Urogynecology Treatment for "Unspoken" Pelvic Floor Disorders – Incontinence & Prolapse

Patrick Culligan, MD

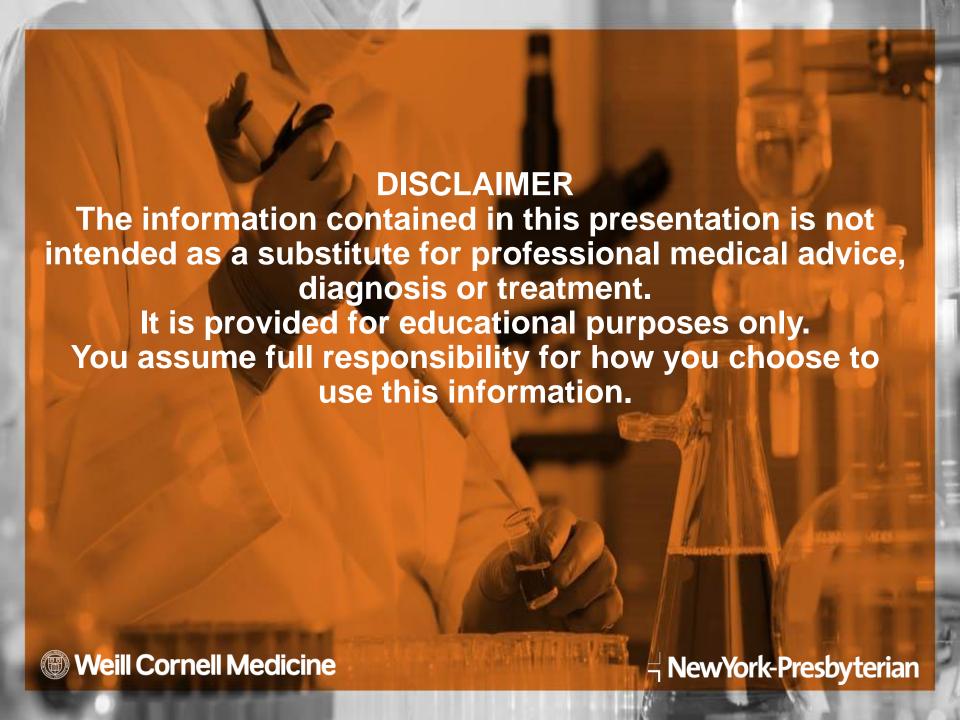
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Pelvic Organ Prolapse

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What is Urogynecology?



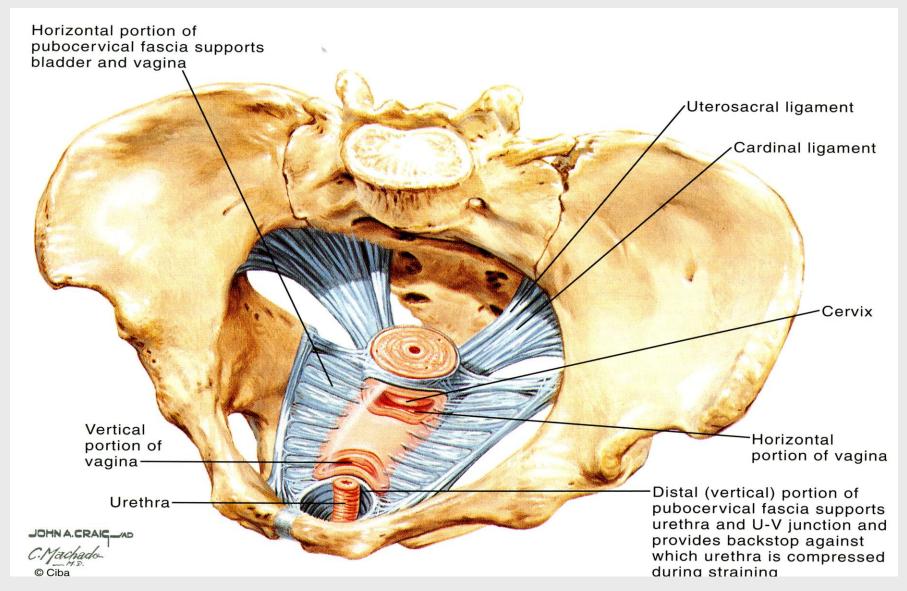
Comprehensive evaluation and treatment for female pelvic floor disorders

- Pelvic organ prolapse
- •Urinary Incontinence, Frequency, Urgency etc...
 - Interstitial Cystitis
 - Fecal Incontinence
 - Constipation
 - Defecation Disorders

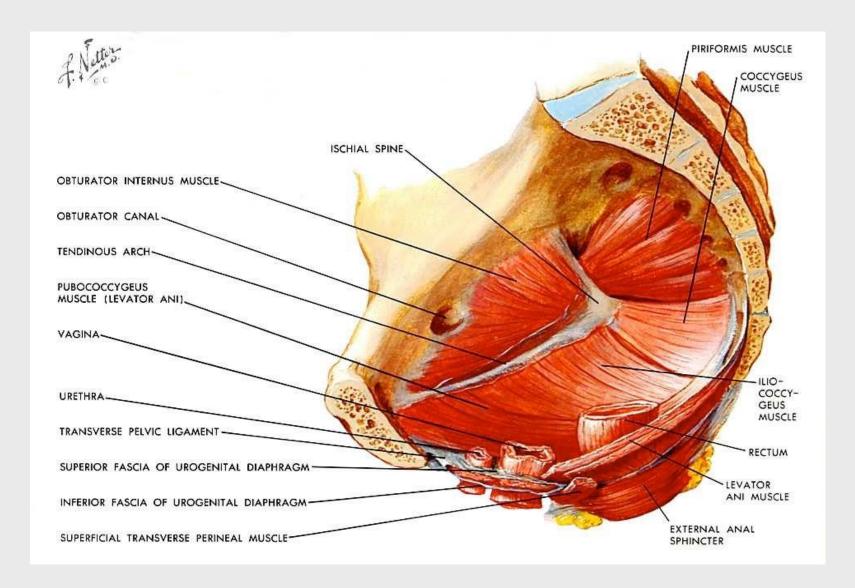


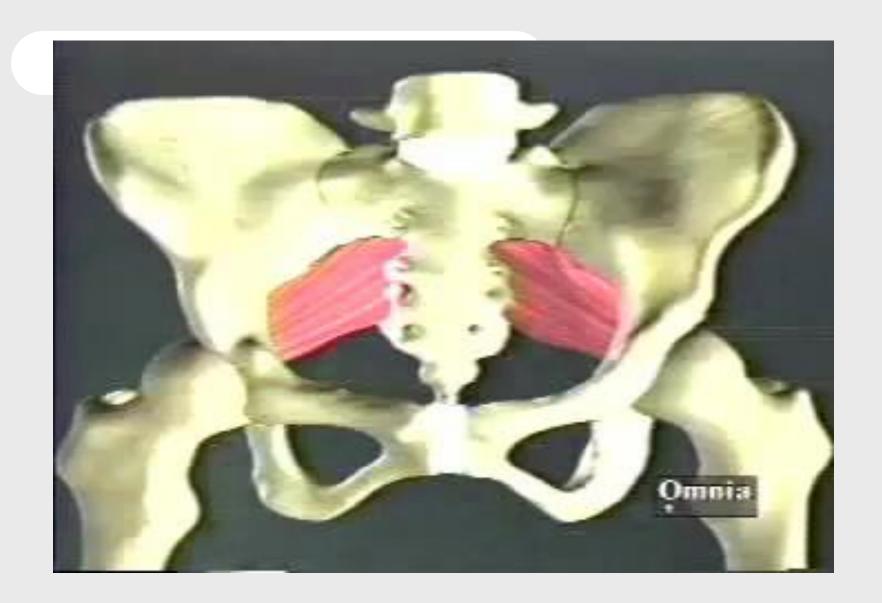


Normal Pelvic Support



Pelvic Floor Muscles





Rating Scale for Kegel Muscle Strength

- o = No Contraction
- 1 = Flicker
- 2 = Weak squeeze with 2-second hold (no obvious lift)

Ischial spine

Sacrospinous lig.

- **3** = Fair squeeze with definite lift
- 4 = Good squeeze and hold
- 5 = Strong squeeze and hold -
 - good lift easily held for 5 10 seconds

BANRID

Ischial

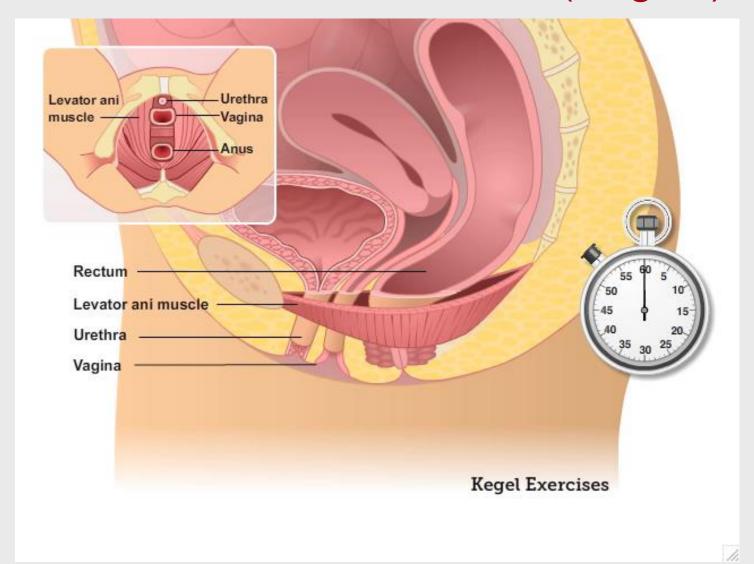
Obturator internus m.

evator plate

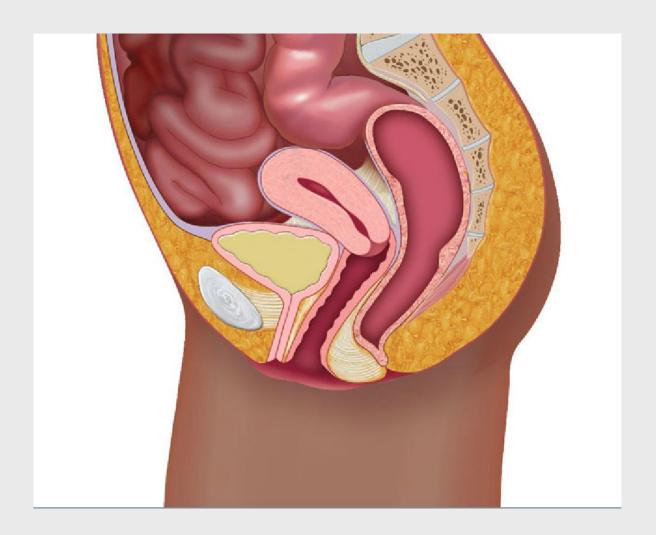
Sacrotuberous lig

tuberosity

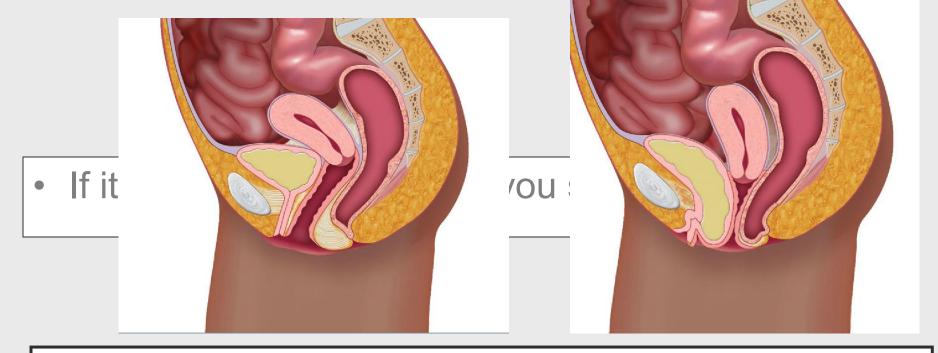
Pelvic floor muscle exercise (Kegels)



Normal Support

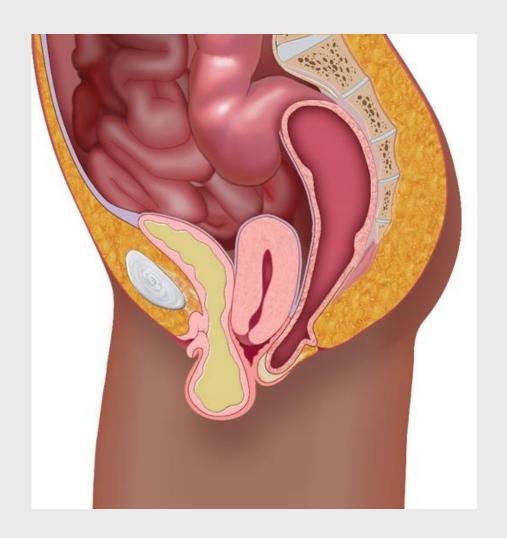


Important rule before treating prolapse.....

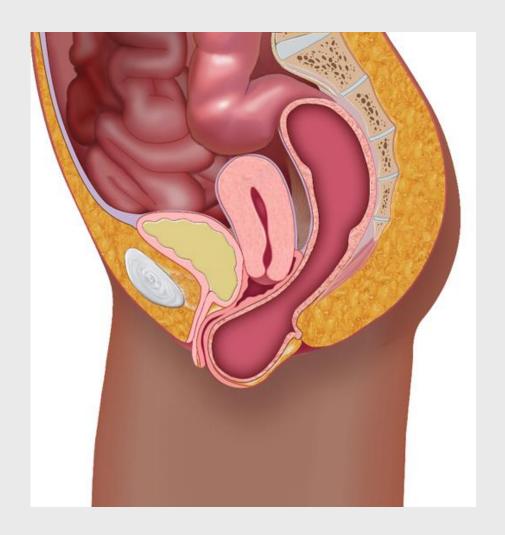


Don't fix it just because it's there

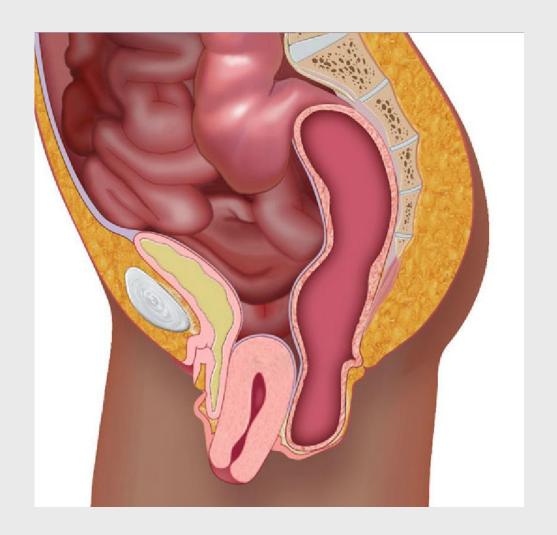
Cystocele



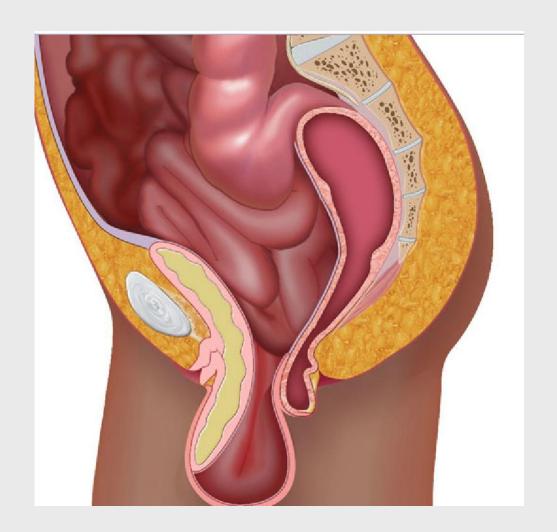
Rectocele



Uterine Prolapse



Enterocele



Symptoms of Prolapse

- Inability to retain a tampon
- Pressure / Bulging sensation (usually described as "heavy")
- Need to "splint" vagina with fingers to urinate or defecate

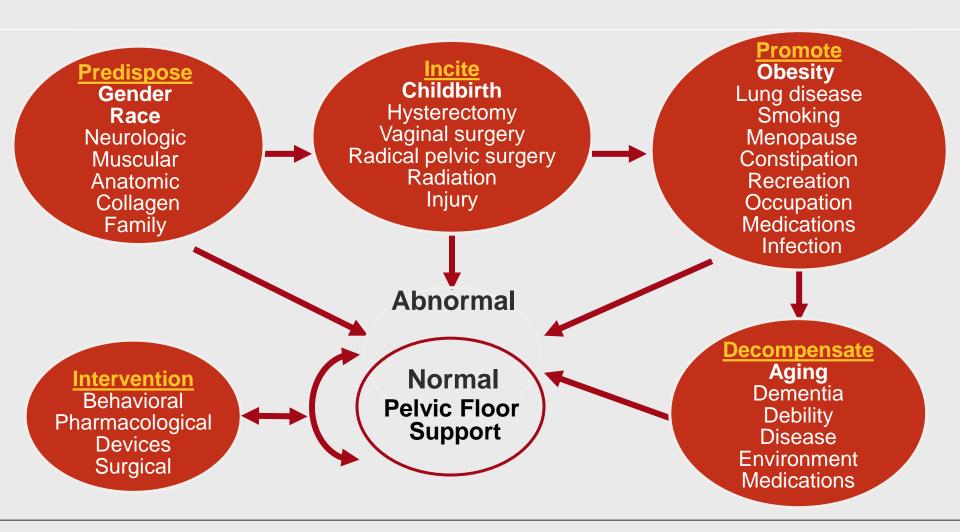
Pressure type

"Pain"



- Dyspareunia
- Back Pain
- Fecal Urgency

Risk Factors for Pelvic Organ Prolapse



Bump RC, Norton PA. Obstet Gynecol Clin North Am. 1998;25(4):723-746.





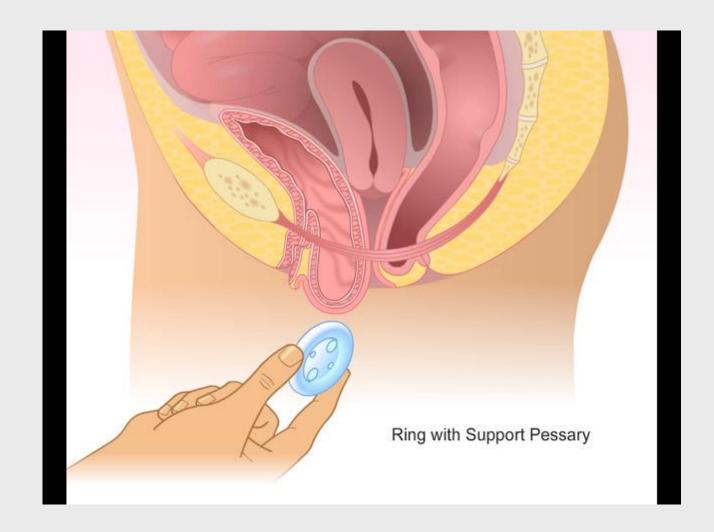
Epidemiology Challenges

- The aging population make the incidence and prevalence of pelvic floor disorders a moving target.
- By 2050, 33% of the U.S. population will be post-menopausal women (currently 23%)
- U.S. Census Data (www.census.gov)

Pelvic Organ Prolapse: Non-Surgical Management **Weill Cornell Medicine** NewYork-Presbyterian

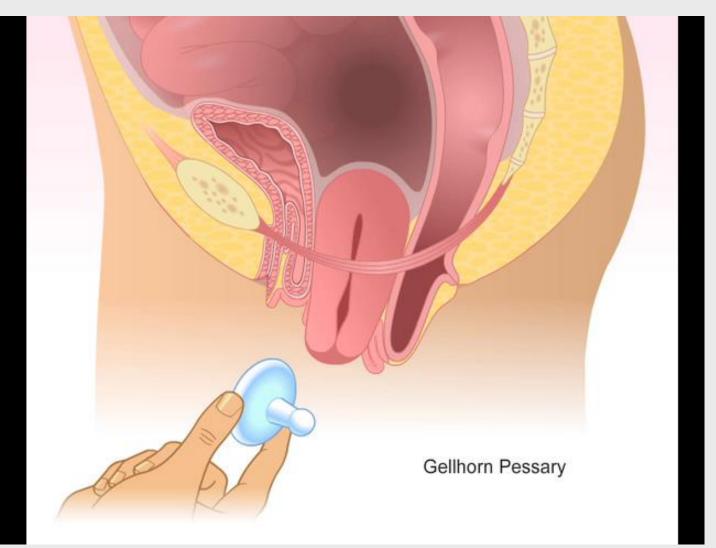
NON-SURGICAL MANAGEMENT

Pessary



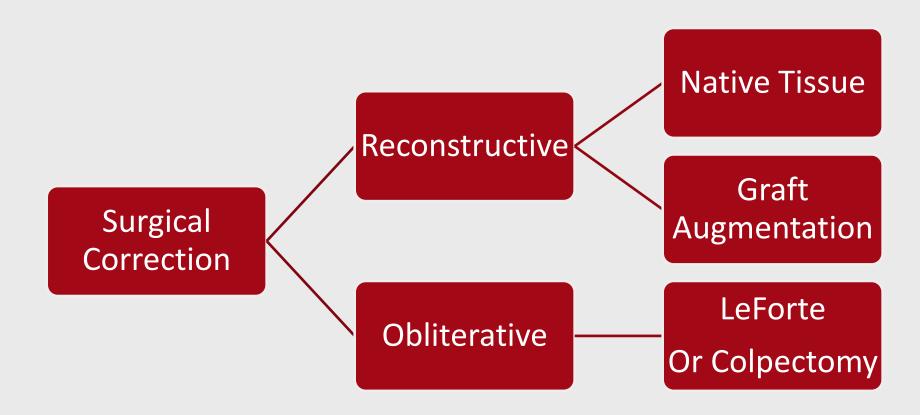
NON-SURGICAL MANAGEMENT

Pessary

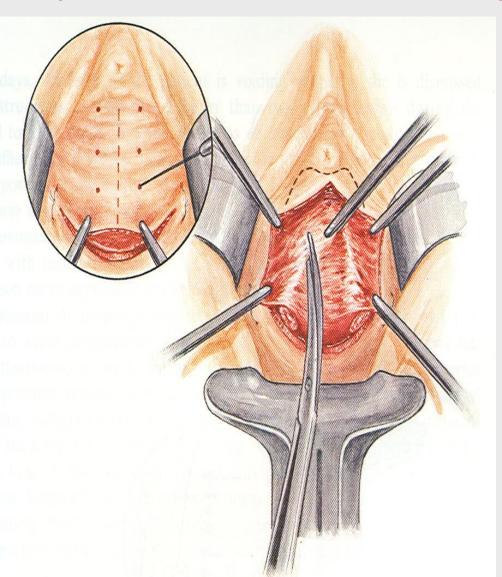


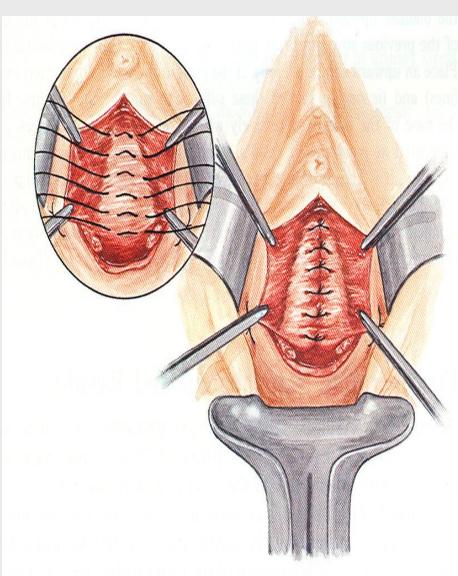


Prolapse Surgery Decision Tree

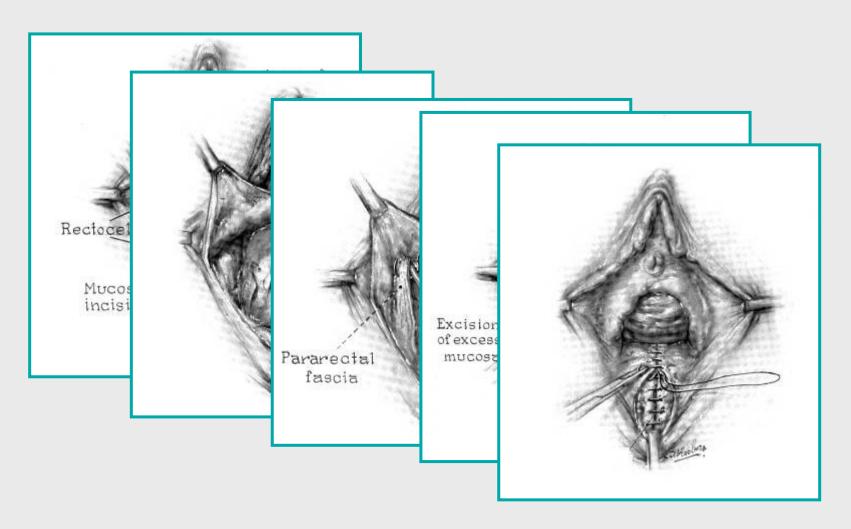


Anterior Colporrhaphy (i.e. "Anterior Repair")

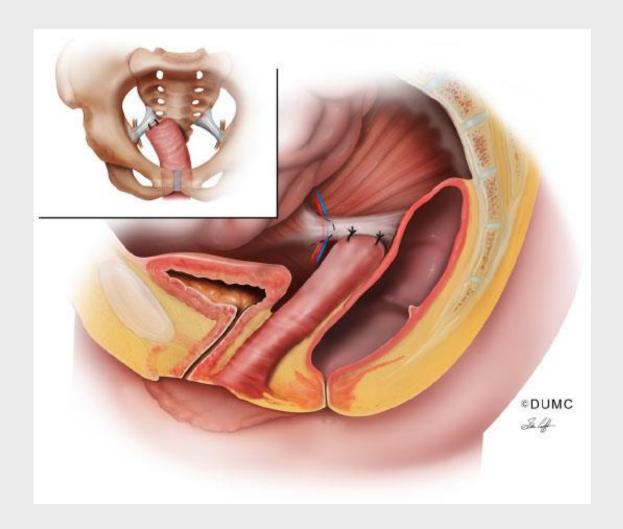




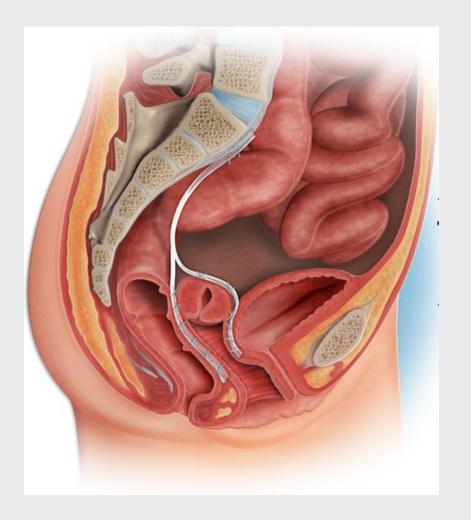
Posterior Colporrhaphy (i.e. "Posterior Repair")

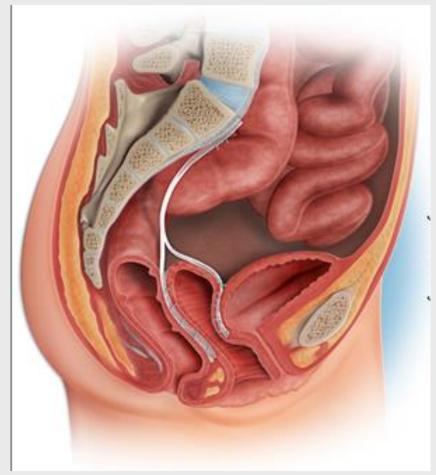


Native Tissue Repair

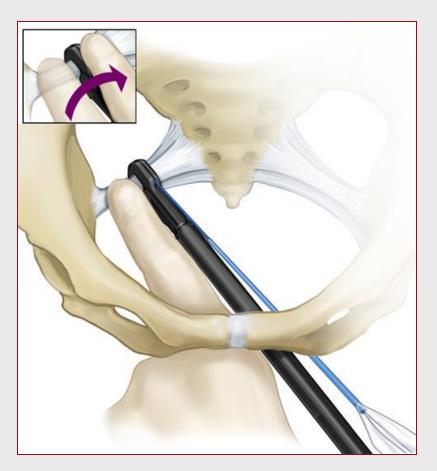


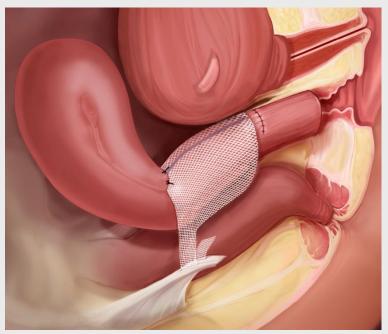
Sacrocolpopexy



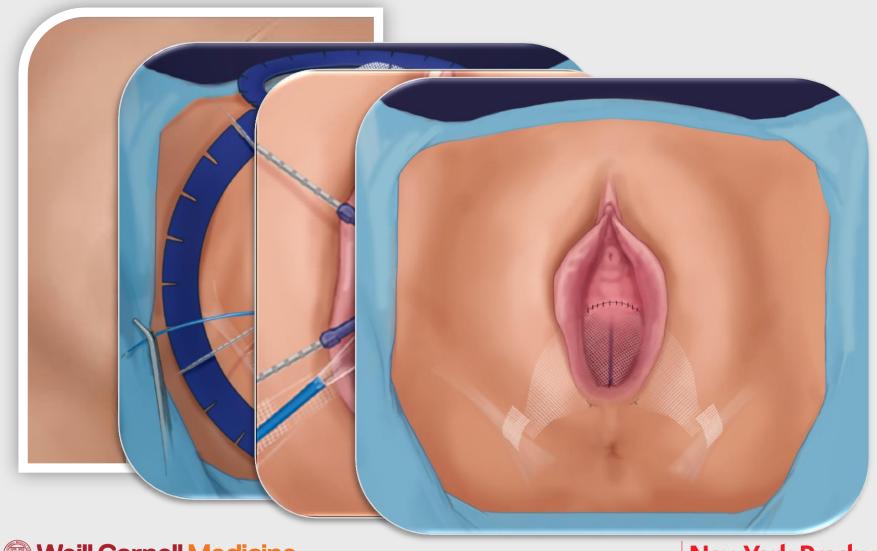


Vaginal Mesh

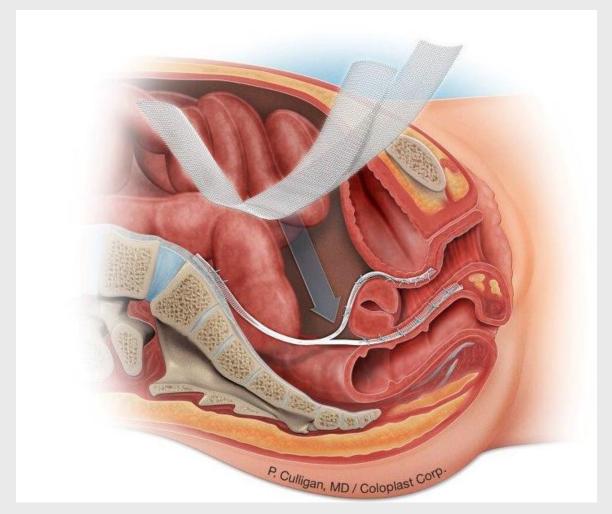




Vaginal Mesh



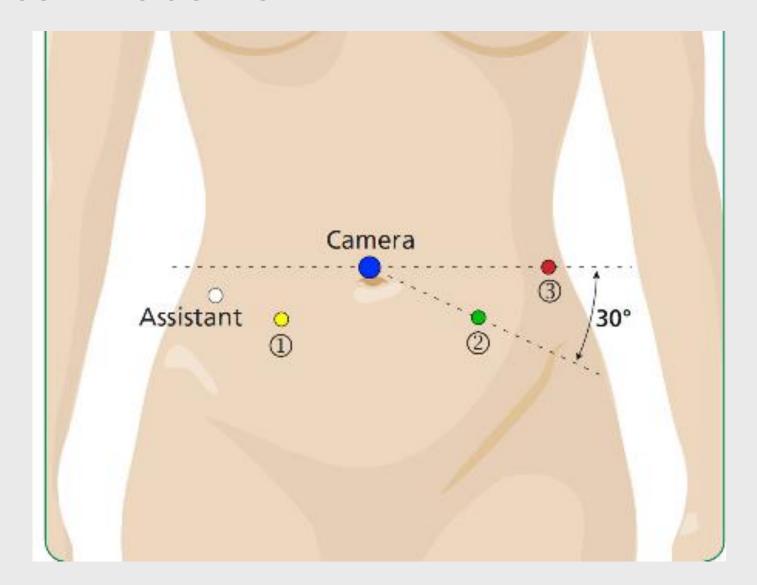
Sacrocolpopexy – NOT "Vaginal Mesh"



The daVinci Robot



Trocar Placement



LeForte Colpocleisis (i.e. Closing the vagina)



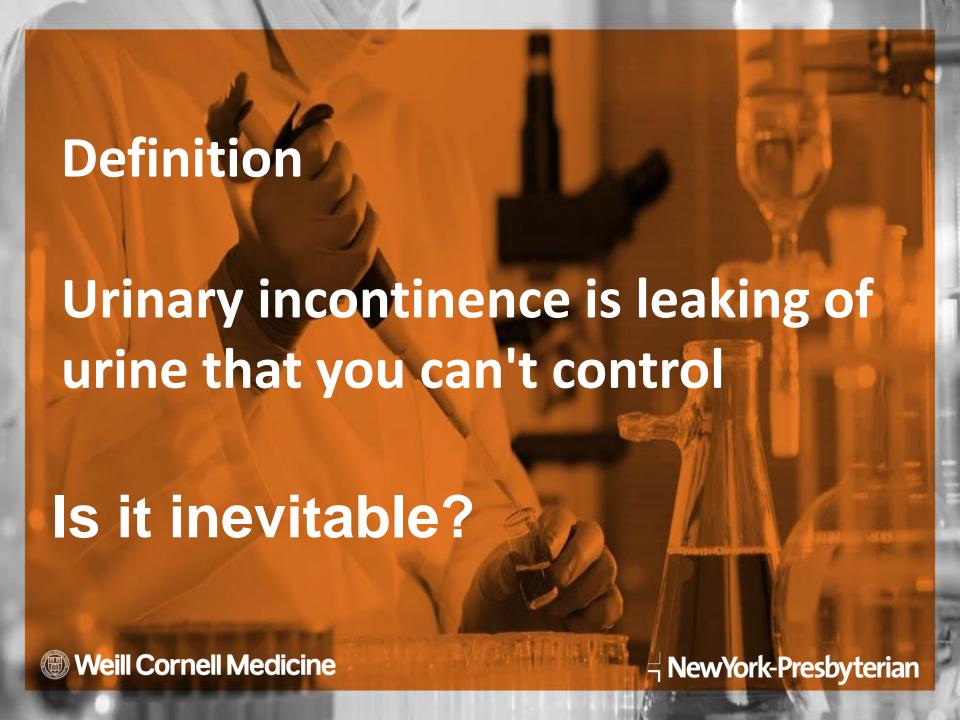
Health and Wellness Seminar on Urogynecology:

Treatment for "Unspoken" Pelvic Floor Disorders, Incontinence and Prolapse

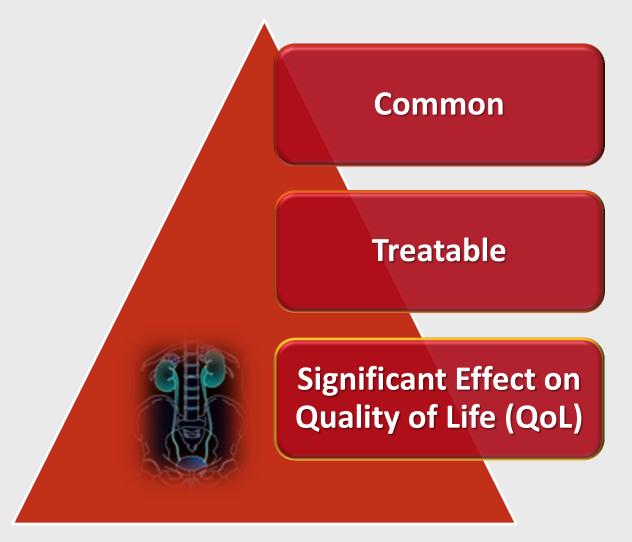
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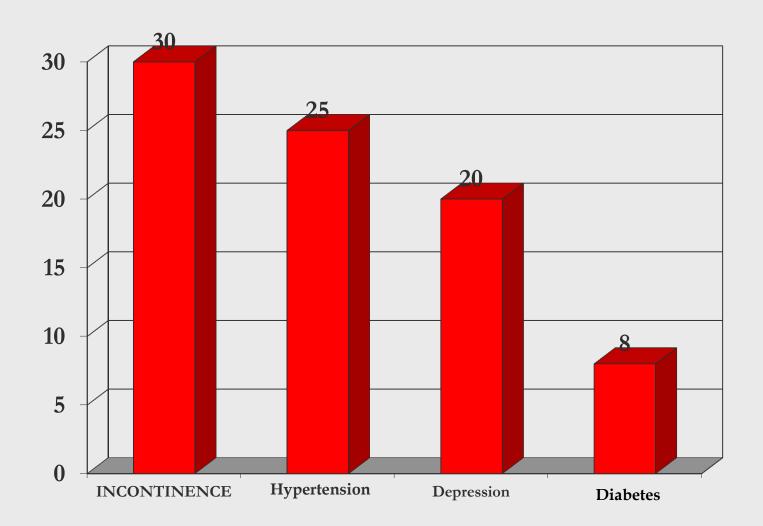




URINARY INCONTINENCE



Prevalence of disease in women



Aging Changes

- Decreased bladder capacity
- Reduced voiding volume
- Reduced flow rates

Increased urine production at night





^{*} Nordling, J Experimental Gerontology, 2002, 37:991

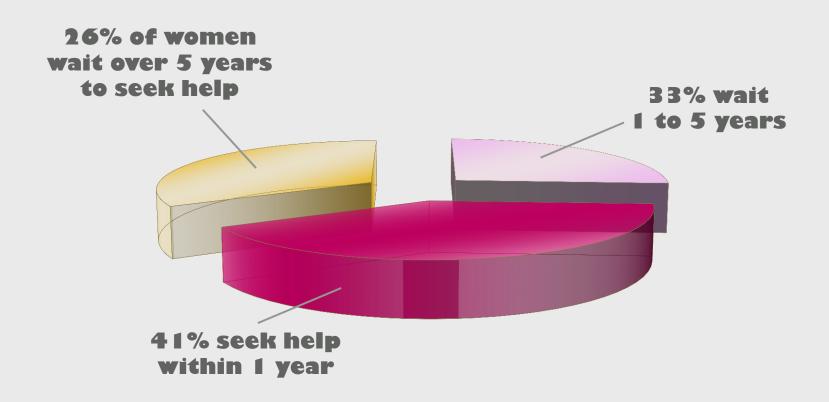
Impact on Quality of Life

- Embarrassment
- Reduced Self esteem
- Impaired emotional & psychological well-being
- Poorer sexual relationship
- Impaired social activities and relationships



Bladder Control

Don't Wait to Talk with Your Doctor

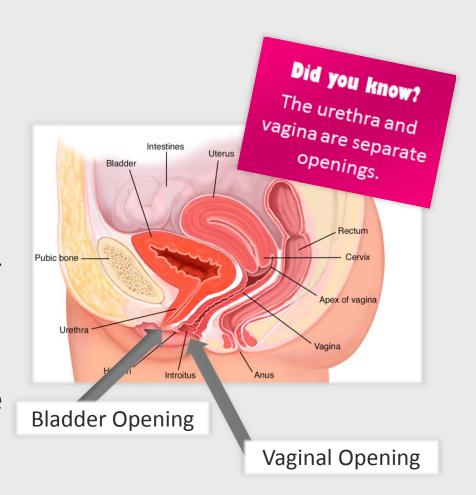


• Norton, P A et al. Distress and Delay Associated With Urinary Incontinence. BMJ, 297(5), November 1988.

Bladder Control

How the Bladder Works

- Your body stores water (urine) in the bladder.
- The bladder connects to a tube called the urethra. Muscles and nerves help control the bladder and urethra.
- When you go, these muscles and nerves signal urine to leave the body through the urethra.



 National Institute of Diabetes and Digestive and Kidney Diseases. Urinary Incontinence in Women, kidney.niddk.nih.gov/KUDiseases/pubs/uiwomen.





Bladder Control Symptoms of Control Problems

- Problems with muscles and nerves that help to hold or release urine:
 - Loss of urine (urinary incontinence).
 - Difficulty emptying your bladder, for example, trouble starting the flow of urine.
- Symptoms vary:
 - Strong, sudden urge just before losing a large amount of urine.
 - Involuntary loss of both small and large amounts of urine with activities such as coughing or straining.
 - Slow or interrupted urine stream or sense of incomplete bladder emptying.

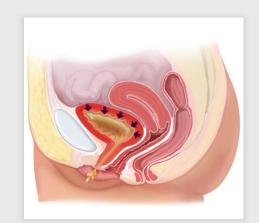


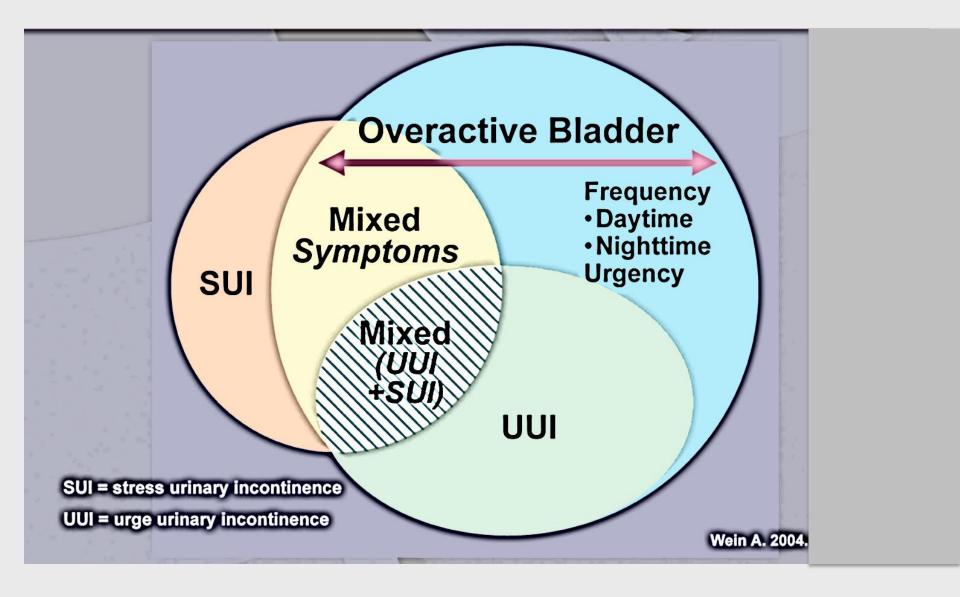
 National Institute of Diabetes and Digestive and Kidney Diseases. Urinary Incontinence in Women, kidney.niddk.nih.gov/KUDiseases/pubs/uiwomen.

Bladder Control Types of Urinary Incontinence

- Stress incontinence:
 - Urine leaks with activities (coughing, sneezing, laughing, lifting, exercising).
- Urge incontinence/overactive bladder (OAB):
 - "Gotta go now" sensation (urgency).
 - "Gotta go now" with leakage (urge incontinence).
 - "Gotta go often" (frequency).
 - Going often during the night (nocturia).
- Other types:
 - Mixed incontinence (stress and urge).
 - Continuous (unpredictable) incontinence.







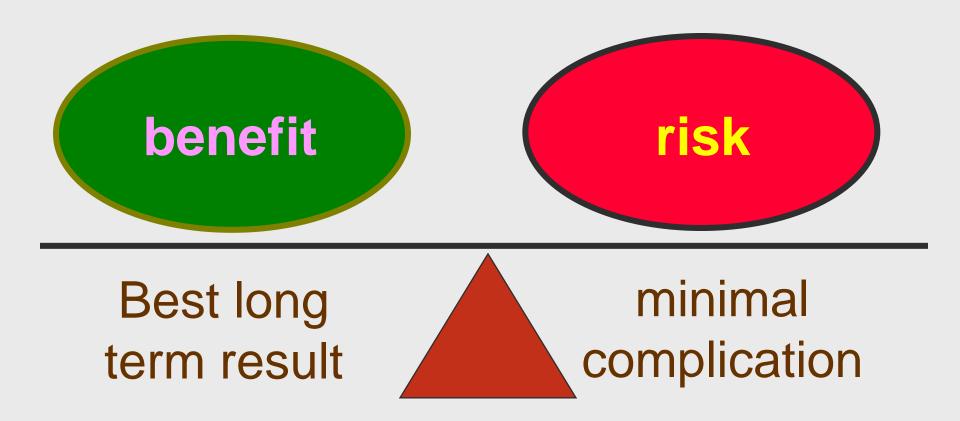
Bladder Control

Treatments—Urinary Incontinence

- Find out what treatment is best for <u>YOU</u>:
 - Ask your doctor about risks, potential complications, and follow-up care.
- Diet and exercise:
 - Lose weight (if overweight).
 - Limit alcohol and caffeine.
 - Keep pelvic muscles healthy and working well.
 - Do pelvic floor exercises (kegels).
- Bladder diary—app or paper:
 - Track how often you go.
 - Try to "schedule" bathroom trips.

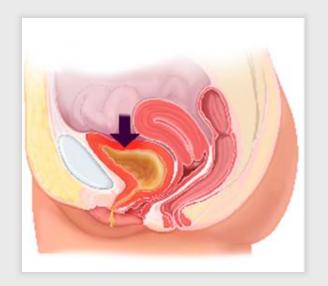


Surgical Treatment



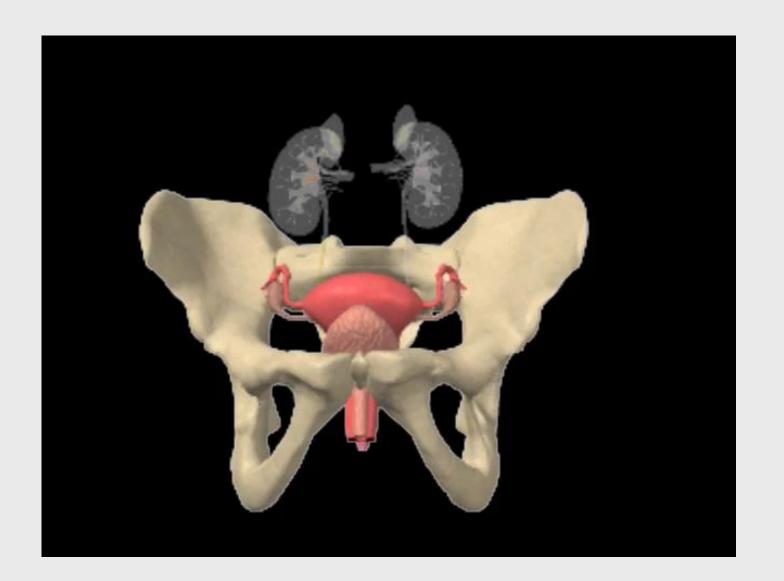
Bladder Control

Treatments—Stress Incontinence



- Bulking therapy:
 - Outpatient or office based procedure.
 - Inject gel like material around the urethra just outside of the bladder.
 - Bulk up the area to close the lumen of the urethra and help block leaking.
 - Lower success rate than surgery.
 - Goal to improve quality of life.
- Surgery:
 - Helps to support urethra and bladder.
 - Aims to stop or reduce urine leakage.
 - Goal to improve quality of life.







U.S. Food and Drug Administration
Protecting and Promoting Your Health

PUBLIC HEALTH NOTICES



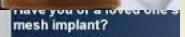


Have you been diagnosed with severe injuries internally & have

FDA ALERT: Recent studies show high faile mto and accoing with the use of Veninal Magh

VAGINAL MESH

LAWSU



Contact Us For A Free Case Eva

SH PATCH LAWSUIT CENTER

ur wife experiencing problems her mesh implant?

OVER 160,000 CLIENTS CAN'T BE WRONG

Transvaginal Mesh Are you the victim of Transvaginal Mesh Implant Failure?

\$3.35 MILLION VERDICT IN VAGINAL MESH LAWSUIT resbyterian

Is mesh safe?

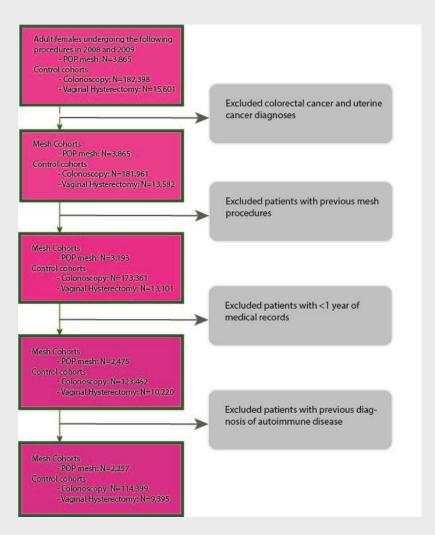


Table 2. Designated autoimmune disease	
Disease	ICD-9 codes
Grave's Disease	242.0, 242.00, 242.01
Hashimoto's Thyroiditis	245.2
Pernicious Anemia	281.0
Autoimmune Hemolytic Anemia	283.0
Autoimmune Thrombocytopenic Purpura	287.31
Amyotrophic Lateral Sclerosis	335.20
Multiple Sclerosis	340
Guillain-Barre Syndrome	357.0
Myasthenia Gravis	358.0, 358.00, 358.01
Goodpasture's Syndrome	446.21
Vasculitis	447.6
Celiac Disease	579.0
Pemphigus Vulgaris	694.4
Systemic Lupus Erythematosus	710.0
Systemic Sclerosis	710.1
Sjogren's Syndrome	710.2
Dermatomyositis	710.3
Polymyositis	710.4
Rheumatoid Arthritis	714.x
Ankylosing Spondylitis	720.0
Fibromyalgia	729.1





Table 2. Fol	ow-up of system	ic autoimmune/	inflammatory disea	se	in mesh and con	trol cohorts.	
	Unmatched				Matched		
	Mesh Cohort	Control Cohort	RR (95% CI)		Mesh Cohort	Control Cohort	RR (95% CI)
Cohort	POP mesh	Colonoscopy			POP mesh	Colonoscopy	
N	2257	114399			2215	6645	
SAID	66(2.9%)	3934(3.4%)	0.85(0.67-1.08)		64(2.9%)	204(3.1%)	0.94(2.71-1.24)
Cohort	POP mesh	Vag hyst			POP mesh	Vag hyst	
N	2257	9395			1762	5286	
SAID	66(2.9%)	312(3.3%)	0.88(0.68-1.14)		47(2.7%)	143(2.7%)	0.98 (0.71-1.36)
SAID	66(2.9%)	312(3.3%)	0.88(0.68-1.14)		47(2.7%)	143(2.7%)	0.96 (0.71-1.36)



Cancer Diagnoses

Number	Cancer Type	Prevalence
1	Breast	888,374
2	Colon and rectum	191,620
3	Corpus & Uterus	190,409
4	Thyroid	151,384
5	Melanoma of the skin	135,294
6	Lung and Bronchus	127,939
7	Non-Hodgkin Lymphoma	95,811
8	Ovary	61,283
9	Kidney	60,602
10	Leukemia	52,239



Mesh and Carcinogenosis

	POP mesh	Cholecystectomy	Р	RR
	(N=1699)	(N=5097)	value	(95% CI)
Demographics				
Age	60.2(13.1)	60.2(13.1)	0.97	
(Mean(std))	00.2(13.1)	00.2(13.1)	0.51	
Race/Ethnicity*			1	
White (Non-Hispanic)	1366(80.7%)	4098(80.7%)		
Black (Non-Hispanic)	93(5.5%)	279(5.5%)		
Hispanic	146(8.6%)	438(8.6%)		
Other	88(5.2%)	264(5.2%)		
Insurance	` ,	` ,	1	
Medicare	620(36.5%)	1860(36.5%)		
Medicaid	126(7.4%)	378(7.4%)		
Commercial	912(53.7%)	2736(53.7%)		
Other	41(2.4%)	123(2.4%)		
NY resident	1682(99.0%)	5046(99.0%)	1	
Comorbidities	,	,	0.58	
0	805(47.4%)	2360(46.3%)		
1	544(32.0%)	1629(32.0%)		
2+	350(20.6%)	1108(21.7%)		
Cancer during FU				
1-year	12(0.7%)	87(1.7%)	<0.01	0.41(0.23-0.75)
2-year	31(2.0%)	162(3.2%)	<0.01	0.57(0.39-0.84)
All FU	86(5.1%)	386(7.6%)	≤ 0 .01	0.67(0.53-0.84)
Abbreviations: FU=Follo		` '	0.01	0.07(0.55-0.64)
*Race/ethnicity informat	ion missing in 0	.5% patients.		

Vaginal surgery with implantation of mesh was not associated with the development of cancers

This data refutes claims against mesh as a cause of carcinogenesis

Bladder Control

Treatments—Urge Incontinence/OAB

- Lifestyle changes:
 - Retrain your bladder and learn ways to control when you go.
 - Exercise your pelvic floor muscles and make diet changes.
- Physical Therapy:
 - Biofeedback (pelvic muscle training).
- Medicines:
 - Bladder relaxant medicines.



National Institute of Diabetes and Digestive and Kidney Diseases. Urinary Incontinence in Women, kidney.niddk.nih.gov/KUDiseases/pubs/uiwomen.

[■] Gormley EA, et al. American Urological Association (AUA) Guideline: Diagnosis and Treatment of Overactive Bladder (non-



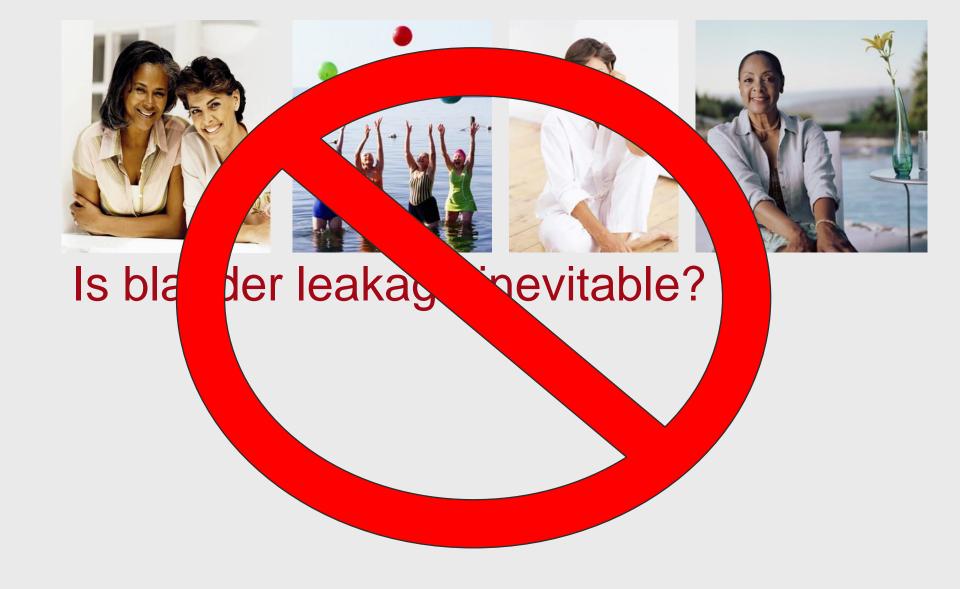
Medications





- Surgeries:
 - BotoxTM Preparation
 bladder injections.
 - Bladder nerve stimulator (electrical stimulator or neuromodulator).
 - Tibial Nerve Stimulation.
- Combination of treatments.





LOWER URINARY TRACT & PELVIC FLOOR SYMPTOMS

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Contents

- Urinary Tract Infection (UTI)
- Recurrent UTI
- Testing for UTI/Recurrent UTI
- Treating UTI/Recurrent UTI
- Is It Really a UTI?



Urinary Tract Infection (UTI)

- THE most common ambulatory bacterial infection in the U.S.
- 8.6 million appointments (vast majority by women – 84%)
- By early 30's, ½ of all women would have had at least one UTI



Urinary Tract Infection (UTI)

Uncomplicated

Acute cystitis (quick onset bladder infection)

Or

 Acute pyelonephritis (quick onset kidney infection)

And

- In the setting of:
 - healthy non-pregnant pre-menopausal woman
 - no prior urological abnormalities

Complicated

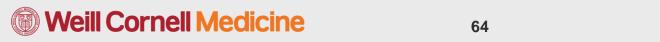
Everyone else

Used to guide:

-Choice and duration of antibiotics

-But we miss:

- -diversity of UTI disorders
- -what about the healthy pre-menopausal woman

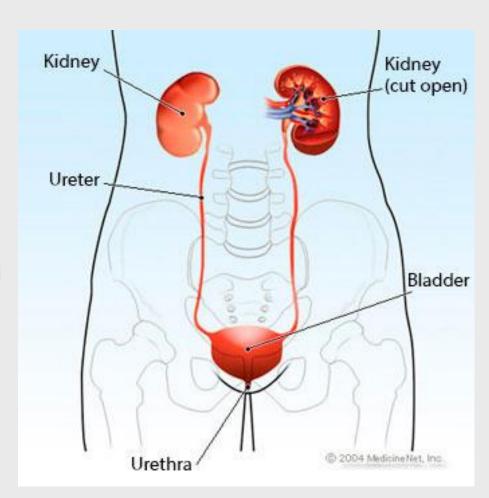




UTIs...Why & How Do They Happen?

- Intricate
- Bacteria from bowel and vagina
- Infection by ascending bacteria into the:

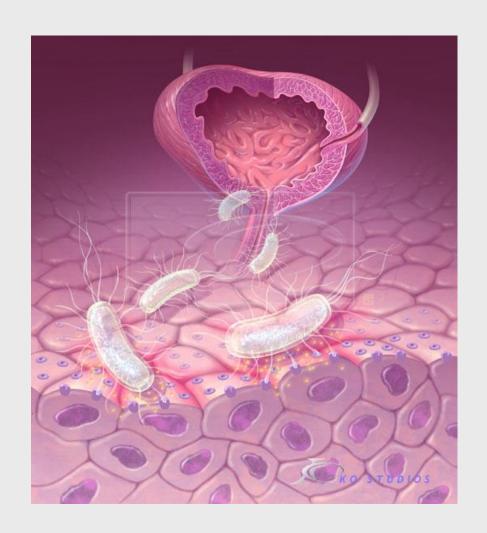
urethra → bladder → sometimes even higher





UTIs...Why & How Do They Happen?

- Escherichia coli (E. coli) is a common bacteria (75-95% of episodes)
- Noxious inflammatory response
- Overcome our natural internal defense systems
- Pathogenesis for an uncomplicated UTI is the same for recurrent UTI





UTI Symptoms

<u>Likely True Symptoms</u>

- Frequency of urination
- Urgency of urination
- Dysuria or burning during urination
- Cannot empty bladder completely/passing small amounts of urine
- Pain or pressure in lower abdomen/pelvis
- Low back pain
- Blood in urine
- Even malodorous urine

Likely Not Symptoms

- Sore hands
- Sore feet
- Headache

Controversial in <65

& healthy

- Generalized fatigue
- Generalized malaise
- Generalized weakness

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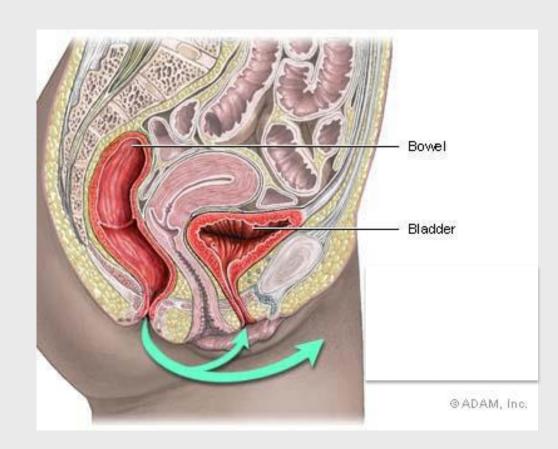
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Recurrent UTI (Definition)

- ≥ 2 infections in 6 months or ≥ 3 infections in one year
- Reinfection
 - If an infection appears after two weeks of a prior infection, even if the organism is the same
- Relapse
 - Occurs if an infection re-appears within two weeks or less
- Most recurrences are re-infection, rarely relapse

Recurrent UTI

- Majority of recurrences in healthy women (~ 67%) comprise the same bacteria
- Healthy young women:
 - 25% recurrence within 6 months of 1st episode
 - Recurrence rate increases with > 1 previous episode



Recurrent UTI

Risk Factors

- Sexual intercourse
- Spermicides in younger women
- New sexual partner
- Women have short urethra's
- Prior UTI
- UTI in 1st degree relative
- Persistant bladder focus (i.e. stone)
- Pelvic anatomy perineal body, cystocele
- PVR
- Incontinence
- ABH blood group non secretor

Reasons

- Uropathogenic bacteria can stay in the bowel for years even when eradicated from the bladder
- Risk of infection increases with recent antibiotic use
- Biofilm in the bladder
- Changed barrier (atrophy), post-menopausal status, lack of estrogen



Contents

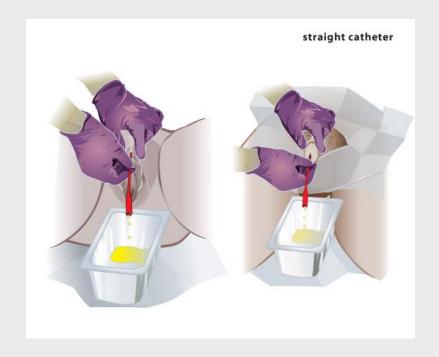
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Testing for UTI/Recurrent UTI

- Voided urine specimen
- Urinalysis

- transurethral catheter urine specimen
- Urine culture





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- Treating UTI/Recurrent UTI
- Is It Really a UTI?

Treating UTI/Recurrent UTI

- Empiric antibiotics
- Wait for culture (especially in the setting of recurrent UTI)



- Treatment is becoming more intricate
 - increase in multidrug resistant bacterial strains
 - C-diff (flora concerns)
 "ecologic adverse effects"
 - multiple drug allergies
 - side effects of antibiotics

Treating UTI/Recurrent UTI...Colistin

Proactive Efforts by U.S. Federal Agencies Enable Early Detection of New Antibiotic Resistance

May 26, 2016 By: U.S. Department of Health and Human Services (HHS)

- Pennsylvanian woman with a dreaded multidrug resistant *Escherichia coli* (mcr-1 *E.coli*, resistant even to the last resort antibiotic Colistin (typically only used when all other drugs fail) found in her lower urinary tract system
- This is the first time in the U.S. that an infectious bacterium has been discovered to be Colistin resistant, essentially, no cure or form of treatment

Treating UTI/Recurrent UTI

Antibiotic stewardship is KEY



Treating Recurring UTI

- Reassess symptoms
- Definitely obtain a urine culture
- Await urine culture results

Pyridium
Azo, Uristat
Flush with fluids

Consider broader spectrum antibiotics

Treating Recurring UTI...Behavior?

Behavior Modifications

- Abstinence?
- Reduce sexual intercourse frequency?
- Urinate before and after intercourse
- Push Fluids
- Wipe front to back
- Loose underwear
- No douching

Unfortunately no good evidence for any of these suggestions





Treating Recurring UTI... Non-antimicrobial alternatives?

Non-antimicrobials

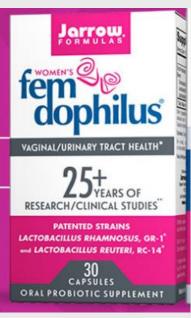
- Cranberry
- Vaginal estrogen
- D-mannose
- Methenamine & vitamin C
- Vaccines



Non-antimicrobials

- Oral immunostimulants (heat killed E.coli)
- E.coli (avirulent) bladder instillation
- Florastor
- Femdophilus







Treating Recurring UTI... Vaginal (Topical) Estrogen



Treating Recurring UTI... Vaginal (Topical) Estrogen

- Evidence it works to prevent UTI
- Takes about 6 weeks to start working
- Can be used in patients with a history of prior hormone receptor positive Br Ca

Cranberry

The Cure for UTIs? It's Not Cranberries

By JAN HOFFMAN OCT. 27, 2016



Treating Recurring UTI

- Daily antimicrobial prophylaxis for true recurrent UTI
 - When non antibiotic treatments have failed
- Post-coital prophylaxis
- Self-treatment (intermittent)
- Sometimes we wait an watch and do not treat
 - Urinary microbiome

Hooten NEJM 2012



Treating Recurring UTI...GOAL

 Sustain an suitable standard of living and quality of life, but also reduce exposure to antibiotics



Hooten NEJM 2012

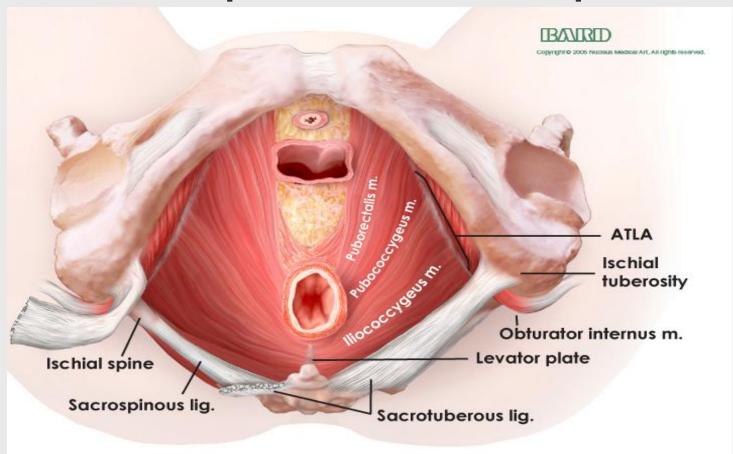


Contents

- Urinary Tract Infection (UTI)
- Recurrent UTI
- Testing for UTI/Recurrent UTI
- Treating UTI/Recurrent UTI
- Is It Really a UTI?

Is It Really a UTI?

- Let's not forget the pelvic floor
- Consider pelvic floor muscle pain



Is It Really a UTI?

- Lower abdomen pain
- Lower back pain
- Pelvic & bladder pain
 - Burning
 - Sharp
 - Pressure
 - Ache
- Feeling of recurrent UTI
- Urgency and Frequency Syndrome

- External physical therapy
- Internal vaginal pelvic floor physical therapy
- Vaginal medications
- Nerve medications
- Acupuncture
- Low dose antidepressant
- Exercise
- Yoga
- Weight loss
- Abdominal support
- Women's health psychologist

Is It Really a UTI?

Women's health Psychology & Pelvic Therapy

- Cognitive behavioral therapy
- Desensitization
- Relaxation before strengthening...more than Kegel's







- American Urogynecologic Society
 - http://www.augs.org/page/pop-q



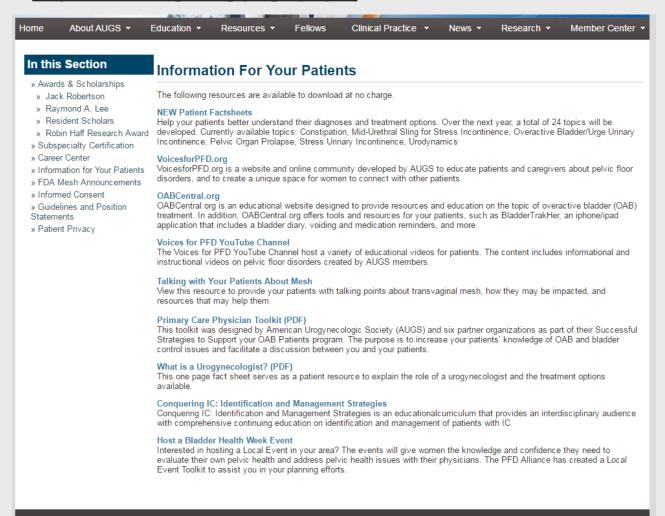


- American Urogynecologic Society
 - http://www.augs.org/page/pop-q





- American Urogynecologic Society
 - http://www.augs.org/page/pop-q



- International Urogynecologic Association
 - http://www.iuga.org/?patientinfo

