not symptomatic until descent to the hymen or beyond

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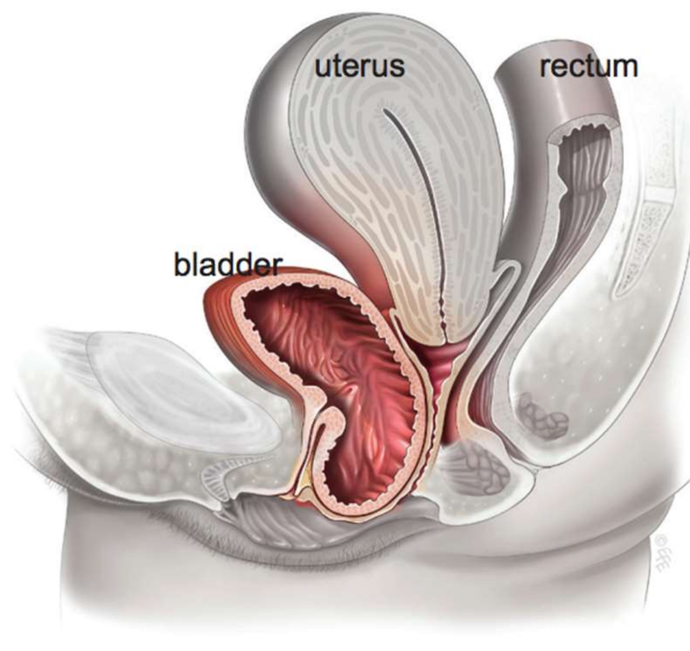

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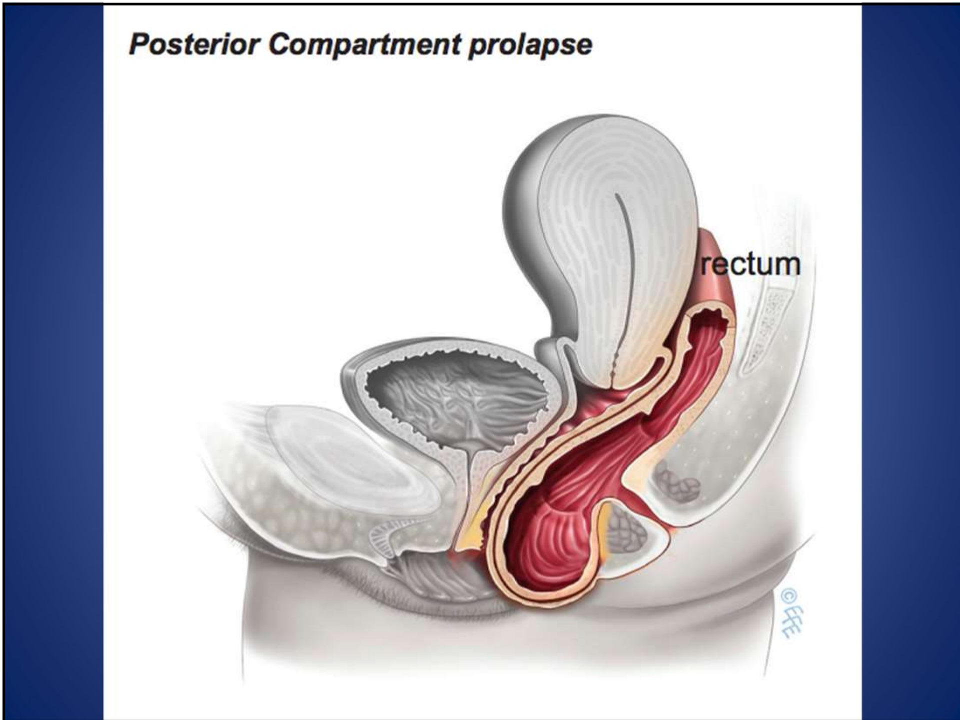

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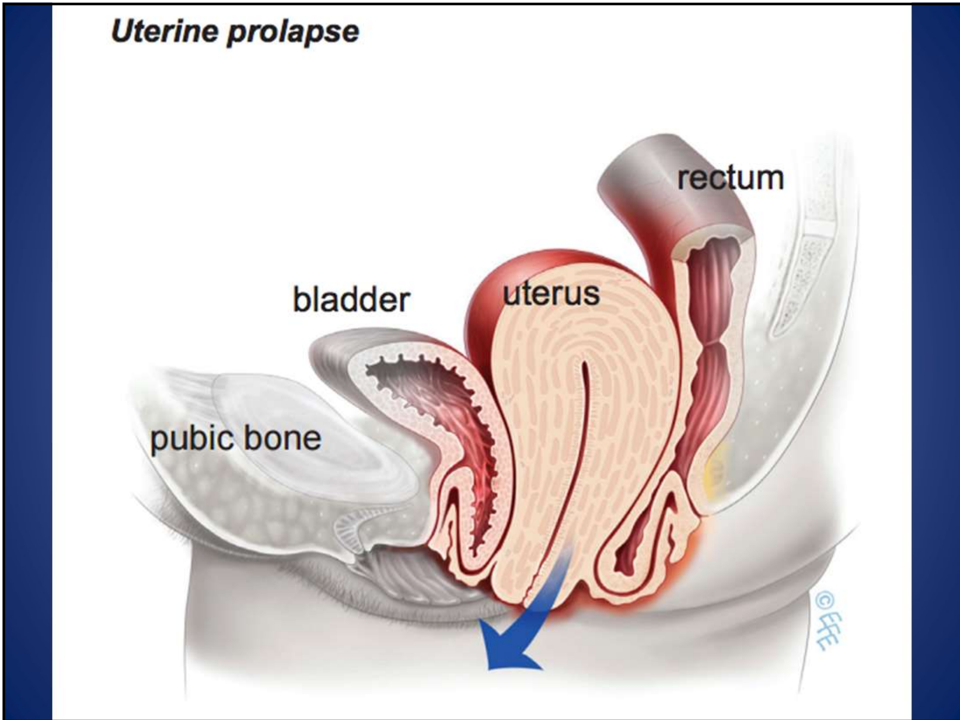

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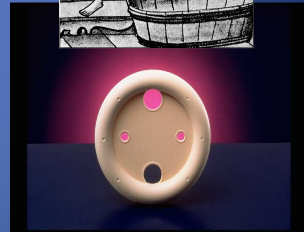
POP Management

- Observation
- Pelvic floor muscle exercises
- Estrogen (for comfort, dryness)
- Pessary
- Surgery
  - 300,000 surgeries/year in US
  - Lifetime risk of surgery for POP: 13%



Funk et al 2003. Int J Urogyn

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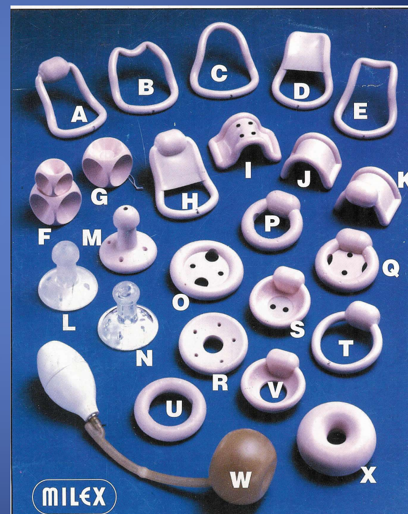
Pessaries

- Tips:
- Make sure someone knows she is using one
- Can manage at home or in clinic
- Vaginal estrogen decreases discomfort and risk of erosions



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Surgeries for Prolapse

- Uterine-sparing or with hysterectomy
- With or without mesh
- Vaginal or robotic
- Maintain sexual function or vaginal obliteration

- No age limit. There are 1 hour, low risk surgeries that do not necessarily require general anesthesia for older, more frail patients for whom pessary use is not a solution.

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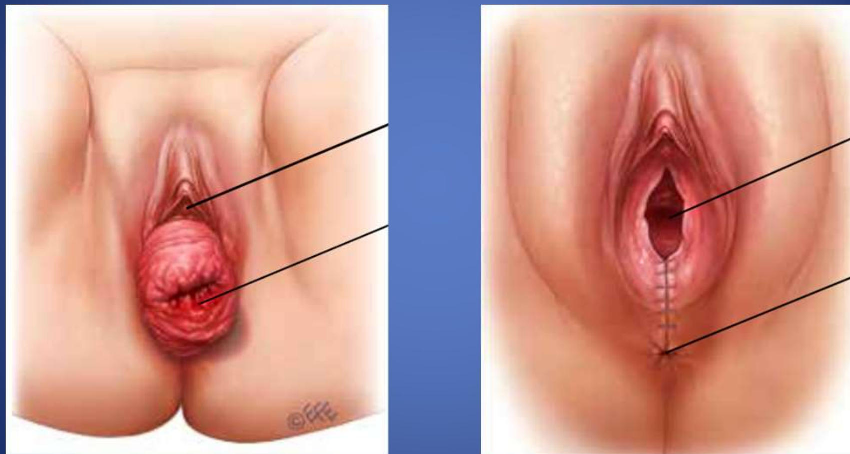
Colpocleisis



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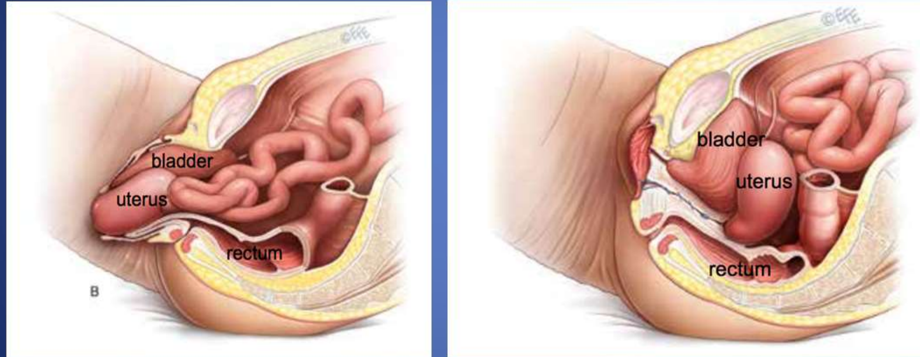
Colpocleisis – vaginal obliteration



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Colpocleisis

- Pros:
- Safest, fastest, most effective
- Recurrence rate less than 5%

- Cons:
- No longer able to have penetrative vaginal intercourse
  - Regret rate as high as 10%
- If leave uterus in place, difficult to sample
  - Preoperative endometrial evaluation
  - Over 80, generally not an issue

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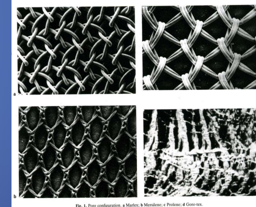
What about mesh?

- Developed because of high prolapse recurrence rates
- Inspired by success with abdominal hernia repairs and mesh midurethral slings
- No more vaginal mesh kits available in the US for prolapse, but they were not recalled
- Refer if your patient has difficulty emptying her bladder, pain, vaginal bleeding, rectal bleeding. Otherwise reassure her.



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Pelvic organ prolapse summary

- Only treat if symptomatic (uncomfortable or urinary obstruction)
- No need for detailed exam but at least look at the perineum while she stands and/or strains
- Pessary (with vaginal estrogen) if asymptomatic
- Minimally invasive surgical options for older women.

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RECURRENT URINARY TRACT INFECTIONS

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Urinary tract infections (UTIs)

- UTI
  - ≥100,000 CFU/ml and symptoms (CDC)
    - >50% of women have at least 1 UTI
    - Annual UTI 3-5% age 20-79, 12% age 80-89
    - 25-50% in women in nursing homes
- Recurrent UTI
  - ≥3 UTIs in one year
  - ≥2 UTIs in 6 months
    - 3-5% of women have recurrent UTIs
- Excellent UTI review Brubaker, FPMRS 2018

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When to treat UTIs

- When positive culture and no symptoms?
  - No. (Only if pregnant or planning a urologic procedure)
- When symptoms and negative culture?
  - No. (What would we be treating?)

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Asymptomatic bacteriuria is common

- Unless she is pregnant or planning a urologic procedure, we don't need to know.

papaswords.com

70

UTI symptoms in older women are common even without UTIs

- Menopause/lack of estrogen
  - Dysuria is a common symptom of the genitourinary syndrome of menopause
  - Acute dysuria is associated with UTIs.
- Overactive bladder
  - Symptoms overlap with UTIs
  - New onset frequency/urgency correlates with UTIs.
  - Worsening of incontinence or other urinary symptoms does not

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Diagnostic challenge in patients with cognitive impairments

- Change in mentation or energy can be associated with UTIs
- Worsening incontinence, odor, appearance not reliably associated with UTIs
- Urine dipsticks are useful to rule out, not in, UTIs.
  - Pretreatment urine culture whenever possible

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Send cultures when symptomatic

- Ideally prior to antibiotics
  - Empiric or self-treatment OK if rare UTI
  - Cultures are particularly important in patients with recurrent UTIs.
  - Can treat empirically while waiting for culture if concern for upper tract infection or severe bother, but delaying while awaiting UA and culture usually safe even in older women.
  - Studies show small delay in treating symptoms of cystitis but no increase in pyelonephritis or systemic illness in patients with bladder symptoms

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Send cultures when symptomatic

- Cultures and sensitivities whenever possible
  - Bacteria might suggest need for additional work-up, particularly in patients with recurrent UTIs
  - Sensitivities guide appropriate antibiotics and avoid unnecessary antibiotics:
    - Good antimicrobial stewardship
    - Decreases likelihood of developing resistance

Webmedia.unmc.edu

74

A 55-year-old woman presents with 3 UTIs in the last year. She had a couple UTIs in her early 20s and has no other past medical or surgical history. Currently asymptomatic. What is your next step?

- A. Renal ultrasound
- B. Urinalysis and urine culture
- C. Vaginal estrogen
- D. Oral estrogen
- E. Postcoital antibiotics

75

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Why is she having rUTIs?

- Menopause.

womenofgrace.com

- Other risk factors:
  - Recent UTI
  - Incomplete bladder emptying
  - Intercourse

77

Prevention

- Things that haven't been shown to decrease UTIs:
  - Douching
  - Pre- and postcoital voiding
  - Voiding frequently
  - Wiping away from the urethra
  - Oral estrogen/HRT

? Unclear if drinking more water helps or hurts or neither

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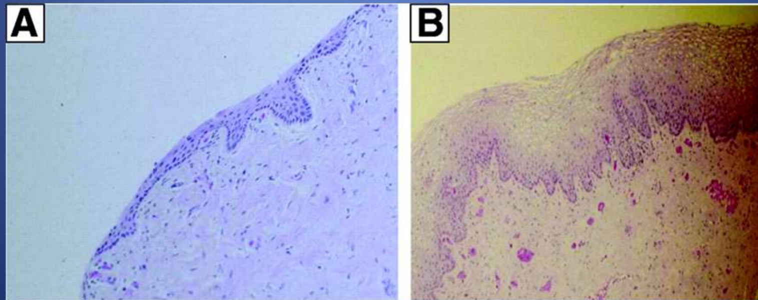
Why is she having rUTIs?

- Menopause.
- Falling estrogen levels -> Changes in vaginal epithelium -> Lactobacilli fail to thrive -> Vaginal pH rises to 7 -> E.coli and other harmful bacteria colonize vagina -> Ascending bladder infections



Atrophic vaginal epithelium theoncologist.alphamedpress.org

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Prevention – vaginal estrogen

- Vaginal estrogen
  - Treat vaginal atrophy

  -> repopulate the vagina with lactobacillis -> reduce colonization of harmful bacteria
- Note: Warn her about the warnings!
  - Same as oral HRT but low systemic absorption, so only small, theoretical risk

articles.philly.com

80

Prevention

- Prophylactic antibiotics
  - Can reduce UTIs up to 95%
  - Allow the bladder to recover from recent UTIs, which reduces the risk of more UTIs
  - Protect her from UTIs while waiting for vaginal estrogen to become effective
  - Treat 3-6 months, then reassess

  - Side effects
  - Antibiotic resistant organisms

healthtap.com

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Continuous antimicrobial prophylaxis regimens for women with recurrent urinary tract infection

Regimens	Expected UTIs per year
Trimethoprim-sulfamethoxazole 40 mg/200 mg once daily	0 to 0.2
Trimethoprim-sulfamethoxazole 40 mg/200 mg thrice wkly	0.1
Trimethoprim 100 mg once daily	0 to 1.5*
Nitrofurantoin 50 mg once daily	0 to 0.6
Nitrofurantoin 100 mg once daily	0 to 0.7
Cefaclor 250 mg once daily	0
Cephalexin 125 mg once daily	0.1
Cephalexin 250 mg once daily	0.2
Norfloxacin 200 mg once daily	0
Ciprofloxacin 125 mg once daily	0

* High recurrence rates observed with trimethoprim associated with trimethoprim-resistance.

UpToDate®

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Prevention

- Methenamine hippurate – some evidence
  -> formaldehyde and ammonia
    - Reduces UTIs 6mo
    - ? Long term
    - Not an antibiotic!
- Probiotics – no strong evidence
  - Nightly x 5 nights then weekly x 10 weeks
  - Vaginal colonization/stability

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Prevention

- Cranberry – I don't recommend it
  - RCT women in nursing homes – no reduction in positive urine cultures
  - Expensive, sugar, acidic.
- D-mannose – limited data

84

A 65-year-old woman presents with 6 UTIs in the last year despite vaginal estrogen, cranberry pills, methenamine, Vitamin C, lactobacillus, trimethoprim. She is worried because she never feels like a UTI, but her doctor tells her she has one almost every time they check. Lab review confirms urine cultures with >100,000 CFU/ml bacteria. PMH: diabetes. PSH: none. What should you do next?

- A. Stop sending urine cultures
- B. Change from trimethoprim to nitrofurantoin
- C. Add nitrofurantoin
- D. Cystoscopy

85

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- C. Add nitrofurantoin
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86

A 65-year-old woman presents with 4 UTIs in the last year despite vaginal estrogen, cranberry pills, and methenamine. Which of the following is the least good prophylactic antibiotic?

- A. Ciprofloxacin 250mg nightly
- B. Nitrofurantoin 50mg nightly
- C. Trimethoprim 100mg nightly
- D. Cephalexin 250mg nightly
- E. Fosfomycin 3g every 10 days
- F. TMP-SMX 40/200 nightly

87

A 65-year-old woman presents with 4 UTIs in the last year despite vaginal estrogen, cranberry pills, and methenamine. Which of the following is the least appopriate prophylactic antibiotic?

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- C. Trimethoprim 100mg nightly
- D. Cephalexin 250mg nightly
- E. Fosfomycin 3g every 10 days
- F. TMP-SMX 40/200 nightly

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Fluoroquinolones

- Save them for more dangerous infections when possible

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Recurrent UTI summary

- Get cultures and delay antibiotics until culture result whenever possible
- Don’t get screening urinary cultures or treat asymptomatic bacteriuria
  - Caveat regarding treating women with cognitive impairment
- Vaginal estrogen (often start with 3-6 month prophylactic antibiotic)

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ACCIDENTAL BOWEL LEAKAGE
FECAL INCONTINENCE

91

Accidental bowel leakage

- Common with aging
- Can be less often but more life-altering than urinary incontinence
- Screen for constipation
- Screen for colon cancer
- Normalize stools first
  - Fiber for most
  - Miralax for constipation
  - Loperamide/Imodium for loose stools

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Surgical treatments

- Anal sphincteroplasty
  - Indicated if clear anal sphincter injury in young women
  - Likely not appropriate for older women even if present on imaging
    - Relatively high complication rate
    - Relatively high failure rate

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Surgical treatments

- Sacral neuromodulation
  - Same as for urgency urinary incontinence
  - FDA approved
  - Effective even in women with anal sphincter injuries.
  - When incontinence is infrequent, difficult to establish >50% efficacy with 1-2 week trial

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Fecal incontinence

- Screen for malignancy for any change in stool
- Treat medically
- Refer for sacral neuromodulation trial

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Phew! That was basically my whole fellowship…

- Take home tips
  - Vaginal estrogen for almost everyone
  - Pelvic floor PT for women with any pelvic floor disorders
  - Don't treat asymptomatic bacteriuria
  - Don't treat UTI symptoms with negative urine cultures
  - Don't hesitate to refer.

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Helpful resources

- https://www.augs.org/patient-fact-sheets/
  - Vaginal estrogen, overactive bladder, stress incontinence, surgical explanations, etc
- Brubaker L, Carberry C, Nardos R, Carter-Brooks C, Lowder JL. American Urogynecologic Society Best-Practice Statement: Recurrent Urinary Tract Infection in Adult Women. Female Pelvic Med Reconstr Surg. 2018 Sep/Oct;24(5):321-335. doi: 10.1097/SPV.0000000000000550. PMID: 29369839.

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THANK YOU!

QUESTIONS?

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