



# PELVIC FLOOR DISORDERS IN FEMALE CANCER SURVIVORS

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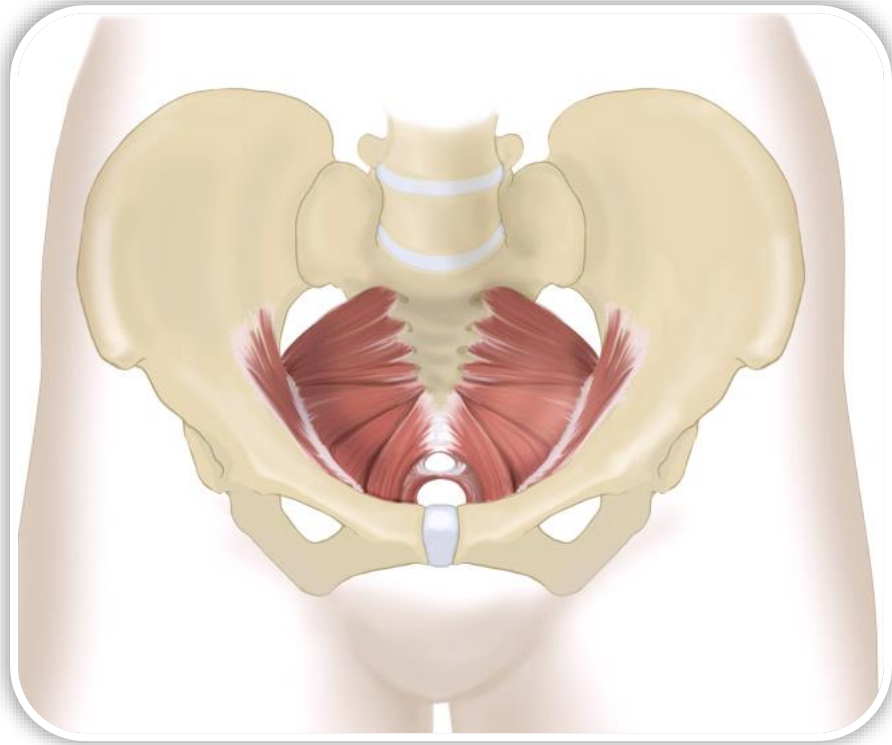
# Disclosures

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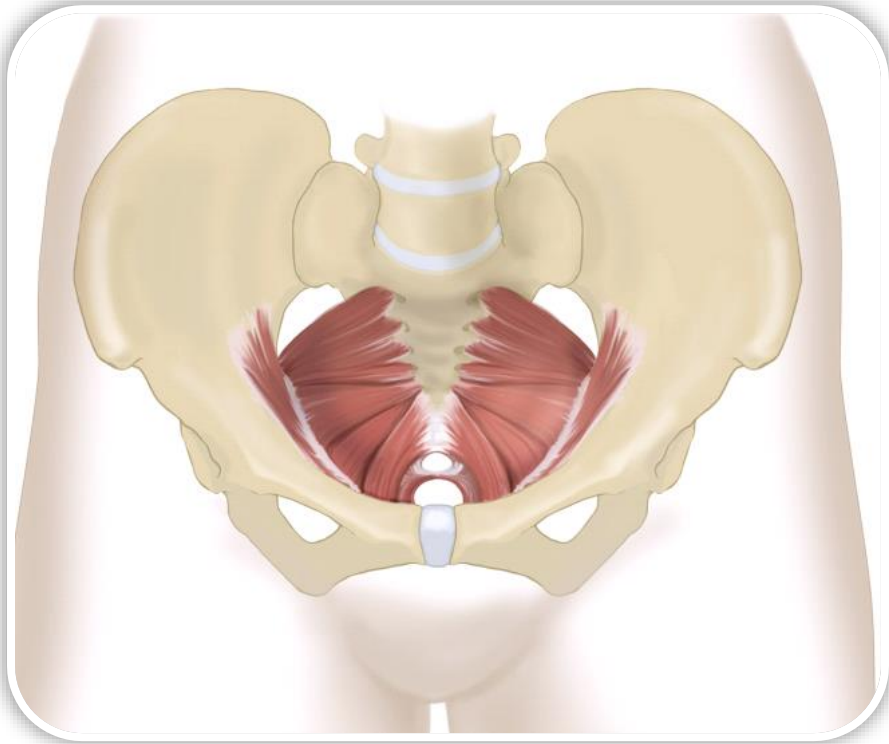
- I have nothing to disclose.

# Pelvic Floor Disorders



- Urinary, fecal and flatal incontinence
- Pelvic organ prolapse
- Fistula
- Pelvic pain disorders

# Pelvic Floor Disorders



- Urinary, fecal and flatal incontinence
- Pelvic organ prolapse
- Fistula
- Pelvic pain disorders
  - Vulvovaginal symptoms
  - Vaginal stenosis

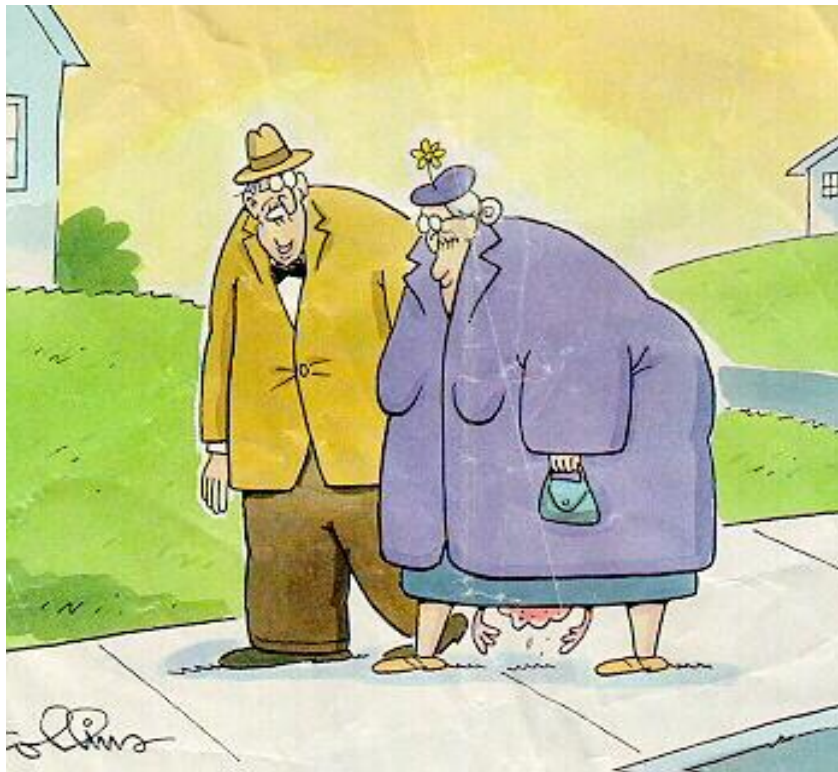
# 1 in 2-3 women



- One in two to three women will experience a pelvic floor disorder in her lifetime

# Pelvic Organ Prolapse

“Agnes...Your uterus is showing again”



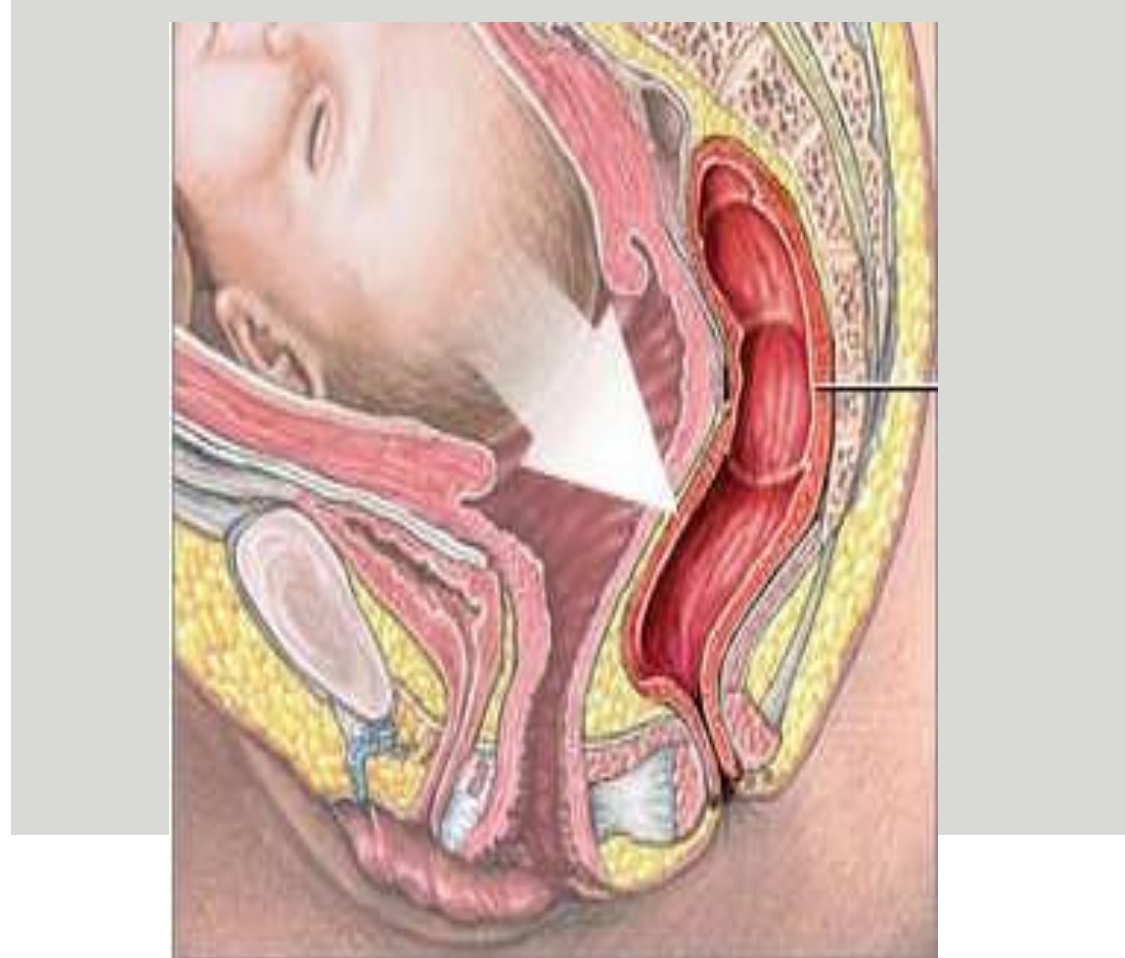
**11%** lifetime risk of prolapse surgery in the U.S. by age 80

- Increases with advancing age
- Risks:
  - older
  - postmenopausal
  - parous
  - overweight
  - tobacco abuse
  - chronic lung disease
  - pelvic surgery

# Etiology

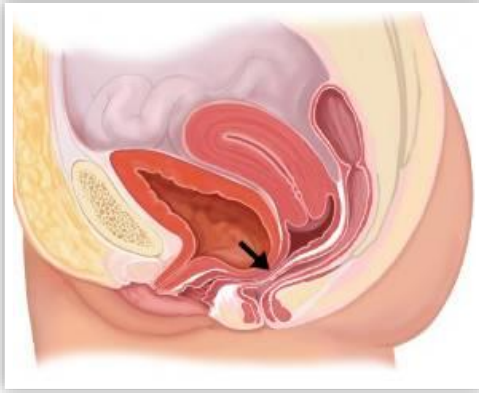
- Distension overstretching of the vaginal wall
- Displacement-elongation or detachment of lateral vaginal wall attachment to the levator ani muscles

*Nichols DH, Randall CL. Vaginal Surgery, 4th Edition, 1996*





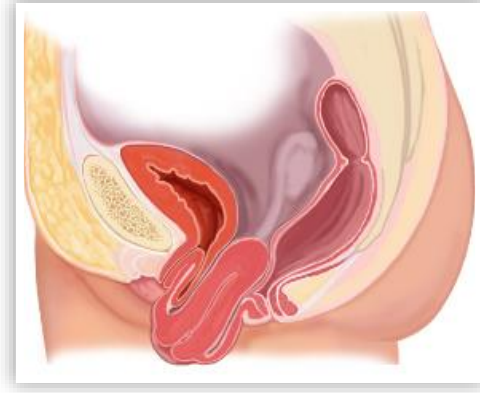
# Pelvic Organ Prolapse – Different Types



Cystocele  
34.3%<sup>2</sup>



Rectocele  
18.6%<sup>2</sup>



Apical Prolapse  
14.2%<sup>2</sup>



## Symptoms

- May or may not correlate with stage of prolapse



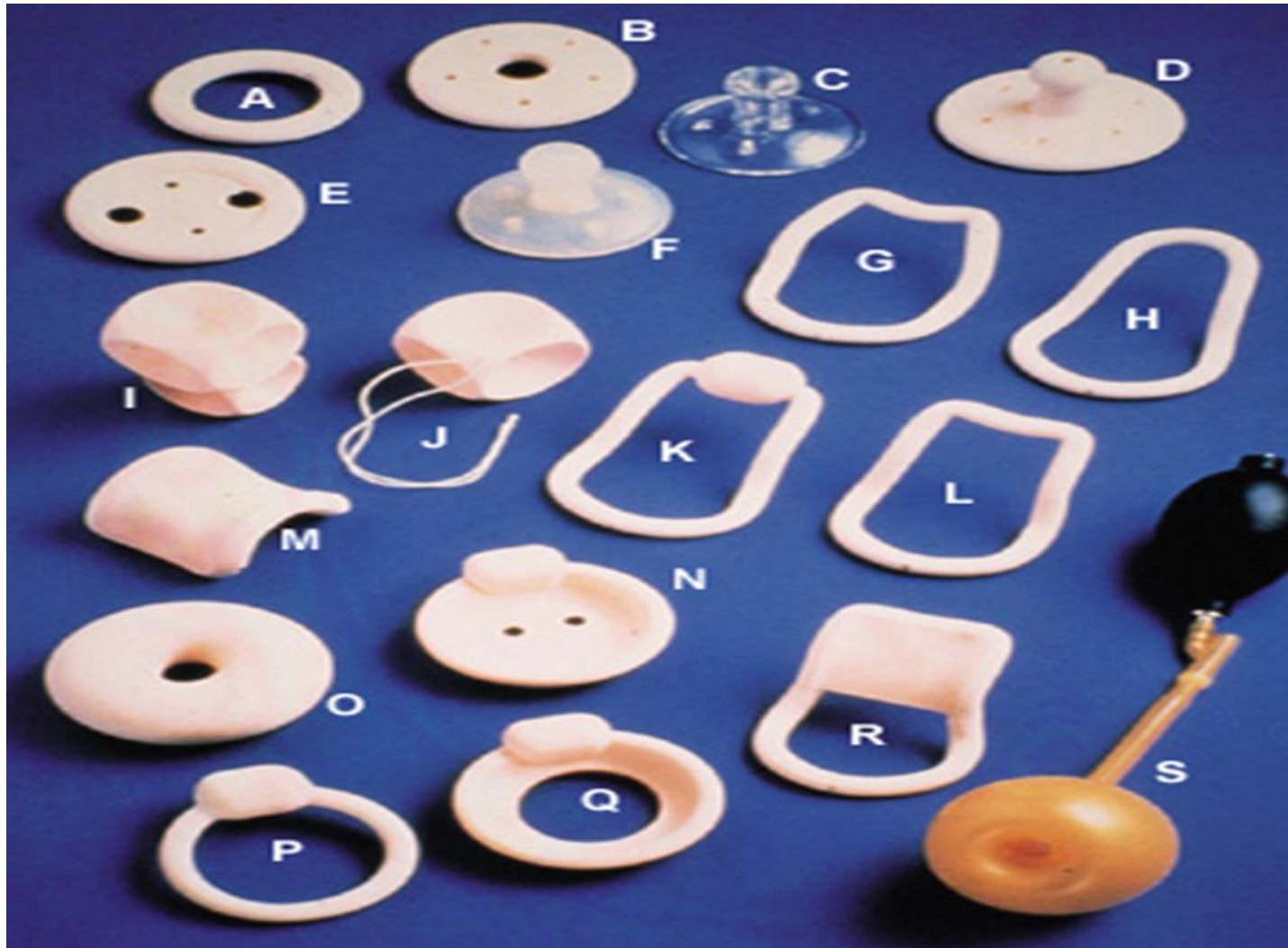
# Treatment Options

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- **Expectant management**
- **Conservative management**
  - Pelvic floor muscle exercises/pelvic floor physical therapy
  - Losing weight
  - Pessary (a device designed to lift the bladder, rectum and/or uterus)
- **Surgery**

# Pessary







# Goals of Prolapse Surgery

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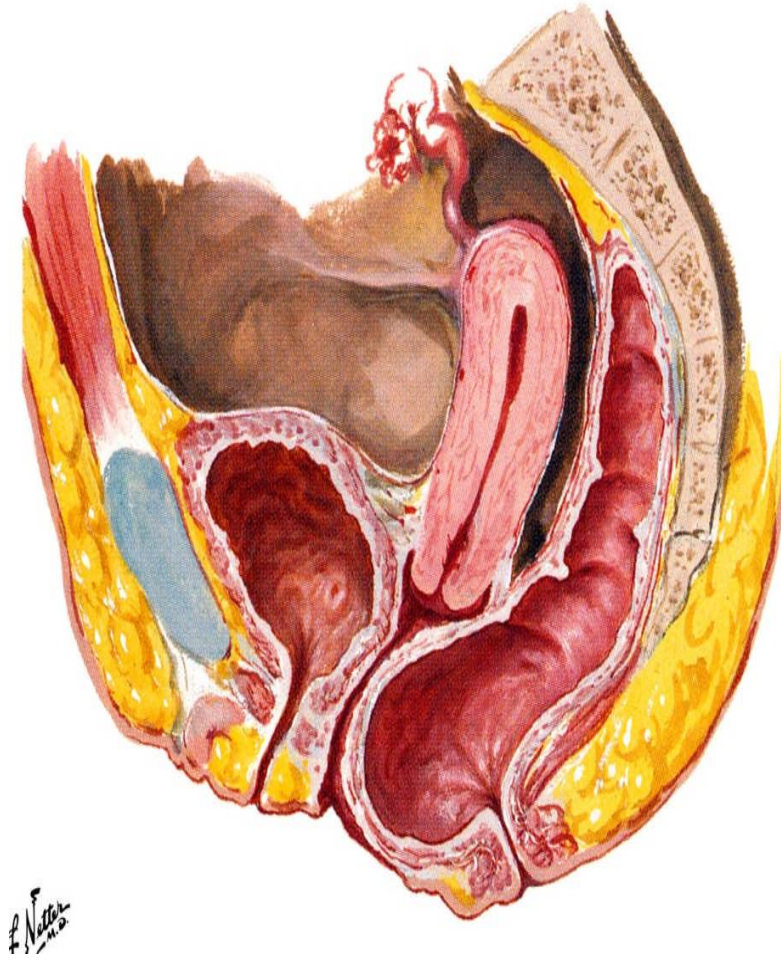


- Provide anatomic correction
- Relieve prolapse symptoms
- Restore bladder, bowel and sexual function without creating new problems

# Anterior Wall Repair



# Posterior Wall Repair



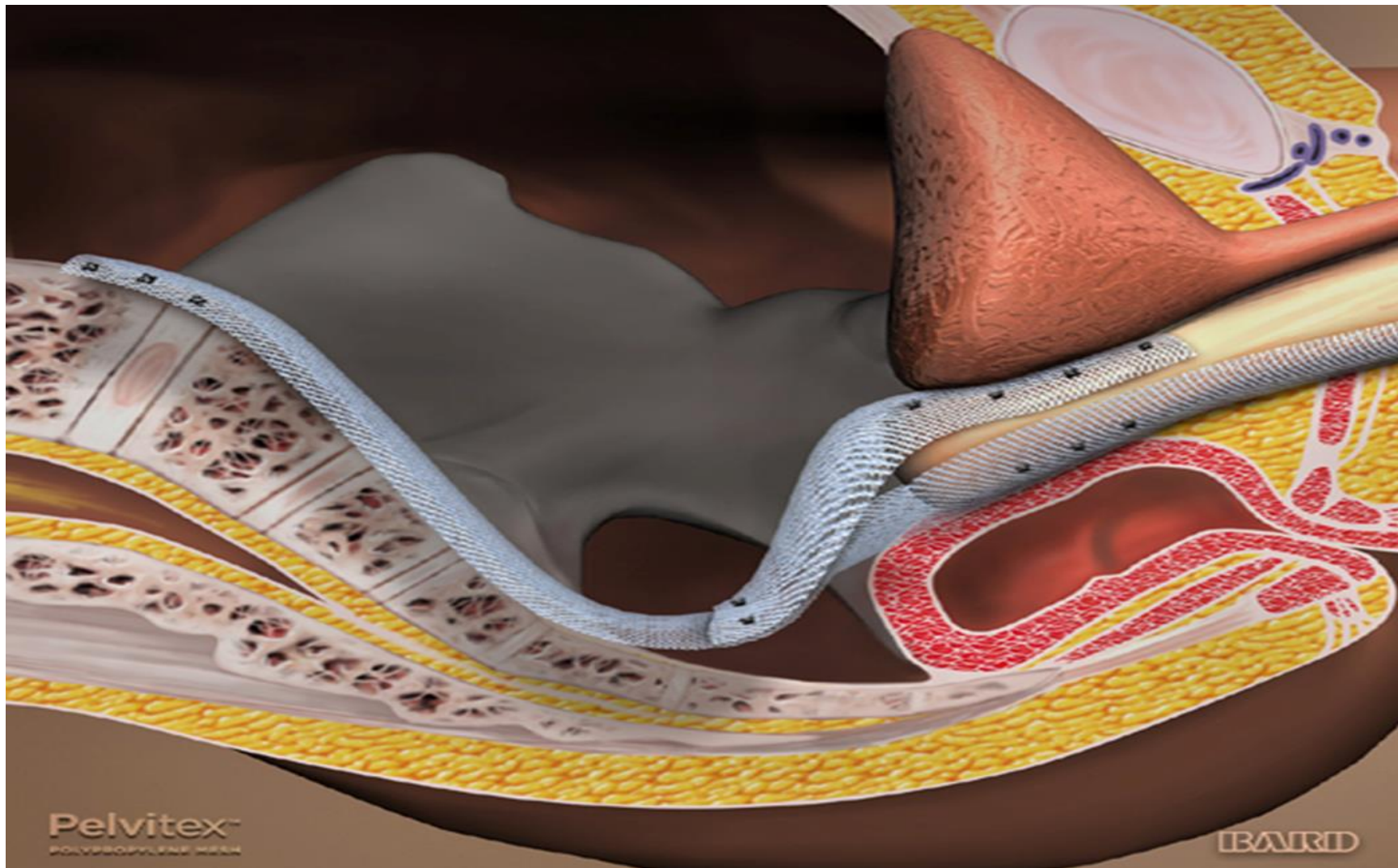


# Apical Prolapse



- Recognition of Apical defects
- Suspect apical defect if any POP reaches to the introitus
- ~1/3 upstaged at time of surgical repair

# Abdominal Sacrocolpopexy



# Abdominal Sacrocolpopexy





# Mesh Exposure / Extrusion / Erosion



# Factors Which Increase the Risk of Erosion

- Smoking
- Concomitant hysterectomy
- Significant urogenital atrophy
- Larger incisions
- Scarring from prior prolapse surgery
- Previous pelvic pain/dyspareunia
- Chronic medical illness i.e. diabetes, steroid use, immunosuppressants, pelvic radiation
- Extremes of ages
- Current anticoagulant use

*Boyles and McCrery Obstet Gynecol  
2008;111:969-75*

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*Boyles and McCrery Obstet Gynecol  
2008;111:969-75*



## TRANSVAGINAL MESH IMPLANT **LAWSUIT**

Have you or a loved one suffered injuries from a vaginal mesh implant?

Contact Us For A Free Case Evaluation

Speak Directly to an Attorney at

**(855)385-2529**

or click here to contact us online

## Mesh Erosion Lawsuits

**FDA ALERT:** Recent studies show high failure rate and erosion with the use of Vaginal Mesh, Bladder Slings and ObTape. Free Case Evaluation

**WILLIS LAW FIRM 1-800-883-9858**



## Vaginal Mesh **Injury**

Thousands of Settlements for **Transvaginal Mesh Implants** That Have Caused **Pain**, Suffering, & Corrective Surgery





# Native Tissue Repairs

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1. Sacrospinous Ligament Suspension
2. Uterosacral Ligament Suspension
3. Ileococcygeus Suspension

# Aims of Transvaginal Uterosacral Suspension

- Restoration normal vaginal orientation
- Decrease risk of anterior prolapse
- Preserve vaginal length
- Concurrent repair of site specific vaginal defects using native tissues
- Decrease risk of neurovascular injury
- **Can be done at the time of radical pelvic cancer surgery**

# The Bottom Line

- The etiology of prolapse is complex
- Conservative management should be offered
- Knowledge of pelvic anatomy critical in performing a safe and effective repair
- APEX, APEX, APEX
- Vaginal reconstruction with native tissue repair has good long term outcome
- Avoid the use mesh in cancer patients

# Colpocleisis

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- Closure of vagina
- Can be done with or without uterus
- Need to rule out uterine pathology if uterus is not removed
- Patient selection is important
- “Regret” is the most common complication
- Adding levatorplasty and perineoplasty for better outcome

# Urinary Incontinence

- 18 million women in the U.S. live with Urinary Incontinence<sup>1</sup>
- While 40% of women consult a physician within a year of symptoms, 33% waited for 1 to 5 years and 25% waited for more than 5 years<sup>2</sup>
- Almost half of incontinent women are too embarrassed to talk to a general practitioner<sup>2</sup>



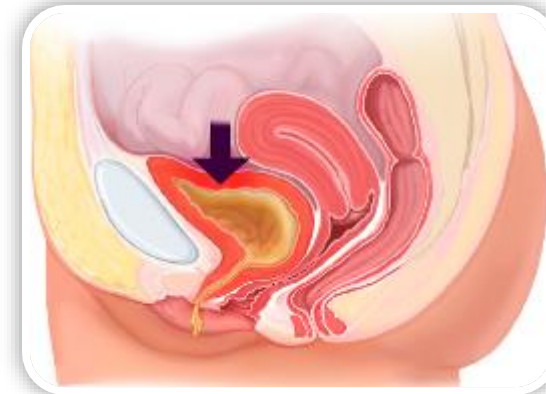
Wu, Jennifer et al. Forecasting the Prevalence of Pelvic Floor Disorders. Obstet and Gynecol. Vol 114, No 6, December 2009

Norton, P A et al. Distress and Delay Associated With Urinary Incontinence, Frequency and Urgency in Women. BMJ Vol 297 5 November 1988

# Different Types of Urinary Incontinence

- **Stress Incontinence**
  - Cough, sneeze, laugh, lift, exercise
  - Small volumes
- **Urge Incontinence**
  - Urgency, frequency, nocturia (excessive urination during the night)
  - Large volumes
- **Mixed Incontinence**
  - Stress and urge
- **Continuous / Unpredictable incontinence**
  - Small or large volumes

**Stress Incontinence**



**Urge Incontinence**



# Stress Incontinence – Treatment options

- **Lifestyle Modifications**

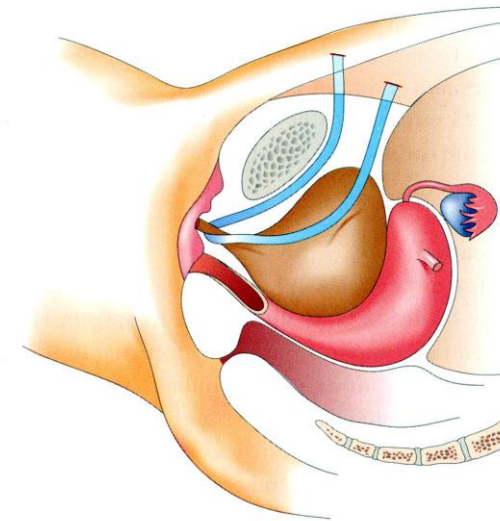
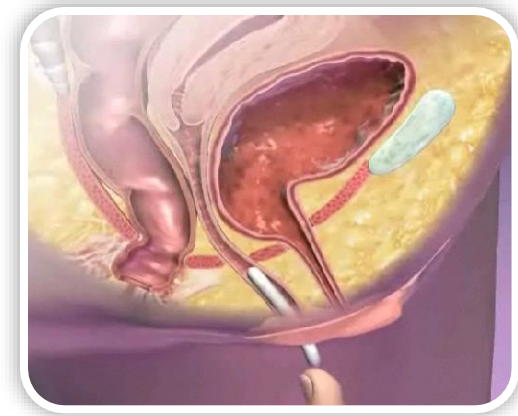
- Losing weight
- Behavior and diet modification

- **Non-Surgical Treatment Options:**

- Physical Therapy-Pelvic floor muscle exercises
- Pessary (a device designed to lift the bladder)

- **Surgical Treatment Options:**

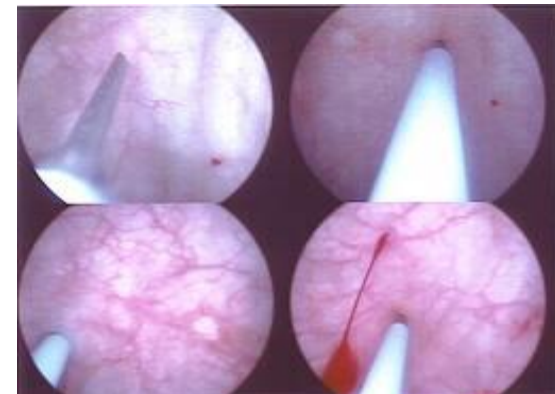
- Retropubic procedures
- Midurethral Slings
- Urethral Bulking





# OAB— Treatment Options

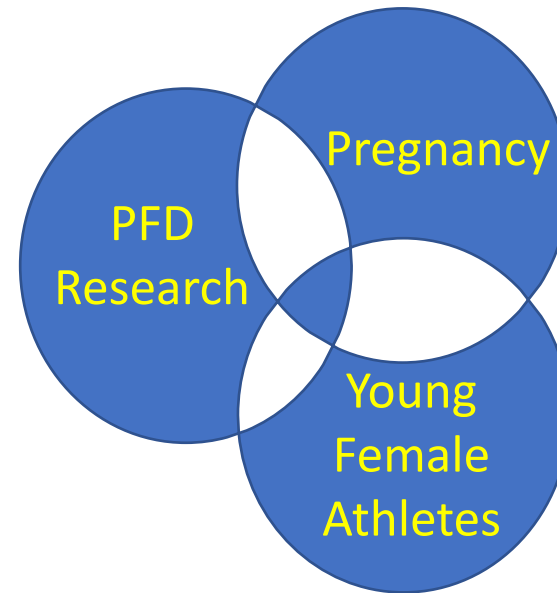
- **Lifestyle Modification:**
  - Losing weight
  - Diet and behavior modification
  - Drinking fewer alcoholic beverages
  - Caffeine modulation
- **Non-Surgical Treatment Options**
  - Physical therapy-Pelvic floor muscle exercises and bladder retraining
  - Medications
  - Percutaneous Tibial Nerve Stimulation (PTNS)
  - Botox bladder injection
- **Surgical Treatment Options:**
  - “Bladder Pacemaker” - Sacral Neuromodulation (InterStim)

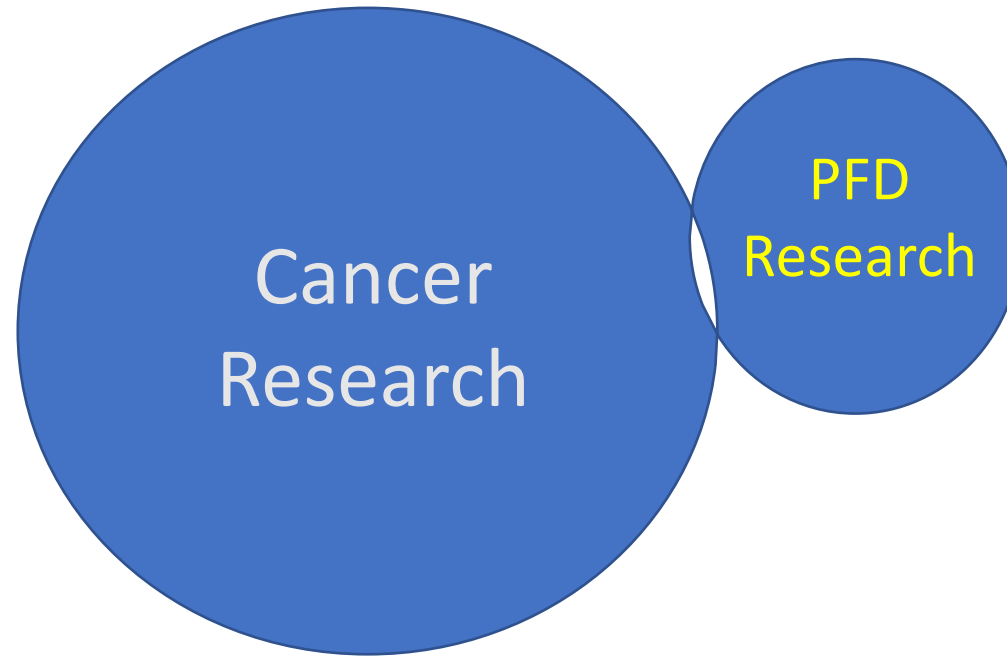




Cancer  
Research

PFD  
Research





# Gynecologic Cancer and PFD

- Pelvic organ prolapse, urinary and fecal incontinence, and sexual dysfunction are significant problems in survivors of gynecologic cancer.

Thomas et al. Obstet Gynecol. 2013 Nov;122(5):976-80.

Rutledge et al. Am J Obstet Gynecol. 2010 Nov;203(5):514

# Urogyn Surgery in Cancer Patients

International Urogynecology Journal  
<https://doi.org/10.1007/s00192-020-04465-4>

IUJ VIDEO



## Prolapse repair after anterior exenteration

Christopher P. Chung<sup>1</sup> • Eizleayne Edrosa<sup>1</sup> • Mark T. Wakabayashi<sup>1</sup> • Thanh H. Dellinger<sup>1</sup> • Stephen J. Lee<sup>1</sup> • Kevin Chan<sup>1</sup> • Ernest S. Han<sup>1</sup>

Received: 13 April 2020 / Accepted: 23 July 2020  
© The International Urogynecological Association 2020



IUJ Video | Published: 18 August 2018

## Concurrent pelvic reconstruction and minimally invasive pelvic cancer surgery

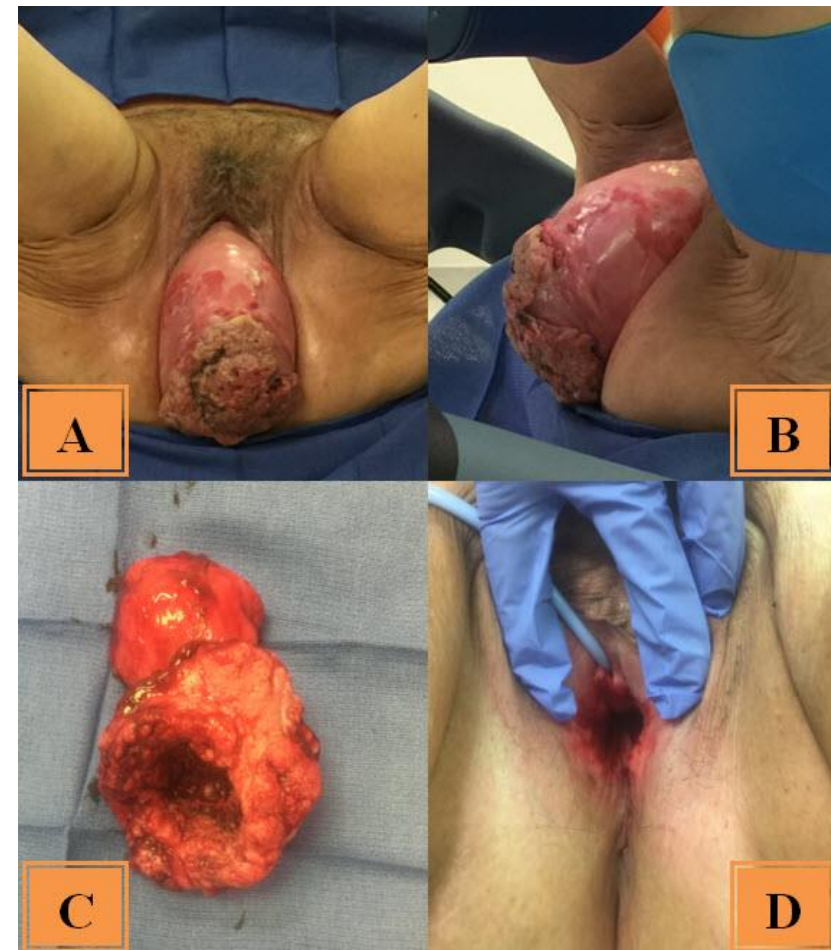
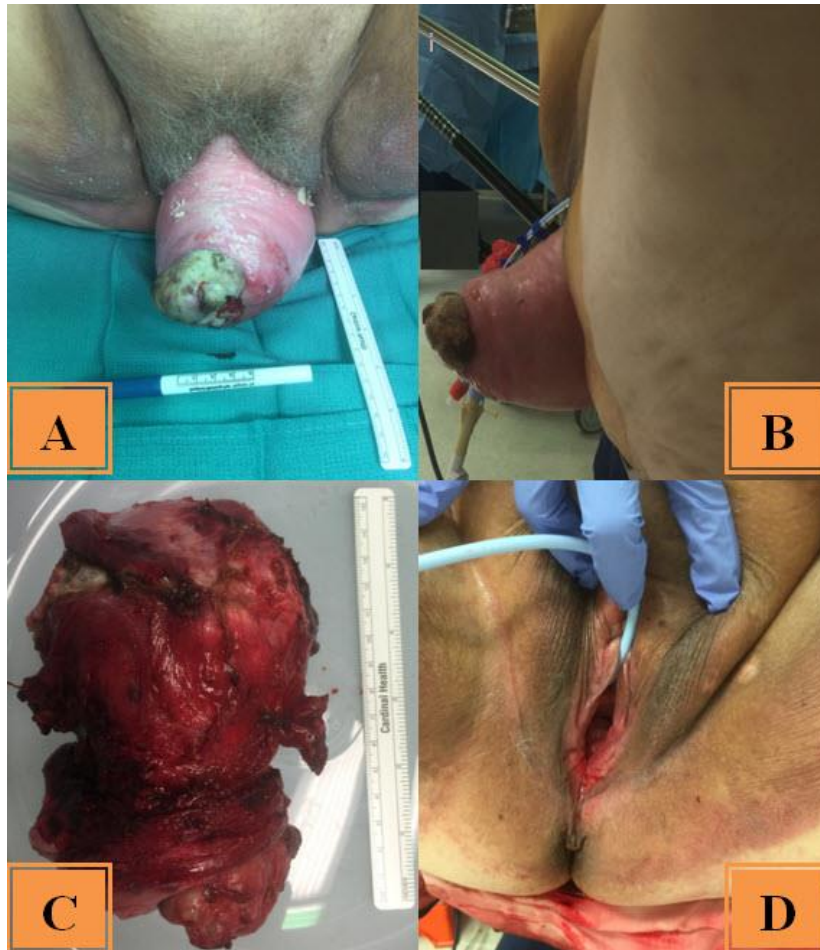
[Christopher P. Chung](#) , [NhuChi T. Dao](#), [Mark T. Wakabayashi](#), [Thanh H. Dellinger](#), [Stephen J. Lee](#) & [Ernest S. Han](#)

*International Urogynecology Journal* **29**, 1709–1711(2018) |

## Uterine and cervical cancer with irreducible pelvic organ prolapse

Christopher P. Chung, MD; Stephen J. Lee, MD; Mark T. Wakabayashi, MD, MPH

DECEMBER 2018 American Journal of Obstetrics & Gynecology

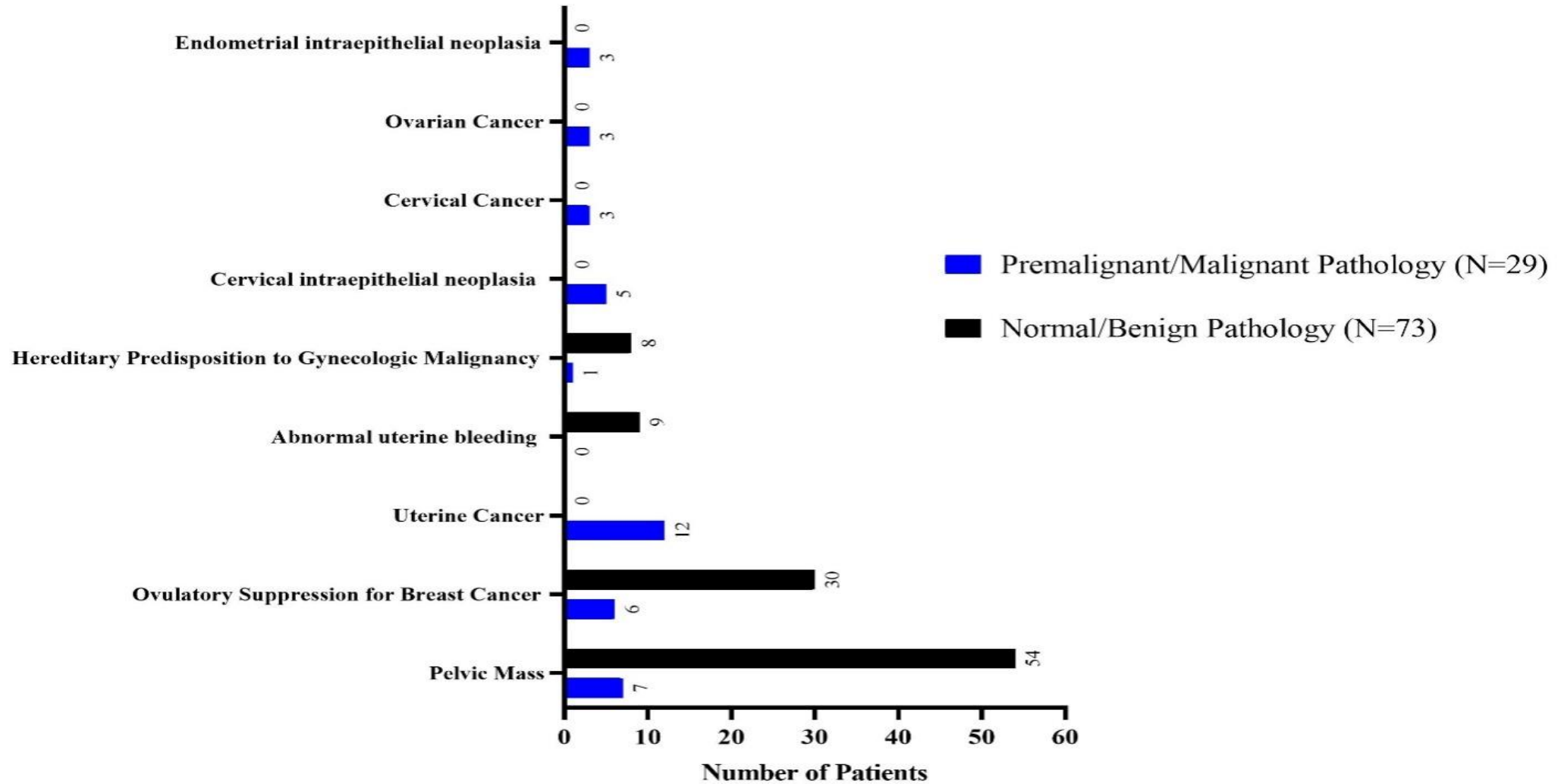




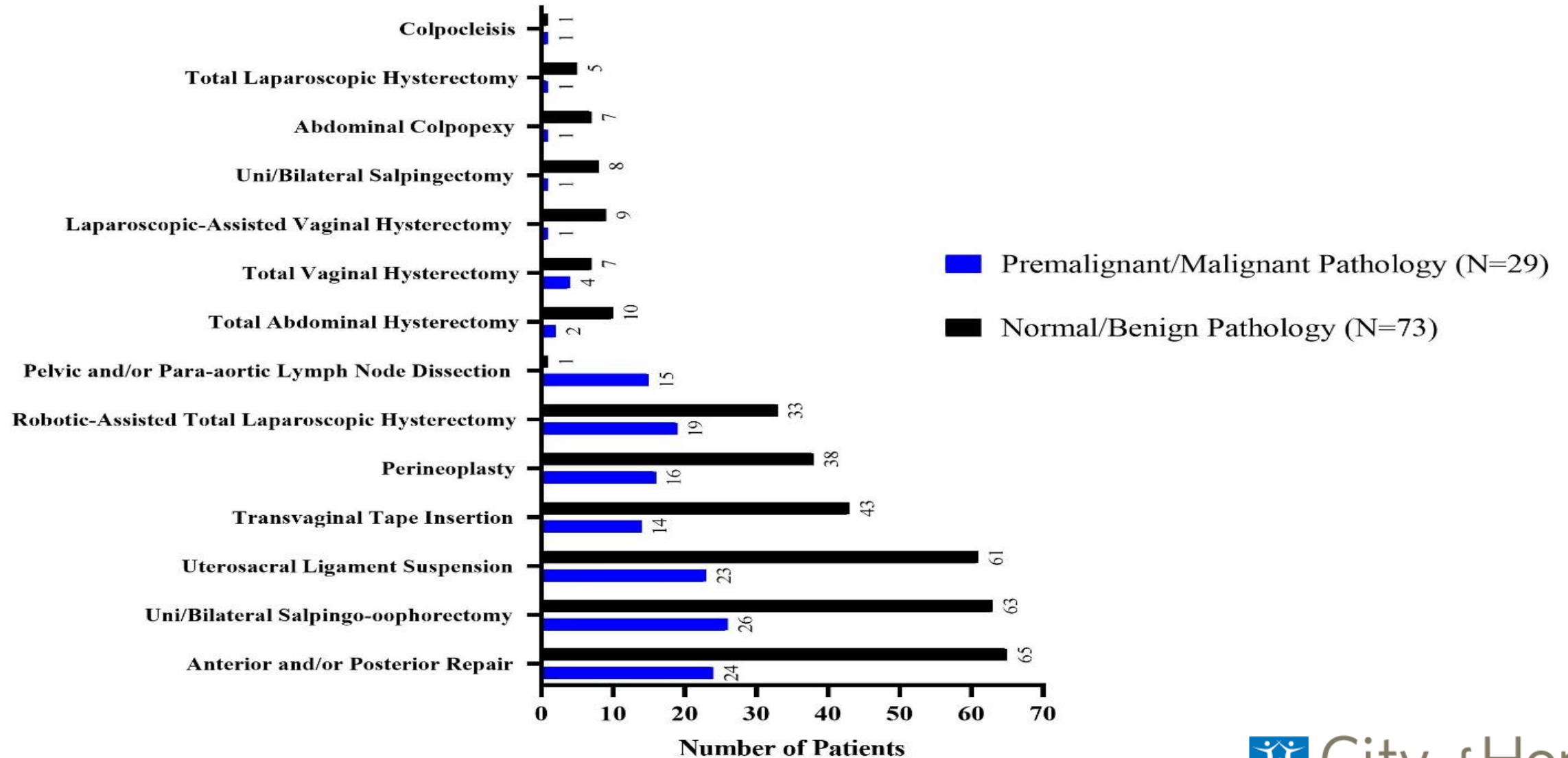
# Immediate Pelvic Floor Reconstruction in Gyn Oncology Surgery

- **A demonstration of safety and feasibility in 102 patients undergoing concurrent pelvic reconstruction at the time of gynecologic oncology surgery**
  - Retrospective review of patients undergoing combined surgery by gynecologic oncology and urogynecology services.
  - 102 patients underwent surgery in the division of gynecologic oncology with concurrent surgical repair of pelvic organ prolapse (POP) and stress urinary incontinence (SUI). 73 patients had normal/benign pathologies and 29 with premalignant/malignant pathologies.

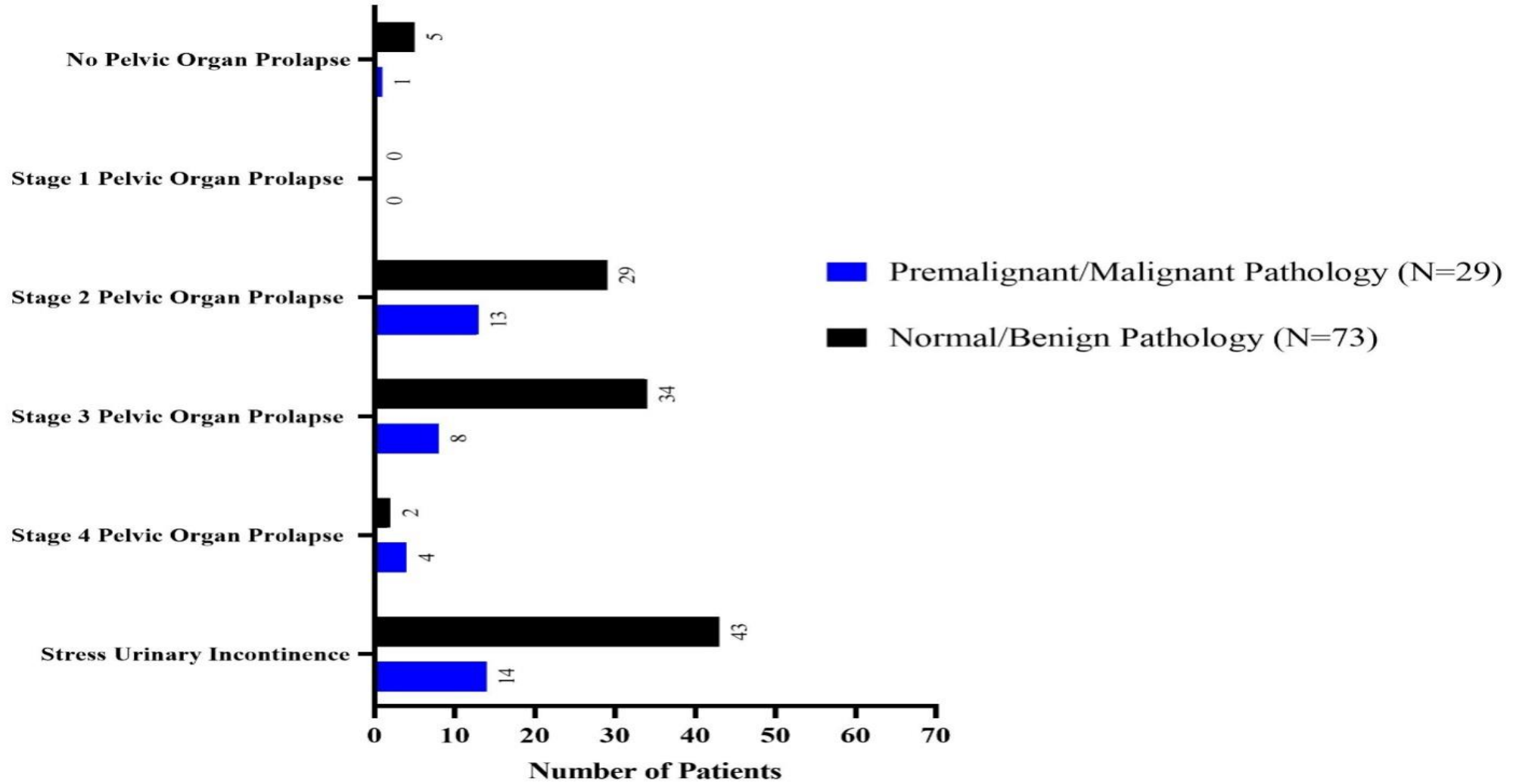
## Surgical Indications



## Surgical Procedures



## Incidences of Pelvic Floor Dysfunction



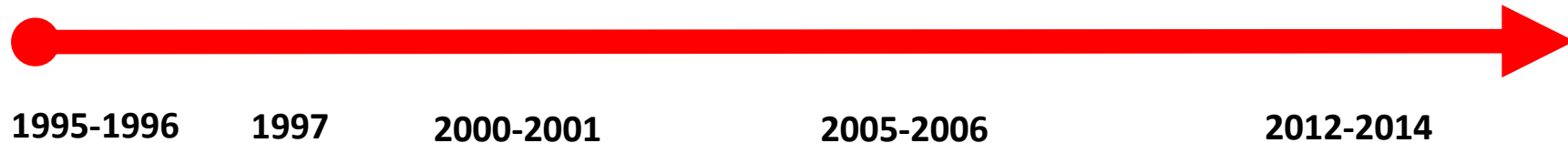
Postoperative Complications			
Complication (Clavien-Dindo Grade)	Premalignant/Malignant Pathology (N=29)	Normal/Benign Pathology (N=73)	p-value
Any Complication (all grades)	1	9	0.952
Reoperation for exposed mesh (3)	0	5	0.147
Urinary retention requiring sling release(3)	0	3	0.267

# Summary

- 102 cases over 7 years.
- 73 patients had normal/benign pathologies and 29 with premalignant/malignant pathologies.
- 60 to 90 minutes added OR time.
- No major complication

# Other Types of Cancer and PFD

- California Teachers Study (CTS)
  - Prospective observational study of 133,479 female public school professionals
    - Self-administered questionnaires at baseline (1995-1996) and again in 1998, 2000-2001, 2005-2006, & 2012-2013
    - Annually linked with California state hospitalization records



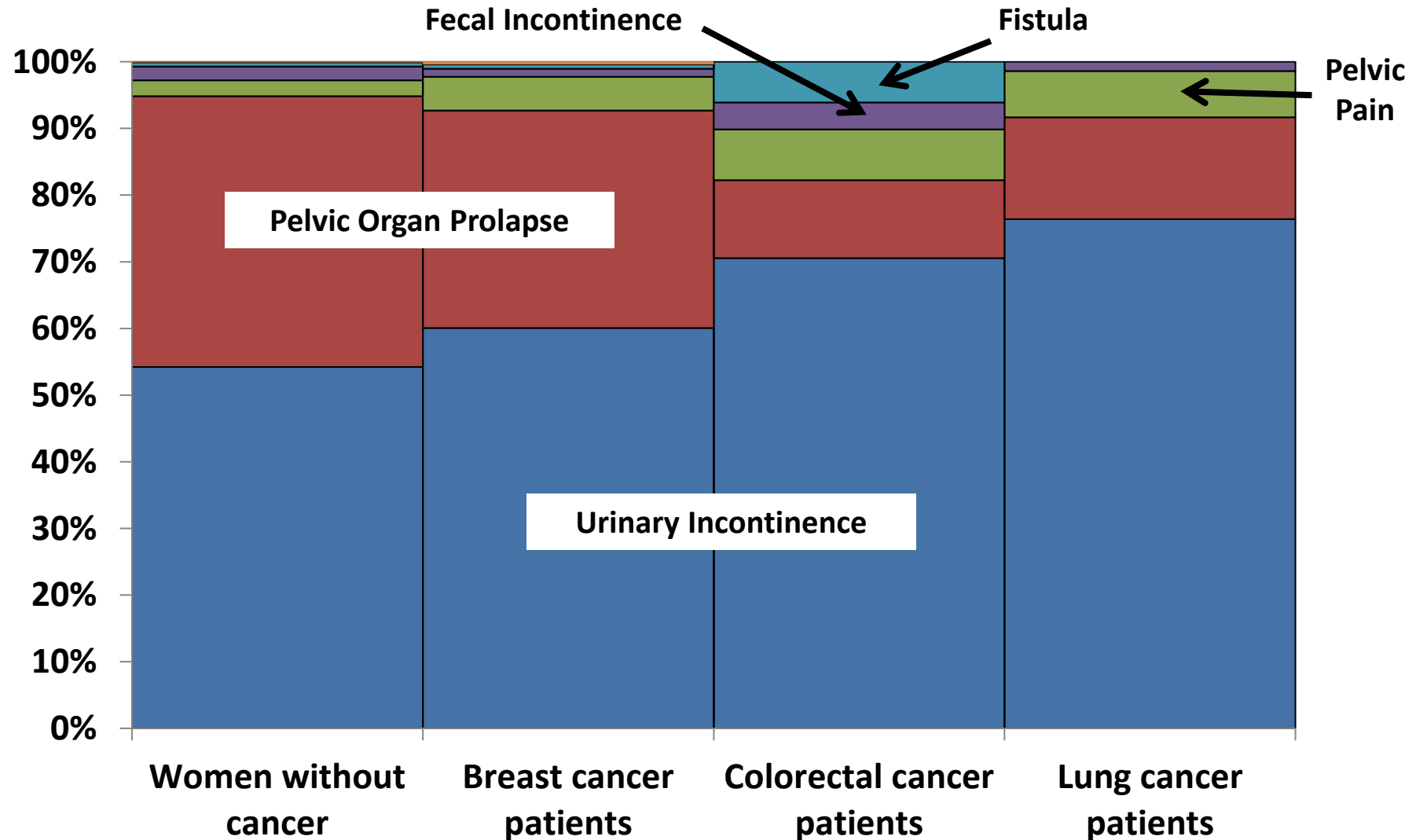
## Inpatient Data Used to Identify Pelvic Floor Disorders in the CTS

*Up to 25 ICD & DRG codes from all inpatient hospitalizations*

*Up to 21 ICD codes from all inpatient hospital-based procedures*

*Up to 5 ICD codes from other conditions present at diagnosis*

# Distribution of PFDs by Cancer Types





# Relative Risks of PFDs in Cancer Patients vs. Women without Cancer

	# PFDs	Annual Rate per 100,000 (95% CI)	RR (95% CI)
<b>Women without Cancer</b>	7,346	246.3 (205.1 – 287.4)	1.00 (Reference)
<b>Breast Cancer Patients</b>	389	288.3 (231.1 – 345.6)	<b>1.17</b> (1.06-1.30)
<b>Colorectal Cancer Patients</b>	122	358.8 (285.3 – 432.3)	<b>2.11</b> (1.76-2.53)
<b>Lung Cancer Patients</b>	52	1234.1 (229.8 – 2238.4)	<b>2.47</b> (1.88-3.25)

RR=Relative Risk based on Cox Proportional Hazard Regression with age as the time scale.

CI=Confidence Interval.

Participants followed from entry or cancer diagnosis until death or censoring on 12/31/2011.

# Conclusion

- Breast, lung and colorectal cancer survivors were each statistically significantly more likely than women without cancer to develop a PFD.

# Serial Assessment of Urinary Incontinence in Breast Cancer Survivors Undergoing (Neo)Adjuvant Therapy

Christopher P. Chung, MD<sup>1</sup>; Carolyn Behrendt, PhD<sup>2</sup>; Louise Wong, MSN, NP<sup>3</sup>; Sarah Flores<sup>3</sup>; and Joanne E. Mortimer, MD<sup>3</sup>

*J Natl Compr Canc Netw* 2020;18(6):712–716  
doi: 10.6004/jnccn.2020.7535

Research questions in women with early-stage breast cancer:

- How common is urinary incontinence
- Does systemic therapy impact the incidence
- How does urinary incontinence impact quality of life

# Study Design



Women with Stage I-III breast cancers prior to initiation of (neo)adjuvant therapy approached for study participation

Eligibility determined  
Consent signed



Urinalysis and Culture  
Urogenital Distress Inventory  
Incontinence Impact Questionnaire



3 months of  
chemotherapy or  
endocrine  
therapy



Urogenital Distress Inventory  
Incontinence Impact Questionnaire

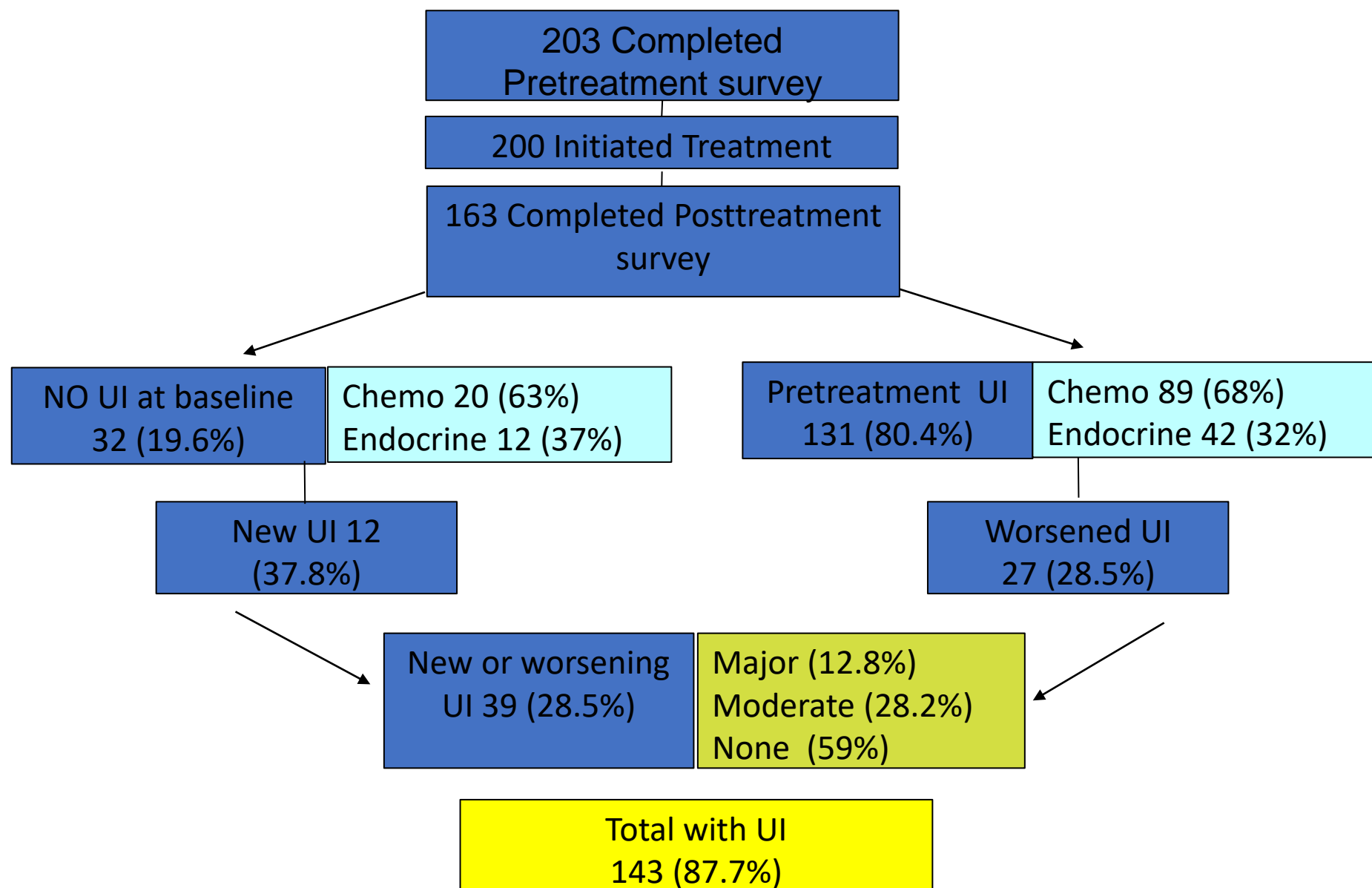
## Results: Prevalent UI PRE-Treatment



PRE-treatment 162 (79.8%) reported prevalent UI		%
Overactive bladder		59 (29.1%)
Stress Incontinence		22 (10.8%)
Both (mixed UI)		81 (39.9%)
None		41 (20.2%)
Impact of prevalent UI on QoL		
Major		13.6%
Moderate		29.6%
No Impact		56.8%



# Summary of Findings



## Conclusions

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- Urinary Incontinence is a common problem in breast cancer survivors and adversely impacts quality of life.



Brief Articles

Graft-versus-Host Disease—Associated Vulvovaginal  
Symptoms after Bone Marrow Transplantation



Christopher P. Chung<sup>1,\*</sup>, Rachel E. Sargent<sup>1</sup>, Nadia T. Chung<sup>2</sup>, James V. Lacey Jr.<sup>2</sup>,  
Mark T. Wakabayashi<sup>1</sup>

<sup>1</sup> Division of Gynecologic Oncology, Department of Surgery, City of Hope Medical Center, Duarte, California

<sup>2</sup> Department of Population Sciences, Beckman Research Institute, City of Hope Medical Center, Duarte, California

- To present our clinical experience in treating graft-versus-host disease (GVHD) associated vulvovaginal symptoms in patients who receive bone marrow transplantation (BMT) to treat blood and immune system disorders.

# Results

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- Between 2010 and 2014, 180 patients were referred to the gynecologic clinic after BMT.
  
- 124 (69%) patients had GVHD
  - 51 (41%) experienced dyspareunia
  - 43 (35%) had vaginal stenosis

# Results

- GVHD patients
  - significantly more likely to have vaginal stenosis ( $P < 0.0001$ )
  - more likely to have used a vaginal dilator ( $P = 0.0008$ )
  - less likely to have urinary incontinence ( $P < 0.001$ )
- There was no difference in developing pelvic organ prolapse (POP) in patients with or without GVHD ( $P = 0.4373$ ).



# Conclusion

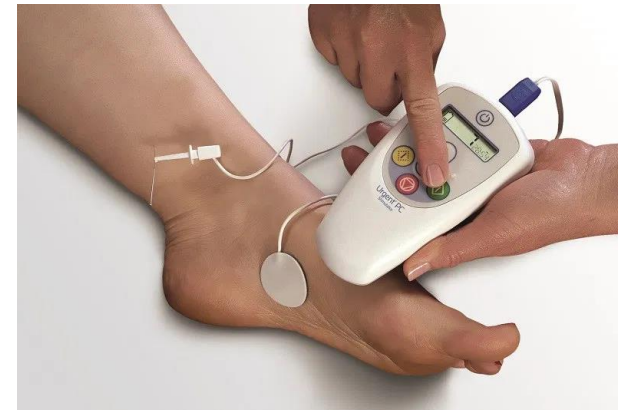
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- GVHD is a common complication after allogenic BMT.
- Patients with BMT were more likely to have vulvovaginal symptoms, such as dyspareunia and pelvic pain.
- Patients with GVHD are at high risk for vaginal stenosis requiring the use of a vaginal dilator. However, they are at low risk for developing UI and POP.

# Future Studies

- Percutaneous Tibial Nerve Stimulation (PTNS)



# Future Studies

- Vaginal laser
  - Breast cancer patients
  - Patients who received pelvic and vaginal pelvic radiation
  - Patients with vaginal GVHD

